

ACAP  
1/26/17  
Agenda Item 2e

Name of Institution  
University of South Carolina Beaufort

Name of Program (include concentrations, options, and tracks)  
B.S., Secondary Teacher Education, Biology

Program Designation

- Associate's Degree                       Master's Degree  
X Bachelor's Degree: 4 Year               Specialist  
 Bachelor's Degree: 5 Year               Doctoral Degree: Research/Scholarship (e.g., Ph.D., DMA)  
 Doctoral Degree: Professional Practice (e.g., Ed.D., D.N.P., J.D., Pharm.D., and M.D.)

Does the program qualify for supplemental Palmetto Fellows and LIFE Scholarship awards?  
X Yes  
 No

Proposed Date of Implementation  
Fall 2017

CIP Code  
13.1205

Delivery Site(s)  
Historic Beaufort Campus (HB) - 50901  
Hilton Head Gateway Campus (HHG) - 50903

Delivery Mode

- X Traditional/face-to-face\*                       Distance Education  
\*select if less than 50% online                       100% online  
 Blended (more than 50% online)  
 Other distance education

Program Contact Information (name, title, telephone number, and email address)

Dr. Gordon Sproul, Professor  
843-521-4162  
gdsproul@uscb.edu

Institutional Approvals and Dates of Approval

Evaluating Unit	Approval Date
USCB Courses & Curricula	April 15, 2016
USCB Faculty Senate	April 22, 2016
USCB Executive Vice Chancellor for Academic Affairs	August 15, 2016
USCB Chancellor	August 15, 2016
USC system President	August 30, 2016
USC System Board of Trustees	October 14, 2016

## Background Information

State the nature and purpose of the proposed program, including target audience and centrality to institutional mission. (1500 characters)

As is true in much of the nation, there continues to be a strong demand for Science, Technology, Engineering and Math (STEM) teachers in the Lowcountry. This degree will help satisfy this critical need. Currently, USCB offers a degree in both Early Childhood Ed and in Elementary Ed as well as a degree in Biology, the second largest major at USCB. The proposed degree in Secondary Teacher Education, Biology (STEB), is an obvious and necessary step in expanding USCB's mission to serve its four-county service area. With no STEB programs in SC within a reasonable commuting distance from Beaufort, this degree will provide local students with the education needed for teaching secondary science. The purpose of this STEB degree is to provide students with a comprehensive exposure to the biological sciences as well as sufficient coursework to teach the physical sciences of chemistry, physics and earth and space science.

This major directly supports two key areas of USCB's mission: it *responds to regional needs, draws upon regional strengths, and prepares graduates to contribute locally, nationally, and internationally* and it *offers degree programs in the arts, humanities, professions, and social and natural sciences delivered through on-site instruction*. This curriculum will provide students with a penchant for science with an additional option for a STEM degree and with a comprehensive college education for entry into the secondary teaching field.

List the program objectives. (2000 characters)

This program closely follows the recommendations of the 2012 National Science Teachers Association (NSTA) Standards and the South Carolina College- and Career-Ready Standards. Teacher candidates shall:

- Demonstrate knowledge of biologic classification systems, anatomical arrangements, physiological processes, genetic characteristics, evolutionary processes and environmental interactions;
- Demonstrate competent ability to communicate by written and oral means an understanding of this biological knowledge;
- Demonstrate knowledge of other scientific areas including chemistry, physics marine science and astronomy;
- Develop skills with a variety of technological tools applicable to classroom study and interactions;
- Plan instruction and design assessments (oral, written and visual) for the study of science to promote learning for all students;
- Plan, implement, assess, and reflect on research-based instruction that increases motivation and active student engagement, builds sustained learning of science, and responds to diverse students' context-based needs;
- Demonstrate knowledge of how theories and research about social justice, diversity, equity, student identities, and schools as institutions can enhance students' opportunities to learn the theories and applications of the sciences;
- Exhibit the knowledge and practices that ensure safe laboratory functioning, ethical treatment of animals and adherence to local, regional and national laws;
- Be prepared to interact knowledgeably with students, families, and colleagues based on social needs and institutional roles, engage in leadership and/or collaborative roles in scientific professional learning communities, and actively develop as professional educators.

**Assessment of Need**

Provide an assessment of the need for the program for the institution, the state, the region, and beyond, if applicable. (1500 characters)

South Carolina’s Lowcountry, the state of SC and the nation have documented teacher shortages, particularly in the STEM areas. Combined with rapid population growth and development in the Lowcountry, this shortage is compounded in USCB’s service area (Beaufort, Colleton, Hampton, and Jasper counties) with the rural/poor demographics of public schools. School district administrators in the USCB four-county service area have indicated that they will continue to face teacher shortages in secondary sciences including biology but especially the physical sciences resulting from impending teacher retirements over the next five to ten years combined with a shrinking pool of education graduates willing to work in some of the poorer, more rural school districts in South Carolina. Critical Geographic Schools for the 2014-2015 school year included 24 schools in Beaufort County, four schools in Jasper County, eight schools in Colleton County, and ten schools in Hampton I & II. Numerous compelling regional factors that contribute to this need include the following:

1. Poverty in Colleton, Jasper and Hampton counties among highest in SC
2. General population growth In Beaufort County among fastest in SC
3. Student population growth expecting continued growth
4. Teacher turnover rate exacerbated by 18% temporary military teachers
5. Teacher attrition above 10% per year for Lowcountry districts; Jasper County losing 23.9% and Hampton 2 losing 30.2% annually
6. SMED Courses difficult to fill

**Employment Opportunities**

Is specific employment/workforce data available to support the proposed program?

Yes

No

If yes, complete the table and the component that follows the table on page 4. If no, complete the single narrative response component on page 5 beginning with “Provide supporting evidence.”

<b>Employment Opportunities</b>				
<b>Occupation</b>	<b>Number of Biology jobs needed from 2014 to 2015</b>	<b>Employment Projection for Biology/ Science next 5 years</b>		<b>Data Source</b>
Secondary Science Teacher, Beaufort County School District	1	5	100	Dale Crawford, Human Resources at District Office
Secondary Science Teacher, Colleton County School District	2	3	7	Cliff Warren, Human Resources at District Office
Secondary Science Teacher, Hampton County School District 1	2	1	5	Jack Hutto & Rhonda Willis, Personnel, Human Resources at District Office
Secondary Science Teacher, Hampton County School District 2	2	3	4	Conchita G. Bostick, Human Resource Management, at District Office

Secondary Science Teacher, Jasper County School District	0	0	1	Dr. Lee Holmes & Shakira Saffir, Human Resources at District Office
Beaufort Academy, Beaufort County	0	1	2	Stephen Schools, Headmaster
Thomas Heyward Academy, Hampton County	0	1	2	Mariln Davis, Head of School
Hilton Head Preparatory Academy, Beaufort County	0	1	1	Tina Webb, Science Department Chair
<b>TOTAL</b>	<b>7</b>	<b>15</b>	<b>122</b>	

Provide additional information regarding anticipated employment opportunities for graduates. (1000 characters)

While there will be need for secondary biology teachers, there will be a dire need for qualified teachers in the physical sciences. The proposed degree program provides for this need by ensuring that add-on course work in chemistry, physics, and earth and space science are included with this degree, allowing graduates the ability to teach any science. As noted in the above table, while only 15 biology jobs are projected as needing new teachers during the next five years, over eight times this many, 122, are projected in all sciences during this same time period. While many biology majors will find professions in the health sciences after post-college education there will be a likely oversupply who can find this degree to provide a viable alternative profession, with steady employment, decent pay, and benefits. The major of STEB with add-ons is a critical need based on career opportunities, workforce needs, and advancement of education in the region.

Provide supporting evidence of anticipated employment opportunities for graduates, including a statement that clearly articulates what the program prepares graduates to do, any documented citations that suggests a correlation between this program and future employment, and other relevant information. Please cite specific resources, as appropriate. (3000 characters)

**Note: Only complete this if the Employment Opportunities table and the section that follows the table on page 4 have not previously been completed.**

Will the proposed program impact any existing degree programs and services at the institution (e.g., course offerings or enrollment)?

Yes

No

If yes, explain. (500 characters)

Adding a STEB degree will complement the current Biology degree. Students of the new degree take many courses currently required of Biology major and other Secondary Education degrees. This will help fill some courses that presently have small enrolments. There will be six new courses needed, all in the Education Department. The addition of this degree will provide students who originally intended to major in Biology an opportunity to obtain a closely related degree without losing credits.

**List of Similar Programs in South Carolina**

<b>Program Name</b>	<b>Institution</b>	<b>Similarities</b>	<b>Differences</b>
Biology Teacher Education, CIP 13.1322	Bob Jones University	BS	Education Degree Program hours: 133 Science hours: 44 Education hours: 33
Biology Teacher Education, CIP 13.1322	Charleston Southern University	BS	Education Degree Program hours: 145 Science hours: 55 Education hours: 39
Biology Teacher Education, CIP 13.1322	Coker College	BS	BA, Education Degree Program hours: 128 Science hours: 41 Education hours: 30
Secondary Education and Biology, CIP13.1205	College of Charleston	BS, Biology Degree	Program hours: 131-134 Science hours: 44 Education hours: 40
Biology Teacher Education, CIP 13.1322	Morris College	BS	Education Degree Program hours: 133 Science hours: 44 Education hours: 33
Biology Teacher Education, CIP 13.1322	Newberry College	BS	Education Degree Program hours: 145-151 Science hours: 61 Education hours: 37
Biology Education, CIP 13.1322	Southern Wesleyan University	BS	Program hours: 136 Science hours: 50 Education hours: 45
Secondary Education, Biology, CIP13.1205	USC - Aiken	BS, Biology Degree	Program hours: 131-134 Science hours: 48 Education hours: 40
Secondary Teacher Education, Biology, CIP13.1205	USC - Upstate	BS	Program hours: 126 Science hours: 56 Education hours: 43

**Description of the Program**

<b>Projected Enrollment</b>						
<b>Year</b>	<b>Fall</b>		<b>Spring</b>		<b>Summer</b>	
	Headcount	Credit Hours	Headcount	Credit Hours	Headcount	Credit Hours
2017-18	6*	90	6	90		
2018-19	12**	180	12	180		
2019-20	18***		18	270		
2020-21	25****		25			
2021-22	30*****	450	30	450		

\* 3 new freshmen, 3 internal "transfer" sophomores.

\*\* 4 new freshmen, 5 continuing students, 3 internal "transfer", 1 student departed

\*\*\* 5 new freshmen, 11 continuing students, 3 internal "transfer", 1 student departed

\*\*\*\* 6 new freshmen, 17 continuing students, 4 internal "transfers", 2 students departed

\*\*\*\*\* 6 new freshmen, 22 continuing students, 4 internal "transfers", 2 students departed, 3 students graduated

a) Assumptions for the table above:

1. The program is a four-year program;
2. Three students new to the institution will enroll in the first three years, four new students will enroll in the next two years and five new students will enter each year thereafter;
3. Three students from the Biology major as well as other programs (including "undeclared") within the institution will enter the program in the first three years as sophomores, four students will internally "transfer" each subsequent year for the next two years;
4. New students will enter the program in the fall semester;
5. There will be some attrition each academic year;
6. Students will take 12+ credit hours per semester, averaging 15 hours per semester over the course of a year.

b) How the estimates were made and academic origin of students:

Since there is presently a Biology major at USCB, the modest estimates in the above table are based on (1) the need for the biology education degree statewide and nationally, (2) the increased yearly enrollment at USCB, (3) comparison data to other institutions in South Carolina (CIP 13.1322) available from the Commission. It is anticipated that once the degree is implemented, a bulk of the total enrollment projections will be from new enrollments to USCB. Credit hour calculations are based on 15 hours each for fall and spring semesters.

In STEM fields, USCB currently offers a Bachelor of Science degree in Biology, which attracts significant enrollments. In Fall 2014, the Biology program (CIP code 26.0101), initiated in 2007, and enrolled 172 majors. Students in the local 4-county region of the state wishing to major in other STEM fields in SC are limited without relocating to other areas of the state. If a degree in Secondary Teacher Education in Biology were to be made available from USCB, the university would be able to train Lowcountry and regional students that desire secondary biology teacher.

c) Number of new students and transfers from other degree programs:

The footnotes in Table 5 describe how the projections were made. USCB currently has a substantial pool of "undeclared" students. The modest projections above include only attracting two or three of these students each year

Besides the general institutional admission requirements, are there any separate or additional admission requirements for the proposed program?

Yes

No

Are there any special articulation agreements for the proposed program?

Yes

N

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**Curriculum**

Select one of the following charts to complete: Curriculum by Year **or** Curriculum by Category

<b>Curriculum by Year</b>					
<b>Course Name</b>	<b>Credit Hours</b>	<b>Course Name</b>	<b>Credit Hours</b>	<b>Course Name</b>	<b>Credit Hours</b>
<b>Year 1</b>					
<b>Fall</b>		<b>Spring</b>		<b>Summer</b>	
BIOL B101, General Biology I	4	BIOL B102, General Biology II	4		
BIOL B243, Anatomy & Physiology I	4	MATH B115, Precalculus	4		
ENGL B101, Composition	3	ENGL B102 Composition & Literature	3		
COMM B140, Public Communications	3	PSYC B101, Introduction to Psychology	3		
Fine Arts Elective	3				
Total Semester Hours	17	Total Semester Hours	14	Total Semester Hours	
<b>Year 2</b>					
<b>Fall</b>		<b>Spring</b>		<b>Summer</b>	
CHEM B111, General Chemistry I	4	CHEM B112, General Chemistry II	4		
BIOL B303, Fundamental Genetics	3	BIOL B270, Intro to Environmental Biology/L	4		
STAT B201, Elementary Statistics	3	BIOL B290, Seminar	1		
EDCI B210, Clinical Observation and Analysis	3	PSYC B321, Lifespan Development Psychology	3		
Foreign Language	3*	HIST B115 or 116	3		
Total Semester Hours	16	Total Semester Hours	15	Total Semester Hours	
<b>Year 3</b>					
<b>Fall</b>		<b>Spring</b>		<b>Summer</b>	
PHYS 201/L or 211/L, General- or Essentials of Physics I, w/ lab	4	PHYS 202/L or 212/L, General- or Essentials of Physics I, w/ lab	4		
BIOL B301/L, Ecology and Evolution	4	ASTR B211/L	4		
EDPY B335, Educational Psychology	3	MSCI B210, Oceans and Man	4		

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Curriculum by Year					
Course Name	Credit Hours	Course Name	Credit Hours	Course Name	Credit Hours
EDCI B243, Technology Resources for Teaching	3	EDCI B441, Organization and Management in the Diverse Classroom	3		
EDRD B319, Foundations of Reading for Middle and Secondary Teachers	3				
	17		15		
Total Semester Hours		Total Semester Hours		Total Semester Hours	
Year 4					
Fall		Spring		Summer	
BIOL B230, Microbiology	4	EDSE B469, Internship in Secondary Science Teacher Education	12		
EDRD B428. Content Area Literacy for Middle and Secondary Teachers	3	EDSE B476, Senior Seminar in Secondary Science Teacher Education	3		
EDEX B300, Introduction to Exceptional Learner	3				
EDSE B430, Teaching Science in the Secondary School	3				
EDSE B430P, Practicum in Teaching Science in the Secondary School	2				
Total Semester Hours	15	Total Semester Hours	15	Total Semester Hours	
Year 5					
Fall		Spring		Summer	
Total Semester Hours		Total Semester Hours		Total Semester Hours	

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Curriculum by Category*					
GENERAL EDUCATION (36-42)		BIOLOGY MAJOR (20)		EDUCATION (41)	
ENGL B101 & 102, Composition; Composition and Literature	6	BIOL B290, Seminar	1	EDCI B210, Clinical Observation and Analysis	3
MATH B115 & STAT B201, Precalculus;	7	BIOL B230, Microbiology	4	EDCI B243, Technology Resources for Teaching	3
BIOL B101 & 102, General Biology I & II	8	BIOL B243, Anatomy and Physiology I	4	EDEX B300, Intro to Exceptional Learner	3
COMM B140, 201 OR 230, Public Communication	3	BIOL B270, Intro to Environmental Biology w/ Lab	4	EDRD B319, Foundations Reading Mid & Sec Tchrs	3
PSYC B101, Introduction to Psychology	3	BIOL B301/L, Ecology and Evolution	4	EDPY 335, Educational Psychology	3
HIST B115, or B116, World History to 1500, or 1500 to Present	3	BIOL B303, Fundamental Genetics	3	EDRD B429, Content Area Literacy Mid & Sec Tchrs	3
FINE ARTS ELECTIVE, Art, Music, Theater	3			EDSE 430, Tchg Science in the Secondary School	3
PSYC B321, Lifespan Development Psychology	3			EDSE 430P, Practicum in Tchg Science Sec School	2
FOREIGN LANGUAGE, Spanish or French	0- 6*			EDCI B441, Organization and Management in the Diverse Classroom	3
GLOBAL CITIZENSHIP/ MULTICULTURAL UNDERSTANDING (SEE HIST)				EDSE B469, Internship in Sec Science Teacher Ed	12
<b>PRE-PROFESSIONAL (24)</b>				EDSE B476, Senior Seminar in Sec Sci Tchr Ed	3
CHEM B111 & 112, General Chemistry I & II	8				
PHYS B201 or 211 & B202 or 212 with Lab, General or Essentials of Physics I & II, w/ Lab	8				
MSCI B210, Oceans and Man	4				
ASTR 211/L, Descriptive Astronomy II	4				

\*3 Foreign Language hours indicated in Curriculum by Year; 0-6 hours indicated in Curriculum by Category

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Total Credit Hours Required: 121 -127 (if foreign language needed)  
**Course Descriptions for New**

**Courses**

Course Name	Description
EDRD B319, Foundations of Reading for Middle and Secondary Teachers	(Prerequisite: EDCI B210; EDCI B243; Admission to the Department of Education's Professional Program for Secondary Education or special permission of the Department Chair). This course provides the basics of teaching reading and writing in secondary content classes. Candidates will be prepared support students in 7-12 grade who are struggling to read, write, and comprehend information through assessment and differentiation.
EDRD B429, Content Area Literacy for Middle and Secondary Teachers	(Prerequisite: EDCI B210; EDCI B243; EDRD B319; Admission to the Department of Education's Professional Program for Secondary Education). This course provides 7-12 teachers with the strategies for teaching literacy within the framework of content area classes. The course teaches a sound theoretical knowledge of academic vocabulary, nonfiction texts structures and strategies for analyzing texts to improve the knowledge base.
EDSE B430, Teaching Science in the Secondary School	(Prerequisite: Admission to the Department of Education's Professional Program for Secondary Education) Materials, resources, programs, and methods for teaching science to diverse learners in grades 7-12. Included are supervised practicum experiences that promote reflective teaching in secondary school settings.
EDSE B430P, Practicum in Teaching Science EDSE B430 (Teaching Biology in the Secondary School	(Prerequisite: Admission to the Professional Program or permission of the Department Chair; Co-requisite EDSE B430, Supervised clinical experience in a secondary education setting. Teacher candidates will apply principles of planning, instruction, assessment, management, and professionalism in diverse field-based settings serving students in grades 7-12. Offered in Fall.
EDSE B469, Internship in Secondary Science Education	(Prerequisite: Admission to the Professional Program in Secondary Education; Co-requisite: EDSE B476) A program of observation and teaching in the public schools under the supervision of university and public school personnel.
EDSE B476, Senior Seminar in Secondary Science Teacher Education	(Co-requisite: EDSE B469) The synthesis and critical evaluation of professional studies in secondary education.

**Faculty**

Note: Individuals should be listed with program supervisor positions listed first. Identify any new faculty with an asterisk next to their rank.

<b>Faculty and Administrative Personnel</b>				
<b>Rank</b>	<b>Full- or Part-time</b>	<b>Courses Taught or To be Taught, Including Term, Course Number &amp; Title, Credit Hours</b>	<b>Academic Degrees and Coursework Relevant to Courses Taught, Including Institution and Major</b>	<b>Other Qualifications and Comments (i.e., explain role and/or changes in assignment)</b>
Borgianini, S: Associate Professor	Full-Time	BIOL B101 - BIOLOGICAL PRINCIPLES I (4) F1 BIOL B102 - BIOLOGICAL PRINCIPLES II (4) S1 BIOL B301 - ECOLOGY AND EVOLUTION/L (3+1) F3 BIOL B270/L - INTRODUCTION TO ENVIRONMENTAL BIOLOGY I (3+1) S2	Ph.D., U. South Carolina -- Ecology and Evolutionary Biology	1987-90 Scientist of Hazardous Waste Management, NJ Dept. of Env't. Protection and ending as Assistant Director of the NJDEP's Division of Hazardous Waste Management. 1990-2005 Founder and President of Terra Nova Assoc. & Env't. Sciences, an interdisciplinary environmental consulting firm.
Chojnowski, J: Assistant Professor	Full-Time	BIOL B101 - BIOLOGICAL PRINCIPLES I (4) F1	Ph.D., U. Georgia, Zoology	
Ritchie, K: Associate Professor	Full-Time	BIOL B101 - BIOLOGICAL PRINCIPLES I (4) F1 BIOL B102 - BIOLOGICAL PRINCIPLES II (4) S1 BIOL B230 – MICROBIOLOGY (4) F4	Ph.D., U North Carolina, Chapel Hill--Genetics	Jan. 2008-Present Senior Scientist, Mote Marine Laboratory, Sarasota, FL.; Program Manager, Coral Reef Ecology and Microbiology Program.
Staton, J: Professor	Full-Time	BIOL B102 - BIOLOGICAL PRINCIPLES II (4) S1 BIOL B303 - FUNDAMENTAL GENETICS (3) F2 BIOL B295 – DIRECTED STUDIES IN BIOLOGY (1-4) S2	Ph.D., U; Louisiana, Lafayette— Environmental and Evolutionary Biology	Held a postdoctoral research position at the Smithsonian Marine Station at Link Port in Fort Pierce, Fla.; an NSF Postdoctoral Fellowship at the Department of Biology at the University of Michigan in Ann Arbor; and a NASA Fellowship the Department of Biology at the University of California in Los Angeles; and the MarCraig Fellowship at the Museum of Comparative Zoology at Harvard University in Cambridge;
Alvarez, B: Instructor	Full-Time	BIOL B243 - HUMAN ANATOMY AND PHYSIOLOGY I (4) F1 BIOL B230 – MICROBIOLOGY (4) F4	M.D., Cebu Doctors' College of Medicine, Philippines	2009-12 Good Neighbor Clinic, Beaufort, SC— triage 2002-03 Clinical rotations in US

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Krygiel, B: Instructor	Full-time	BIOL B243 - HUMAN ANATOMY AND PHYSIOLOGY I (4) F1	M.S., King's College, London England—Human and Applied Physiology	2011-15: Clinical Allergy Specialist for United Allergy Service; 2007-09: Colon cancer research
Delaney, L: Instructor	Part-time	BIOL B243 - HUMAN ANATOMY AND PHYSIOLOGY I (4) F1	D.C., Logan College of Chiropractic	
Madden, K: Instructor	Full-Time	BIOL B101 - BIOLOGICAL PRINCIPLES I (4) F1 BIOL B102 - BIOLOGICAL PRINCIPLES II (4) S1 BIOL B270/L – INTRODUCTION TO ENVIRONMENTAL BIOLOGY I (3+1) S2	M.S. Montana State, Science Education	2012 -14, Environmental Studies Instructor with Beaufort County School District (BCSD), teaching 5th - 8th environmental studies; 2007- 2011, Biology Inst. with BCSD, teaching high school biology.
D'Antonio, E: Assistant Professor	Full-Time	CHEM B111 - GENERAL CHEMISTRY I (4) F2 CHEM B112 - GENERAL CHEMISTRY II (4) S2	Ph.D., U; Pennsylvania, Chemistry	
Sproul, G: Professor	Full-Time	CHEM B111 - GENERAL CHEMISTRY I (4) F2 CHEM B112 - GENERAL CHEMISTRY II (4) S2	Ph.D., U. Illinois, Inorganic Chemistry	
Henshaw, W: Instructor	Part-time	PHYS B201/L - GENERAL PHYSICS I w LABORATORY (3+1) F3 PHYS B202/L - GENERAL PHYSICS II w LABORATORY (3+1) S3	Ph.D., U. Virginia, Engineering Physics	8/88 - 11/91 Manager, New Product Development, CORDEC Corporation, Lorton, VA. Supervise a team of engineers in research, design, and development of composite processes.
Ember, L: Instructor	Part-time	MSCI B210 - OCEANS AND MAN (4) S3	Ph.D., U. South Carolina—Marine Science	Science Teacher, Beaufort County School District, Beaufort, SC, 1997-2012, Teaching Applied Chemistry, Applied Physics, Environmental Studies, Marine Science, and Earth & Space Science.
Wallace, D: Assistant, Professor	Full-time	ASTR B211/L DESCRIPTIVE ASTRONOMY II w LABORATORY (3+1) S3		2013-15 NASA Headquarters in Washington, D.C as the Deputy Program Officer for the Hubble Telescope, Program Scientist for the Named Fellow Postdoctoral Programs, and the Program Executive for the Astrophysical Archives.
Wilson, L: Instructor		PSYC B321 – LIFESPAN DEVELOPMENT PSYCHOLOGY (3) S2	Ph.D.	
Brinkerhoff, E: Assistant, Professor	Full-time	EDEX B300 - INTRODUCTION TO EXCEPTIONAL LEARNER (3) F4	Ph.D.	Florida State University, Ph.D. Teaching and Learning: Reading, M.A., Nova Southeastern University



### Faculty /Administrative Personnel Changes

Provide a brief explanation of any additional institutional changes in faculty and/or administrative assignment that may result from implementing the proposed program. (1000 characters)

New hires will be needed for Secondary Practicum (EDSE B430 and EDSE B430P), Reading courses (EDRD B319, EDRD B429), Internship Supervision (EDSE B469), and Senior Seminar (EDSE B476). However, by the time this proposal progresses through the needed offices, instructor slots for reading will have been filled and this program will serve to increase enrollment in these courses. Therefore, there will be need to provide new instructors only for the four EDSE courses. Since EDSE B430 and B430P are taught in Fall while EDSE B469 and B476 are taught in Spring, only one new hire will be needed for this program. Part time assistance from an administrative assistant and a part time coordinator will be needed. In addition to one new faculty member, a fraction of both staff and administrators will be needed. It is estimated that a quarter-time staff member and a tenth-time administrator will suffice for this new education program.

### Library and Learning Resources

Identify current library/learning collections, resources, and services necessary to support the proposed program and any additional library resources needed. (1000 characters)

Quantitatively, students have access to a rich array of resources, including 91,000+ books, 500,000+ E-books, subscriptions to over 100 databases, the availability of 200,000+ online journals, and 1,012 print monographs in Biology and Secondary Education. Interlibrary loan services and delivery systems such as PASCAL & KUDZU give students and faculty access to millions of books and academic materials.

Qualitatively, two collection analyses were performed comparing *Resources for College Libraries'* (RCL) and *Library of Congress'* (LC) recommended core titles to the USCB's collection (2015):

USCB Collection Analysis – STEB				
Classification / Term	Titles Owned and in RCL	Percent Owned	Titles in RCL, Not Owned	Total Titles
RCL / Biology	418	21%	1,609	2,027
LC / Biology (General)	238	24%	7	990
RCL / Secondary Education	8	25%	24	32
LC / Secondary Education	8	27%	22	30

As can be seen, USCB currently holds between 20 and 30% of the volumes recommended in both Biology and Education.

### Student Support Services

Identify academic support services needed for the proposed program and any additional estimated costs associated with these services. (500 characters)

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Student support services, programs, and activities are available to students taking courses on the Historic Beaufort (HB) campus, on the Hilton Head Gateway (HHG) campus, and via distance education. Because the services are already in place, there are no other associated costs. These services include computer support, Career Services, Counseling and Disability Services, libraries, and the Student Success Center (academic advising, tutoring, and the Writing Center).

### **Physical Resources**

Identify any new instructional equipment needed for the proposed program. (500 characters)

All lecture rooms and all laboratories are equipped with computers, document cameras, projection screens and white boards (and dimmable lights on HHB), so no major modifications will be needed. The only item that will need to be added will be smart boards on both campuses, likely to be installed prior to this program becoming operative. Since both Biology and teacher education programs are in existence, no new laboratory instructional equipment will be needed.

Will any extraordinary physical facilities be needed to support the proposed program?

Yes

No

Identify the physical facilities needed to support the program and the institution's plan for meeting the requirements, including new facilities or modifications to existing facilities. (1000 characters)

Current infrastructure on both campuses is adequate for the proposed program. Each campus has fully equipped smart classrooms, science and computer laboratories, and libraries. No additional physical plant requirements or modifications to existing facilities are expected for program implementation.

**Financial Support**

- Faculty salaries are estimated at \$60k plus fringe for one faculty member
- Admin Support is estimated as 12.5% plus fringe (1/2 of 25%) of existing employee
- Program Admin is estimated as 10% of Department Chair base salary plus fringe (existing employee)
- Tuition is estimated at total E&G for each student major
- Program Specific fees are estimated at number of new students plus transfers times \$150
- Reallocation of Existing Funds are estimated Program Administration plus Admin/Clerical Support\*\*

<b>ESTIMATED COSTS BY YEAR</b>						
<b>CATEGORY</b>	<b>1<sup>st</sup></b>	<b>2<sup>nd</sup></b>	<b>3<sup>rd</sup></b>	<b>4<sup>th</sup></b>	<b>5<sup>th</sup></b>	<b>TOTALS</b>
Program Administration (department chair & program director)	13,076	13,076	13,076	13,076	13,076	65,381
Faculty Salaries	0	81,600	81,600	81,600	81,600	326,400
Graduate Assistants	NA	NA	NA	NA	NA	NA
Clerical/Support Personnel	5,276	5,276	5,276	5,276	5,276	26,380
Supplies and Materials						0
Library Resources	2,000	5,000	8,000	8,000	8,000	31,000
Equipment	0	0	0	0	0	0
Facilities	0	0	0	0	0	0
Other (Identify)	0	0	0	0	0	0
<b>TOTALS</b>	<b>20,352</b>	<b>104,952</b>	<b>107,952</b>	<b>107,952</b>	<b>107,952</b>	<b>449,161</b>
<b>SOURCES OF FINANCING BY YEAR</b>						
Tuition Funding	\$52,104	\$104,208	\$164,996	\$217,100	\$251,836	790,244
Program-Specific Fees	900	1,050	1,200	1,500	1,500	6,150
State Funding*	0	0	0	0	0	0
Reallocation of Existing Funds**	18,352	18,352	18,352	18,352	18,352	91,761
Federal Funding	0	0	0	0	0	0
Other Funding (Specify)	0	0	0	0	0	0
<b>TOTALS</b>	<b>\$71,356</b>	<b>\$123,610</b>	<b>\$184,548</b>	<b>\$236,952</b>	<b>\$271,688</b>	<b>888,155</b>

\*Provide an explanation for these costs and sources of financing in the budget justification.

**Budget Justification**

Provide a brief explanation for the other new costs and any special sources of financing (state funding, reallocation of existing funds, federal funding, or other funding) identified in the Financial Support table. (1000 characters)

**Note: Institutions need to complete this budget justification *only* if any other new costs, state funding, reallocation of existing funds, federal funding, or other funding are included in the Financial Support table.**

\*There are no plans to request "unique cost" or other special state appropriations. All funds to be generated through tuition and fees.

This table is predicated on a 2.0% annual increase in both full-time resident tuition and fees based on the 2015-16 fee schedule. Fees include those for technology, security and parking, and laboratory. Out-of-state and military students would have different fee structures than those used.

**In-State Cost (per student per semester)**

	<b>2015-16</b>	<b>2016-17</b>	<b>2017-18</b>	<b>2018-19</b>	<b>2019-20</b>
<b>Tuition</b>	\$4,731	\$4,826	\$4,922	\$5,021	\$5,121
<b>Fees</b>	\$368	\$375	\$383	\$391	\$398
<b>Housing</b>	\$3,440	\$3,509	\$3,579	\$3,651	\$3,724
<b>Meal Plan</b>	\$1,150	\$1,173	\$1,196	\$1,220	\$1,245
<b>TOTAL</b>	\$9,689	\$9,883	\$10,080	\$10,282	\$10,488

## Evaluation and Assessment

**Programmatic Assessment:** Provide an outline of how the proposed program will be evaluated, including any plans to track employment. Identify assessment tools or software used in the evaluation. Explain how assessment data will be used. (3000 characters)

Student achievement in the Secondary Teacher Education, Biology (STEB) program will be measured in a number of ways using:

1. **Direct assessment** of how well students have met learning outcomes which will be performed primarily through the review of assessment tools from individual courses, including graded homework, quizzes, exams, projects, portfolios, laboratory reports, presentations, research/expository papers, and simulations;

- A GPA of 2.0 or higher must be maintained for a student to remain in good academic standing;
- Semester and annual reviews of students' academic progress will be evaluated.

2. **Indirect assessment** including focus groups, interviews, graduation rates, transfer rates, and written surveys:

- Student satisfaction is measured each semester both qualitatively and quantitatively and the strengths and weaknesses are evaluated by the faculty and their department chairs;
- Graduates will be tracked in terms success rates on the Praxis II Biology: Content Knowledge;
- Student graduates accepting teaching positions in Beaufort and Jasper counties will be determined each fall.

3. **Overall evaluation** whereby programs are reviewed internally using USCB's annual Institutional Effectiveness and Outcomes Assessment (IE-OA) process where program objectives and student learning outcomes are assessed and results used for program improvement through IE-OA Plans and Close-out Reports. The reports are reviewed by the IE-OA Council and a final report is sent to the Chancellor, Administrative Council, and Budget Committee for review.

An Academic Program Review Committee annually assesses programs by analyzing each academic program's self-study report. The APRC meets with the Department Chair to discuss the report, comments are submitted by the Chair of the APRC to the Department Chair and the Chair of the IE-OA Council (IE). The IE-OA Council reviews all final reports then the summary with recommendations and concerns are sent to the Department Chair and the Chancellor.

Commencing with the first class of graduates from the STEB program, the Natural Sciences Department will develop, administer, and evaluate surveys to gauge graduate employment rates, student satisfaction, admission to graduate school, and employer satisfaction. Feedback from the surveys will be used to make program improvements. An external advisory board will be developed to provide guidance in program development and improvements.

Accreditation from the Council for the Accreditation of Educator Preparation (CAEP) will be sought for the Educator Preparation Program (EPP) and from the South Carolina Department of Education. In addition, national SPA recognition will also be sought for the STEB program, through the National Science Teacher Association (NSTA) using detailed information on key outcomes/assessments.

**Student Learning Assessment**

<b>Expected Student Learning Outcomes</b>	<b>Methods of/Criteria for Assessment</b>
<i>Graduates of Secondary Teacher Education in Biology shall:</i>	
Demonstrate knowledge of biological science subject matter content including biological domains, physiological processes and species interactions	ETS Biology: Content Knowledge (5235) score at or above 148
Demonstrate knowledge of educational pedagogy	ETS Principles of Learning and Teaching: Grades 7-12 (5624) scoring at or above 157
Plan instruction and assessments for reading and writing concepts	Lesson plan rubric in EDSE B469 with grade of B or better
Demonstrate skills necessary to manage safely and appropriately the collection, analysis and interpretation of laboratory and/or field data	Lesson plan rubric in EDSE B460 with grade of B or better
Demonstrate proficiency in short and long range planning for instruction and analysis of student learning	Teacher Work Sample containing five Dimensions
Progress in continued development in both science and secondary education	Periodic monitoring of a student portfolio maintained by the student
Knowledge of research and investigation in science	Assessed using a prescribed rubric for each of BIOL B290 (Seminar), in MSCI B210 (Oceans and Man) Research Project, and in EDSE B430 (Teaching Science in the Secondary School).

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Will the proposed program seek program-specific accreditation?

Yes

No

If yes, provide the institution's plans to seek accreditation, including the expected timeline for accreditation. (500 characters)

Upon SC CHE approval, USCB will seek accreditation from CAEP using the NSTA (2012-approved) standards. Planning this process will be initiated in 2017-18 as the program begins its first full academic year. USCB will request CAEP approval after the first graduate as per NSTA guidelines.

Will the proposed program lead to licensure or certification?

Yes

No

If yes, explain how the program will prepare students for licensure or certification. (500 characters)

The proposed STEB program leading to secondary certification addresses the requirements of the NSTA standards as well as the South Carolina Department of Education Standards. Please refer to latter sections of this proposal for detailed information

### **Teacher or School Professional Preparation Programs**

Is the proposed program a teacher or school professional preparation program?

Yes

No

If yes, complete the following components.

Area of Certification

Secondary Science Teacher, Biology

Please attach a document addressing the South Carolina Department of Education Requirements (p. 28) and SPA or Other National Specialized and/or Professional Association Standards (p. 51)

### **South Carolina Department of Education Requirements**

This section describes how and when the new program will meet all state requirements as outlined in the Policy Guidelines for South Carolina Educator Preparation Units, (<http://www.scteachers.org/educate/edpdf/boardpolicy.pdf>) and includes the following:

#### **A. ADEPT (<http://www.scteachers.org/Adept/ihe.cfm>)**

The Unit's assessment system for initial educator preparation programs effectively incorporates the ADEPT system. The infusion of the ADEPT competencies into the undergraduate program can be viewed in the following table.

<b>ADEPT Performance Dimension</b>	<b>Course Where Addressed</b>	<b>Assignment/Task Addressing the APS</b>
Introduction to ADEPT Evaluation	EDCI B210 Observation and Analysis	ADEPT APS 1-10 Orientation provided by certified ADEPT trainer
APS 1 Long-Range Planning	EDSE B469 Internship in Secondary Science Education	APS 1: Long-Range Planning (LRP) Rubric
APS 2 Short-Range Planning	EDCI B243 Technology Resources for Teachers	Smart Notebook Lesson
	EDSE B430 Practicum in Teaching Science in the Secondary School	Practicum Midterm and Final Evaluation Rubric (Domain 1)
	EDSE B469 Internship in Secondary Science Education	Internship Midterm and Final Evaluation (SRP) Teacher Work Sample (TWS)
APS 3 Planning Assessments and Using Data	EDSE B469 Internship in Secondary Science Education	Internship Midterm and Final Evaluation
APS 4 Establishing and Maintaining High Expectations for Learning	EDCI B243 Technology Resources for Teachers	Smart Notebook Lesson
	EDSE B469 Internship in Secondary Science Education	Practicum Midterm and Final Evaluation Rubric
	EDSE B469 Internship in Secondary Science Education	Internship Midterm and Final Evaluation
APS 5 Using Instructional Strategies to Facilitate Learning	EDCI B210 Observation and Analysis	Observation Notebook
	EDCI B243 Technology Resources for Teachers	Interactive Whiteboard Lesson
	EDSE B430 Practicum in Teaching Science in the Secondary School	Practicum Midterm and Final Evaluation Rubric
	EDSE B469 Internship in Secondary Science Education	Internship Midterm and Final Evaluation
APS 6 Providing Content for Learners	EDSE B469 Internship in Secondary Science Education	Internship Midterm and Final Evaluation Teacher Work Sample (TWS)
APS 7 Monitoring and Enhancing Learning	EDSE B469 Internship in Secondary Science Education	Internship Midterm and Final Evaluation Teacher Work Sample (TWS)
APS 8 Maintaining an Environment that Promotes Learning	EDCI B441 Organization and Management in the Diverse Classroom	Classroom Management Plan (CMP) Rubric
	EDSE B469 Internship in Secondary Science Education	Internship Midterm and Final Evaluation
APS 9 Managing the Classroom	EDCI B441 Organization and Management in the Diverse Classroom	Classroom Management Plan (CMP) Rubric
APS 10 Fulfilling Professional Responsibilities	EDSE B430 Practicum in Teaching Science in the Secondary School	Practicum Midterm and Final Evaluation Rubric

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	EDSE B469 Internship in Secondary Science Education	Internship Midterm and Final Evaluation APS 10: Fulfilling Professional Responsibilities Rubric
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*The Unit is effectively implementing the ADEPT system in field and clinical experiences. ADEPT Standards are integrated in the practica for all initial programs through use of the following assessments:*  
USCB Formative Observation Form (Practicum) Secondary Science Education Practicum Midterm/Final Evaluation Report

Secondary Science Education Practicum Midterm/Final Evaluation Report Rubric

ADEPT Standards are integrated into the clinical experience (internship) for all initial programs through the use of the following assessments:

USCB Formative Observation Form (Internship)

Secondary Science Education Internship Midterm/Final Evaluation Report

Secondary Science Education Internship Midterm/Final Evaluation Report Rubric

Teacher Work Sample (TWS) Description

Teacher Work Sample (TWS) Rubric

ADEPT APS 1: Long Range-Plan Template

ADEPT APS1: Long-Range Plan Rubric

ADEPT APS 10: Fulfilling Professional Responsibilities Form

ADEPT APS 10: Fulfilling Professional Responsibilities Rubric

### **ADEPT Performance Standards (APSs)**

- All required lesson and unit plans submitted to LiveText by teaching candidates and the intern are developed to align with the Common Core State and South Carolina Academic Curriculum Standards.
- The Teacher Work Sample (TWS) submitted to LiveText by the intern is aligned with ADEPT Performance Standards 1-10. The TWS is assessed by the University Supervisor and data is entered into LiveText using the Teacher Work Sample Rubric.
- The USCB Formative Evaluation Form for APS Standards 1-10 is submitted electronically from teachers and supervisors to LiveText. Data will be downloaded to Excel® spreadsheets to more easily aggregate and summarize data. Cooperating Teachers and University Supervisors enter their own USCB Formative Evaluation Form data electronically into LiveText.
- The Secondary Science Practicum Midterm/Final Evaluation Report Rubrics and Secondary Science Internship Midterm/Final Evaluation Report Rubrics align with APS Standards 1-10. Cooperating teachers and University Supervisors work in tandem to evaluate the teacher candidate. The University Supervisor enters data in LiveText using the Secondary Science Practicum and Secondary Science Internship Evaluation Report Rubrics.

### **Clinical Practice: Formal Assessments and Assistance**

- University supervisors will meet with clinical interns a minimum of six times in accordance with state guidelines. The university supervisor's initial visit is required to occur during the first 5 days of the intern placement.
- Formal Observations: University Supervisors will conduct three formal observations of the candidate and the cooperating teacher will conduct three formal observations.
- Self-evaluation and video analysis on ADEPT Key Elements (APS 4-9): In order to prepare candidates who are reflective and assist candidates for formal evaluation in the field with SAFE-T, USCB requires a video analysis and self-evaluation of pedagogical skills for at least one lesson during the clinical experience. This evaluation will be collected using the LiveText Lesson Plan Form in order to electronically manage the data.

### **Clinical Experiences will include a minimum of the following:**

#### **Candidate Orientation**

- Review of updated *USCB Department of Education Clinical Internship Handbook* with all required forms, responsibilities, and requirements

#### **Cooperating Teacher Orientation**

- Review of updated *USCB Department of Education Clinical Internship Handbook* with all required forms, responsibilities, and requirements

**University Supervisor Orientation**

- Review of updated *USCB Department of Education Clinical Internship Handbook* with all required forms, responsibilities, and requirements

**B. PADEPP (Applicable to Educational Leadership Programs Only) - N/A**

(<http://www.scteachers.org/leadership/principalperformance.cfm>)

**C. Education Economic Development Act (EEDA)**

(<http://www.scteachers.org/educate/edpdf/PerformancebasedStandards.pdf>)

*Candidates in teacher educator preparation programs have the knowledge, skills, and dispositions to achieve the EEDA performance standards for teacher education programs.*

<b>EEDA Performance Standard</b>	<b>ACTIVITY/COURSE in Curriculum Where Addressed</b>	<b>ASSESSMENT</b>
Standard 1: Career Guidance	EDSE B476 Senior Seminar in Secondary Science Education	Pre-Post Assessment
Standard 2: Career Clusters and Individual Graduation Plan	EDSE B476 Senior Seminar in Secondary Science Education	Pre-Post Assessment
Standard 3: Career Guidance Model	EDSE B476 Senior Seminar in Secondary Science Education	Pre-Post Assessment
Standard 4: Character Education	EDCI B441 Organization and Management in the Diverse Classroom	Test rubric
Standard 5: Contextual Teaching	EDCI B210 Observation and Analysis	Teacher Dispositions Rubric
	Professional Program Admission Application	Teacher Dispositions Rubric
	EDSE B469 Internship in Secondary Science Education	Teacher Work Sample Rubric
Standard 6: Cooperative Learning	EDSE B430 Teaching Science Secondary School	Lesson Plan Rubric
	EDSE B469 Internship in Secondary Science Education	Internship Midterm and Final Evaluation Rubric Teacher Work Sample Rubric
Standard 7: Accommodating Diverse Learning Styles	EDSE B430 Teaching Science in the Secondary School	Lesson Plan Rubric
	EDSE B469 Internship in Secondary Science Education	Internship Midterm and Final Evaluation Rubric Teacher Work Sample Rubric

EEDA competencies are assessed across courses in the initial preparation program. The EEDA Unit Assessment for the Undergraduate Teacher Education Program Matrix below shows the coverage of standards and assessments across the program.

The majority of the assignments for EEDA will be new.

**D. South Carolina Standards of Conduct**

(<http://ed.sc.gov/agency/se/Educator-Certification-Recruitment-and-Preparation/Certification/documents/standardsofconduct.pdf>)

*Candidates are informed in writing of the state Standards of Conduct (59-25-160; 59-25-530; 63-17-1060) required for initial certification. All initial licensure candidates attend a mandatory Education Majors Orientation session on admission to the professional education unit. The South Carolina Code of Conduct is addressed during this session and the Code of Conduct Handout is reviewed with candidates. The Code of Conduct Handout will also be provided to candidates in hardcopy format two times during their program. First, the document is distributed to students in EDCI B210 – Observation and Analysis, the program introductory course. All students must complete a Student Contract Acknowledging Receipt of Code of Conduct. In addition, the Code of Conduct Handout is also given to candidates in EDME B476 – Senior Seminar in Secondary Mathematics Education that accompanies the candidates’ internship.*

**E. South Carolina Safe School Climate Act**

(<http://www.scteachers.org/Educate/edpdf/climateact.pdf>)

*Candidates in all initial certification programs have the knowledge, skills and dispositions to identify and prevent bullying, harassment, and intimidation in schools. After classroom instruction on the Safe School Climate Act, all candidates in initial programs will demonstrate knowledge and skills related to this act through completion of various assessments as noted in the table below:*

<b>South Carolina Safe School Climate Act</b>	
<b>Activity/Course in Curriculum Where Addressed</b>	<b>Assessment</b>
EDPY B335 Introduction to Educational Psychology	Bullying Awareness Quiz
EDCI B441 Organization and Management in the Diverse Classroom.	Bullying Reflection (Blackboard Online Threaded Discussion) Classroom Management Plan Rubric
EDSE B430 Teaching Science in the Secondary School	Bullying Reflection Rubric

The majority of the assignments noted above will be new. However, the Bullying Awareness Quiz given in EDPY B335: Introduction to Educational Psychology will remain the same.

**F. P-12 Academic Standards**

(<https://www.ed.sc.gov/agency/standards-and-learning/academic-standards/>) *Candidates in all certification programs know, understand, and can apply the South Carolina College- and Career-Ready P-12 Academic Curriculum Standards in the area in which they seek certification. Candidates in all programs align their lessons with the South Carolina College- and Career-Ready P-12 Academic Curriculum Standards for their certification area.*

The Lesson Plan Template demonstrates this alignment. In addition, all interns are required to include the *South Carolina College- and Career-Ready P-12 Academic Curriculum Standards* in their TWS instructional plan and lesson plans. See TWS Dimension 2 Description.

**G. Admission Requirements (Assurance of Compliance)**

*Candidates admitted to initial educator preparation programs demonstrate basic academic proficiencies by meeting the standards set by the State Board of Education on Praxis™ Core Academic Skills for Educators*

*tests or on the SAT or ACT.* All students seeking to complete the Secondary Mathematics Certification track in the program must meet all admission requirements and be formally admitted before they are allowed to enroll in restricted professional courses.

Students must fulfill USCB admissions requirements to enroll in general education or program specific courses. Applicants who have earned a 2.0 cumulative GPA on the defined preparatory units and who score 800 on the SAT or 17 on the ACT may be admitted to USCB.

Transfer students are required to have a 2.0 cumulative GPA in all previous college-level work. They must also be in good standing and eligible to return to the institution last attended.

There are admission criteria specific to this program. Application for admission into the STEB track must be submitted to the Biology Education Committee (BEC, consisting of at least three tenured/tenure-eligible mathematics faculty members along with an additional tenured/tenure-eligible education faculty member). The student must have completed at least 45 hours of undergraduate credit together with the following conditions (as well as other USCB academic requirements):

- A cumulative Grade Point Average (GPA) of at least 2.75 in all undergraduate course work
- Completion of all Pre-Professional courses with a minimum GPA of 3.00 and a "C" or better in each course
- Grade of "C" or better in a performance-based speech course- COMM 140: Public Communication or COMM 230: Business and Professional Speaking
- Passing scores on all three sections of *Praxis™ Core Academic Skills for Educators* tests. Official scores must be submitted to and received by the Department of Natural Sciences.
- Attendance at the Secondary- Science Orientation Session
- Criminal Background Check and Full Disclosure Statement from the State Law Enforcement Division (SLED)
- Successfully complete Professional Program Interview and Disposition Statement
- Approval by the Biology Teacher Education Committee

Curricula designated as professional education courses are limited to students who have been formally accepted into USCB's Bachelor of Secondary Teacher Education, Biology program.

**NOTE:** Faculty advisors meet with candidates at least twice every academic year to assure that candidates are meeting the above requirements.

#### **H. Field and Clinical Experiences Requirements**

(<http://www.scteachers.org/ADEPT/evalpdf/EducatorPreparationGuidelines.pdf>)

*Candidates at the initial undergraduate level have completed a minimum of 100 hours of field experiences prior to clinical practice.* As the table entitled, *Secondary Biology Education Field Experiences and Clinical Practice Requirements* indicates, candidates complete 150 hours of field experiences prior to their internship clinical practice. During the fall semester of their senior year, candidates are enrolled in EDSE B430P Practicum in Teaching Science in Secondary School where they complete 120 field experience hours. During the spring semester of their senior year, candidates are enrolled in EDSE B469 Internship in Secondary Science Education where they complete 450 hours of clinical practice. The total number of field experience and clinical hours is 600 contact hours in schools.

<b>Undergraduate Initial Program</b>		
<b>Course</b>	<b>Description of the Field Experience Of Clinical Practice (Internships)</b>	<b># of hours</b>
EDCI 210, Clinical Observation and Analysis	Candidates observe for a minimum of 20 hours in a 9-12 <sup>th</sup> grade classroom and complete observation instruments and reflections that address teacher behaviors such as student engagement, classroom management, and questioning techniques. Additionally, candidates examine instructional and assessment practices that reflect guidelines for developmentally appropriate practice. In addition, the candidates complete 12 of the 25 required service learning hours in this class.	20
EDEX 300, Introduction to Exceptional Learner	Candidates observe for a minimum of 10 hours in a 9-12 <sup>th</sup> grade classroom and complete an analysis of the classroom learning environment for students with exceptionalities. The Learning Environment Study (report) focuses on the analysis of information learned from observations, interviews, and content from classes as well as research on issues relevant to the student's disability.	10
EDSE 430P, Practicum in Teaching Science in Secondary Education	EDCI 210, Clinical Observation and Analysis	20
EDSE B469, Internship in Secondary Science Education	Candidates are in the schools five days a week for 15 weeks for a minimum of 450 hours. In this experience, candidates have experience in the full range of responsibilities of the classroom teacher and assume full-time planning and teaching for a minimum of two weeks.	450
<b>Total Hours</b>		600

**USCB Department of Natural Sciences Transition Points, Key Assessments and Requirements**

The Department of Natural Sciences has an established plan in which candidates' progress through the unit via a series of progression levels. Some course assessments will change based on the requirements of the Secondary Biology SPA, NSTA.

Candidates' progress is formally monitored at each transition point as described in the Procedures for Monitoring Candidates' Progress in the Professional Education Programs, used in USCB's Department of Education.

The monitoring procedures are the following:

**Procedures for Monitoring Candidates' Progress**

Transition Point 1: Admission to the Secondary Teacher Education, Biology program.

Initial Undergraduate Level:

- 1) The undergraduate candidate applies to the USCB Office of Admissions. Upon acceptance, the Office of the Registrar provides the Department of Natural Sciences with a list of students identifying themselves as pre-professional majors in Secondary Teacher Education, Biology,
- 2) Pre-professional majors are assigned an Advisor who facilitates and monitors progression through the program.

- 3) Pre-professional majors complete general education coursework and pre-professional coursework with a minimum GPA of 2.75, and successfully pass the *Praxis™ Core Academic Skills for Educators* tests.
- 4) Pre-professional majors submit a Professional Program Application prior to the semester they wish to enter the program.
- 5) The Advisor verifies the satisfactory completion of all requirements with the applicant, and interviews the applicant, and recommends the candidate to the Department Chair for formal admission into the professional education program as a Secondary Teacher Education, Biology major. Disposition essays are reviewed by the BEC Committee and evaluated.
- 6) Letters of Acceptance into the Professional Program are mailed to the candidates. Letters of denial are mailed to those who did not meet the requirements specifying which requirements need to be met.
- 7) This is noted in the candidate's file so that course holds can be lifted which allows students to take professional level classes.
- 8) A list of candidate names documents the new cohort.

Transition Point 2: Admission to Internship

- 1) The candidate submits a Clinical Internship Application and the South Carolina Certification Application to the Field Experiences Coordinator on or before January 15th for fall semester internship and May 1st for spring semester internship.
- 2) The Coordinator of Field and Clinical Experiences enters undergraduate candidate data on an Excel® spreadsheet and monitors and verifies the completion of all requirements for admission to internship (Transition Point 2) and begins the internship placement process.
- 3) Candidates must pass the required Praxis II exam prior to internship placement.
- 4) BEC interviews each applicant and evaluates their readiness and identifies strengths and growth areas.
- 5) The Coordinator of Field and Clinical Experiences mails a letter of acceptance to the successful candidate. Course holds are lifted to give permission for the undergraduate candidate to register for the 12-credit internship course and 3-credit Senior Seminar in Secondary Science Teacher Education.
- 6) The Coordinator of Field and Clinical Experiences finalizes the internship placement and candidates are notified of their placements the first week of Senior Seminar.

Transition Point 3: Completion of Internship

- 1) Candidate's progress during the internship is monitored and assessed by the college university supervisor and cooperating teachers for required coursework completion.
- 2) The Coordinator of Field and Clinical Experiences verifies the completion of all requirements for the internship by entering the information into the designated Excel® spreadsheet.

Transition Point 4: Program Completion and Recommendation for Certification

- 1) The candidate submits a Graduation Application the semester prior to graduation. The Advisor reviews the form with the candidate and submits it to the Department Chair for final approval.
- 2) The Department Chair provides the Office of the Registrar with verification of undergraduate candidates passing the required Praxis II exam.

- 3) The Office of the Registrar audits the undergraduate candidate's completion of program requirements.
- 4) The Coordinator of Field and Clinical Experiences submits the names and evidence of the candidates to the Department Chair who recommends the candidates for South Carolina certification.
- 5) The signed Verification of Program Completion original is mailed to the South Carolina Department of Education Office of Certification and one copy retained in the candidate's file.

**I. Eligibility for Certification**

Candidates for secondary certification complete at least 30 semester hours in their area of concentration. The Bachelor of Science in Secondary Teacher Education, Biology program will seek national recognition by the CAEP-designated SPA (NSTA). In addition, candidates must successfully complete the following Praxis Subject Assessments and Principles of Learning (PLT) requirements.

PRAXIS Subject Assessments Test				Principles of Learning (PLT) Test			
Test Name	CDT Code	PDT Code	Qualifying Score	Test Name	CDT Code	PDT Code	Qualifying Score
Biology: Content Knowledge	5235	n/a	148*	Principles of Learning and Teaching: Grades 7-12	5624	n/a	157*

\* <http://www.ets.org/praxis/sc/requirements>

**J. Annual Reports (AACTE/CAEP and Title II)**

Annual reports (e.g., Diversity Plan, Unit Assessment System, Title II, and AACTE/CAEP) will be completed and submitted at the required deadlines.

**K. Commitment to Diversity Assurance**

A Diversity Plan based on the plan already in place in the Department of Education at USCB will be utilized. Annual reports will provide evidence of implementation of the Diversity plan to include:

- *Candidates possess a strong knowledge of cultural diversity issues that includes global and multicultural perspectives.*  
USCB's General Education program includes a distribution requirement on global and multicultural understanding.
- *Candidates can teach all students, regardless of exceptionalities or backgrounds.*  
The Teacher Work Sample (TWS) is the primary measurement of candidate ability to teach all students, regardless of exceptionalities or backgrounds. See TWS Description and Scoring Rubric.

**L. Professional Development Courses (<http://www.nsd.org/standards/index.cfm>) - NA**

**M. Advanced Programs for the Preparation of Teachers Alignment with NBPTS ([http://www.nbpts.org/the\\_standards/standards\\_by\\_cert](http://www.nbpts.org/the_standards/standards_by_cert)) - NA**

**N. Experimental or Innovative Programs Policy (Assurance of compliance) - NA**

**O. ISTE National Educational Technology for Teachers (NETS.T) Standards Alignment ([http://www.iste.org/Content/NavigationMenu/NETS/ForTeachers/2008Standards/NETS\\_T\\_Standards\\_Final.pdf](http://www.iste.org/Content/NavigationMenu/NETS/ForTeachers/2008Standards/NETS_T_Standards_Final.pdf))**

The Professional Education Unit initial preparation programs are aligned with the ISTE National Educational Technology Standards. ISTE (NETS.T, <http://www.apple.com/education/docs/Apple-ISTE-NETS-Teachers.pdf>) Standards are presented in EDCI B243 Technology Resources for Teaching and are added

in all appropriate course syllabi and rubrics throughout the program. To view alignment matrices, see Technology Integration in the Undergraduate Initial Preparation Program in the table below.

**USCB Technology Integration in the Professional Education Unit  
 Undergraduate Initial Preparation Programs;**

ISTE NETS-T	Course Where Addressed	Assignment/Task
<p><b>Facilitate and Inspire Student Learning and Creativity</b>            Teachers use their knowledge of subject matter, teaching and learning, and technology to facilitate experiences that advance student learning, creativity, and innovation in both face-to-face and virtual environments. Teachers:</p> <ul style="list-style-type: none"> <li>a. demonstrate fluency in technology systems and the transfer of current knowledge to new technologies and situations</li> <li>b. collaborate with students, peers, parents, and community members using digital tools and resources to support student success and innovation</li> <li>c. communicate relevant information and ideas effectively to students, parents, and peers using a variety of digital age media and formats</li> <li>d. model and facilitate effective use of current and emerging digital tools to locate, analyze, evaluate, and use information resources to support research and learning</li> </ul>	<p>EDCI B243            Technology Resources for Teaching</p> <p>EDSE B430            Teaching Science in the Secondary School</p> <p>EDSE B430P            Practicum in Teaching Science in Secondary School</p> <p>EDSE B476 Senior Seminar in Secondary Science Education</p>	<p>Interactive Whiteboard lesson</p> <p>Thematic Web</p> <p>Lesson Planning</p> <p>Blackboard Discussion Board</p>
<p><b>Design and Develop Digital-Age Learning Experiences and Assessment</b>            Teachers design, develop, and evaluate authentic learning experiences and assessment incorporating contemporary tools and resources to maximize content learning in context and to develop the knowledge, skills, and attitudes identified in the NETS-S. Teachers:</p> <ul style="list-style-type: none"> <li>a. design or adapt relevant learning experiences that incorporate digital tools and resources to promote student learning and creativity</li> <li>b. develop technology-enriched learning environments that enable all students to pursue their individual curiosities and become active participants in setting their own educational goals, managing their own learning, and assessing their own progress</li> <li>c. customize and personalize learning activities to address students' diverse learning styles, working strategies, and abilities using digital tools and resources</li> <li>d. provide students with multiple and varied formative and summative assessments aligned with content and technology standards and use resulting data to inform learning and teaching</li> </ul>	<p>EDCI B243            Technology Resources for Teaching</p> <p>EDSE B430            Teaching Science in the Secondary School</p> <p>EDSE B469            Internship in Secondary Science Education</p>	<p>Active Studio Promethean Presentation</p> <p>Biology Presentation &amp; Lesson Planning</p> <p>Teacher Work Sample (TWS)</p>
<p><b>Model Digital-Age Work and Learning</b>            Teachers exhibit knowledge, skills, and work processes representative of an innovative professional in a global and digital society. Teachers:</p> <ul style="list-style-type: none"> <li>a. demonstrate fluency in technology systems and the transfer of current knowledge to new technologies and situations</li> <li>b. collaborate with students, peers, parents, and community members using digital tools and resources to support student success and innovation</li> </ul>	<p>EDCI B243            Technology Resources for Teaching</p> <p>EDSE B469            Internship in Secondary Science Education</p>	<p>Interactive Whiteboard Lesson</p> <p>Biology Presentation &amp; Teacher Work Sample (TWS)</p>

<p>c. communicate relevant information and ideas effectively to students, parents, and peers using a variety of digital age media and formats</p> <p>d. model and facilitate effective use of current and emerging digital tools to locate, analyze, evaluate, and use information resources to support research and learning</p>	<p>CHEM B111 &amp; B112</p>	<p>Student-designed laboratory work</p>
<p><b>Promote and Model Digital Citizenship and Responsibility</b>        Teachers understand local and global societal issues and responsibilities in an evolving digital culture and exhibit legal and ethical behavior in their professional practices. Teachers:</p> <p>a. advocate, model, and teach safe, legal, and ethical use of digital information and technology, including respect for copyright, intellectual property, and the appropriate documentation of sources</p> <p>b. address the diverse needs of all learners by using learner-centered strategies providing equitable access to appropriate digital tools and resources</p> <p>c. promote and model digital etiquette and responsible social interactions related to the use of technology and information</p> <p>d. develop and model cultural understanding and global awareness by engaging with colleagues and students of other cultures using digital age communication and collaboration tools</p>	<p>EDCI B243        Technology Resources for Teaching</p> <p>EDEX B300        Introduction to the Exceptional Learner</p> <p>EDSE B469        Internship in Secondary Education</p>	<p>Interactive Whiteboard Lesson</p> <p>Multi-media chapter Presentation (Diverse learners)</p> <p>Teacher Work Sample (TWS)</p>
<p><b>Engage in Professional Growth and Leadership</b>        Teachers continuously improve their professional practice, model lifelong learning, and exhibit leadership in their school and professional community by promoting and demonstrating the effective use of digital tools and resources. Teachers:</p> <p>a. participate in local and global communities to explore creative applications of technology to improve student learning</p> <p>b. exhibit leadership by demonstrating a vision of technology infusion, participating in shared decision making and community building, and developing the leadership and technology skills of others</p> <p>c. evaluate and reflect on current research and professional practice on a regular basis to make effective use of existing and emerging digital tools and resources in support of student learning</p> <p>d. contribute to the effectiveness, vitality, and self-renewal of the teaching profession and of their school and community</p>	<p>EDCI B243        Technology Resources for Teaching</p> <p>EDSE B469        Internship in Secondary Science Education</p> <p>EDSE B476        Senior Seminar in Secondary Science Education</p>	<p>Interactive Whiteboard Lesson</p> <p>Blackboard Discussions</p> <p>Internship Final Evaluation</p> <p>Video Analysis and Self-Reflection</p>

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**SPA and Other National Specialized and/or Professional Association Standards  
Council for the Accreditation of Teacher Preparation (CAEP) for National Science Teacher  
Association (NSTA)**

<http://caepnet.org/accreditation/caep-accreditation/application>

**COVER SHEET**

1. Institution Name: University of South Carolina Beaufort
2. State: South Carolina
3. Date submitted: 9/15/2016
4. Report Preparer's Information:  
Name of Preparer: Gordon D. Sproul  
Phone: 843-521-4162; Email: [gdsproul@uscb.edu](mailto:gdsproul@uscb.edu)
5. CAEP Coordinator's Information: Christine J. Ferguson  
Email: [CFerguson@uscb.edu](mailto:CFerguson@uscb.edu)
6. Name of Institution's Program: Secondary Teacher Education, Biology
7. CAEP Category: Biology Education
8. Grade levels for which candidates are being prepared: Secondary, 9-12
9. Program Type: First teaching license
10. Degree or award level: Baccalaureate
11. Is this program offered at more than one site? No
12. If your answer is "yes" to above question, list the sites at which the program is offered: NA
13. Title of the state license for which candidates are prepared: Biology, Secondary Education, 9-12
14. Program report status (Initial Review, Response to One of the Following Decisions: Further Development Required or Recognition with Probation, or Response to National Recognition with Conditions): Response not applicable for program consideration
15. Is your unit seeking CAEP accreditation for the first time (initial accreditation) or Continuing CAEP accreditation? Continuing
16. State Licensure requirement for national recognition: CAEP requires 80% of the program completers who have taken the test to pass the applicable state licensure test for the content field, if the state has a testing requirement. Test information and data must be reported in Section IV. Does your state require such a test? Yes (Data on completers not applicable for program consideration)

## SECTION I- CONTEXT

Description of any state or institutional policies that may influence the application of NSTA standards.

### 1. The South Carolina Educator Licensure Manual,

[http://www.clemson.edu/hehd/departments/education/documents/CertManual\\_Jan2015.pdf](http://www.clemson.edu/hehd/departments/education/documents/CertManual_Jan2015.pdf) provides information on requirements for certification to teach in the state. The certification requirements for secondary biology certification as outlined in the Manual are:

- (1) Accredited Teacher Education Bachelor's degree
- (2) Initial or professional certificate at the secondary level
- (3) Minimum qualifying score(s) on the content-area examination(s) required by the State
- (4) Be at least 18 years of age
- (5) Undergo and pass South Carolina criminal records check
- (6) Specialized preparation: Semester Hours
  - a) 6-8 semester hours in each of Biology, Chemistry, Physics, and Marine Biology/Science along with
  - b) 6-12 semester hours in any of the following subject areas: Biology, Chemistry, Physics, Geology, Geography, or Astronomy

From the program curriculum as provided in Part II, Curriculum, the above requirements are accounted for in this proposal. While field experience requirements from the South Carolina Department of Education as outlined in Policy Guidelines for South Carolina Educator Preparation Units are provided below in 2, other standards as required by the South Carolina Department of Education (ADEPT, EEDA, etc.) are accounted for in III A-O, South Carolina Department of Education Requirements above.

**2. Policy Guidelines for South Carolina Educator Preparation Units** (September 2006—effective July 1, 2007) provides requirements regarding field experiences. The relevant undergraduate data is:

#### B. Field Experiences and Clinical Practice

All teacher preparation programs and other school personnel preparation programs must provide field experiences (also known as the practicum) that provide candidates with a variety of progressive experiences in multiple and diverse settings. All candidates must complete a minimum of 100 hours of field experiences prior to clinical practice (student teaching) at the initial undergraduate level.

Requirements for the clinical practice experience at the initial level must include the following:

- (1) The clinical practice experience must provide for the candidate's intensive and continuous involvement in a public school setting within South Carolina.
- (2) In the initial preparation program, the clinical practice teaching experience must be an equivalent of a minimum of twelve weeks or sixty full days; the candidate must teach independently a minimum of ten full days in one placement/setting.
- (3) During the sixty days, candidates must adhere to the daily schedule of the cooperating teachers (e.g., bus duty, faculty meetings, parent conferences, extracurricular activities, in-service activities, rehearsals). Assignments of candidates are not to include activities or duties for which a cooperating teacher receives an additional stipend.
- (4) Candidates in traditional sixty-day clinical practice experiences may receive monetary compensation for their work if their teacher education programs have been given permission by the Professional Review Committee (PRC).

(5) Each candidate must be supervised by one or more institutional clinical faculty members who have preparation both in the supervision of education and in the teaching major. A single institutional faculty member may fulfill both roles if he or she is appropriately qualified. All institutional clinical faculty supervisors must be trained in the ADEPT system. Appropriate ADEPT training also is required for faculty affiliated with programs that prepare candidates as other professional school (i.e., “special area”) personnel.

(6) Each candidate must be supervised by one or more school-based clinical faculty. All school-based clinical faculty must be trained in the ADEPT system. Appropriate ADEPT training also is required for school-based clinical faculty who are affiliated with programs that prepare candidates as other professional school (i.e., “special area”) personnel.

(7) Candidates must receive formative evaluations and assistance from both their institutional clinical faculty supervisors and their school-based clinical faculty in terms of the ADEPT performance standards. The formative evaluations must provide the candidate with written and oral feedback and assistance in terms of all ADEPT standards and evaluation processes, and must include a minimum of four classroom observations (i.e., at least two formative observations by the faculty supervisor and two formative observations by the cooperating teacher). Formative evaluations based on the appropriate ADEPT standards and evaluation guidelines also are required for candidates who are preparing to work as other professional school (i.e., “special area”) personnel.

(8) Candidates must receive at least one summative evaluation in terms of the ADEPT performance standards. Both the institutional clinical faculty and the school-based clinical faculty must participate in the summative evaluation process. The summative evaluation process must be aligned with the ADEPT formal evaluation guidelines, must include all evaluation procedures (including a minimum of two classroom observations—i.e., at least one summative observation by the faculty supervisor and one summative observation by the cooperating teacher), and must ensure that the candidate receives written and oral feedback in terms of all ADEPT standards. Summative evaluations based on the appropriate ADEPT standards and evaluation guidelines also are required for candidates who are preparing to work as other professional school (i.e., “special area”) personnel.

(9) Prior to the candidate’s clinical practice, appropriate background checks by the Federal Bureau of Investigation, including fingerprint submissions to the State Department of Education (SCDE), must be completed and cleared.

Moreover, the same document includes the following:

#### C. Standards of Conduct

All candidates must be provided specific written information regarding the standards of conduct (based on S.C. Code Ann. §§ 59-25-160, 59-25-530, and 20-7-945) required of South Carolina educators for initial certification.

These items are addresses in III D, South Carolina Department of Education Requirements, SC Standards of Conduct above.

### **3. Program of Study**

Please attach files to describe a program of study that outlines the courses and experiences required for candidates to complete the program. The program of study must include course titles. (This information may be provided as an attachment from the college catalog or as a student advisement sheet.)

Please see information in Part II, Curriculum by Year, above.

### **4. Accompanying Files**

This system will not permit you to include tables or graphics in text fields. Therefore any tables or charts must be attached as files here. The title of the file should clearly indicate the content of the file. Word documents, pdf files, and other commonly used file formats are acceptable.

**5. Candidate Information**

Provide three years of data on candidates enrolled in the program and completing the program, beginning with the most recent academic year for which numbers have been tabulated. Report the data separately for the levels/tracks (e.g., baccalaureate, post-baccalaureate, alternate routes, master's, doctorate) being addressed in this report. Data must also be reported separately for programs offered at multiple sites. Update academic years (column 1) as appropriate for your data span. Create additional tables as necessary.

This item is not applicable for program consideration.

**6. Faculty Information**

Faculty Member Name	Stephen Borgianini
Highest Degree, Field, & University(3)	Ph.D. Biology, Univ. South Carolina
Assignment: Indicate the role of the faculty member(4)	Ecology and Evolutionary Biology
Faculty Rank(5)	Associate Professor
Tenured/Tenure Track (Y/N)	Y
Scholarship(6), Leadership in Professional Associations, and Service (7):List up to 3 major contributions in the past 3 years(8)	<p>(6) 2013 Staton, JL, Borgianini, SA, Gibson, IB, Brodie, RJ, Greig, TW. Limited gene flow in <i>Uca minax</i> (LeConte 1855) along a tidally influenced river system. Cent. Eur. J. Biol. 1895-104X.</p> <p>2012 Borgianini, SA, Styles, R, Brodie, RJ. 2011. Simple model of megalopal transport in narrow river-dominated estuaries. Marine Ecology Progress Series 452:179-191.</p> <p>(7) Prior to his academic career Dr. Borgianini served for 11 years as a scientist with the New Jersey Department of Environmental Protection; ending his regulatory career as Assistant Director of the NJDEP's Division of Hazardous Waste Management. He left to start an interdisciplinary environmental consulting firm that specialized in the assessment and identification of environmental and ecological risk.</p> <p>(8) 2014 Player, RA, Borgianini, SA, Staton, JS. Osmotic partitioning in the pickleweed, <i>Salicornia virginica</i>. Presented at Spring Meeting of the Southeastern Estuarine Research Society, Jacksonville, FL, February 13-15, 2014.</p>
Teaching or other professional experience in P-12 schools(9)	None
Faculty Member Name	Jena Chojnowski
Highest Degree, Field, & University(3)	Ph.D. Zoology, U. Florida
Assignment: Indicate the role of the faculty member(4)	Developmental and Molecular Biology
Faculty Rank(5)	Assistant Professor
Tenured/Tenure Track (Y/N)	Y

<p>Scholarship(6), Leadership in Professional Associations, and Service (7):List up to 3 major contributions in the past 3 years(8)</p>	<p>(6) Chojnowski, J.L., H. Trau, K. Masuda, and N.R. Manley. Temporal and spatial requirements for Hoxa3 in regulating pharyngeal region development. <i>In press at Developmental Biology</i>.</p> <p>Nakayama, T., M. Fisher, K. Nakajima, A.O. Odeleye, K.B. Zimmerman, M.B. Fish, Y. Yaoita, J.L. Chojnowski, J.D. Lauderdale, P.A. Netland, and R.M. Grainger. Xenopus pax6 mutants affect eye development and other organ systems, and have phenotypic similarities to human aniridia patients. <i>Developmental Biology</i> (2015) doi:10.1016/j.ydbio.2015.02.012.</p> <p>Chojnowski, J.L., K. Masuda, H. Trau, K. Thomas, M. Capecchi, and N.R. Manley. Multiple roles for Hoxa3 in regulating thymus and parathyroid differentiation and morphogenesis in mouse. <i>Development</i> (2014) 141:3697.</p> <p>(7) 2014- Secretary, Postdoctoral Association UGA        2014 Committee member, Society of Developmental Biology Southeast regional meeting</p> <p>2013- Member, Association for Research in Vision and Ophthalmology</p> <p>(8) 2015 Children's Glaucoma Foundation Study Grant (\$2000)        2014-2015 Career-starter Research grant, Knights Templar Eye Foundation, Inc. (\$60,000)</p>
<p>Teaching or other professional experience in P-12 schools(9)</p>	<p>None</p>
<p>Faculty Member Name</p>	<p>Kathryn Madden</p>
<p>Highest Degree, Field, &amp; University(3)</p>	<p>M.S., Science Education-- Montana State U.</p>
<p>Assignment: Indicate the role of the faculty member(4)</p>	<p>General Biology; Environmental Biology</p>
<p>Faculty Rank(5)</p>	<p>Instructor</p>
<p>Tenured/Tenure Track (Y/N)</p>	<p>N</p>
<p>Scholarship(6), Leadership in Professional Associations, and Service (7):List up to 3 major contributions in the past 3 years(8)</p>	<p>June 2002 - 2007, Research Coordinator, Savannah River Ecology Laboratory</p> <p>January 2001-June 2002, Environmental Scientist, SAIC</p> <p>South Carolina Master Naturalist        40 hrs HAZMAT        Project WET, Project WILD, Project Lead the Way, Project Learning Tree</p>
<p>Teaching or other professional experience in P-12 schools(9)</p>	<p>August 2012 –14, Environmental Studies Instructor with Beaufort County School District, teaching 5th – 8th environmental studies;        August 2011 – 2012 Executive Director, Port Royal Sound Foundation: start up and overseeing all operations;</p> <p>August 2007 – 2011, Biology Instructor with Beaufort County School District, teaching high school biology classes and 1 year of fifth grade science.</p> <p>August 2006 – 2007, Biology Instructor with Ridge Spring Monetta High School</p>
<p>Faculty Member Name</p>	<p>Kimberly Ritchie</p>

Highest Degree, Field, & University(3)	Ph.D. Genetics, U North Carolina, Chapel Hill
Assignment: Indicate the role of the faculty member(4)	Cell and Molecular Biology
Faculty Rank(5)	Associate Professor
Tenured/Tenure Track (Y/N)	Y
Scholarship(6), Leadership in Professional Associations, and Service (7):List up to 3 major contributions in the past 3 years(8)	<p>(6) KP Sutherland and KB Ritchie (2004) White pox disease of the Caribbean Elkhorn coral, <i>Acropora palmata</i>. In: Coral Health and Disease, Springer-Verlag (Berlin) E. Rosenberg and Y. Loya (Eds.) Chapter 16, pp pp. 289-297;</p> <p>McDaniel, L, CA Daniels, S Baumgarten, CT Mitchell, T Henderson, KB Ritchie, JH Paul, and CR Voolstra (In Review) Gene transfer agents from a marine <i>alphaproteobacteria</i> selectively package mobile genetic elements and transporters. <i>Proceedings of the National Academy of Sciences</i></p> <p>(7) Jan. 2008-Present Senior Scientist, Mote Marine Laboratory, Sarasota, FL.; Program Manager, Coral Reef Ecology and Microbiology Program.</p> <p>Jan. 2004-2008 Staff Scientist, Mote Marine Laboratory, Sarasota, FL.  Program Manager, Marine Microbiology Program. Coral Reef Ecology, Microbial Ecology, Disease, Drug Discovery.</p> <p>NSF Panelist. Center for the Study of Microbial Oceanography: Research and Education (C-MORE) Reverse Site Visit, 2014;</p> <p>Graduate Committees: Scripps Institution of Oceanography/ UCSD, University of Florida, University of South Florida, College of Marine Sciences, University of Texas, Austin  Springer</p> <p>(8) Teplitski M, Krediet CJ, Meyer JL, Ritchie KB (In Press) Microbial interactions on coral surfaces and within the coral holobiont. In: The Cnidaria, past, present and future. The world of Medusa and her sisters. Goffredo and Dubinsky (Eds) Editorial Board, Coral Reefs  Gulf Coast Community Initiative. 25K. Antibiotics from the Sea. 2015; Munson Foundation. 25K. Beneficial Microbes on Coral Reefs. 2015; NSF. 371K. REU Site: Undergraduate Research Experiences in Estuarine and Coastal Sciences at Mote Marine Laboratory. 2015-2018; NSF. 256K. Development of an Ocean Acidification System in the Florida Keys. 2013-2015; ONR. 100K. Development of Probiotics for Dolphins. 2013-2014.</p>
Teaching or other professional experience in P-12 schools(9)	None
Faculty Member Name	Joseph Staton
Highest Degree, Field, & University(3)	Ph.D. Environmental Physiology and Evolutionary Biology, U. Louisiana, Lafayette

Assignment: Indicate the role of the faculty member(4)	Invertebrate Biology, Molecular Evolution, Population Genetics and Phylogeography
Faculty Rank(5)	Professor
Tenured/Tenure Track (Y/N)	Y
Scholarship(6), Leadership in Professional Associations, and Service (7):List up to 3 major contributions in the past 3 years(8)	<p>(6) He held a postdoctoral research position at the Smithsonian Marine Station at Link Port in Fort Pierce, Fla.; an NSF Postdoctoral Fellowship at the Department of Biology at the University of Michigan in Ann Arbor; a NASA Fellowship the Department of Biology at the University of California in Los Angeles; and the MarCraig Fellowship at the Museum of Comparative Zoology at Harvard University in Cambridge;</p> <p>Staton JL, Borgianini SA, Gibson IB*, Brodie RJ, Greig TW. 2014. Limited gene flow in <i>Uca minax</i> (LeConte 1855) along a tidally influenced river system. <i>Central European</i></p> <p>(7) Advanced Placement Biology Exam reader for Educational Testing Service, Princeton, NJ;  Served as a reader (grader) of the ETS AP examinations for 6 years (2008-2014 [excluding 2013]). Grade national exams for the ETS yearly exam (~150K+ exams annually)</p> <p>(8) USC EPSCoR-- SCIENTIFIC ADVOCATE NETWORK Track 3 Proposal. "Development of robust protocols for the amplification of microsatellite loci in marine invertebrates." \$10,000. 2013-2014  Research Initiative for Summer Engagement (RISE): "SIMMER Phase I: Developing an Electronic Genetics Recitation." PI with Brian Canada (Computational Science). \$5,000, 2013.</p>
Teaching or other professional experience in P-12 schools(9)	None
Faculty Member Name	Beda Alvarez
Highest Degree, Field, & University(3)	M.D.
Assignment: Indicate the role of the faculty member(4)	Anatomy and Physiology
Faculty Rank(5)	Instructor
Tenured/Tenure Track (Y/N)	N
Scholarship(6), Leadership in Professional Associations, and Service (7):List up to 3 major contributions in the past 3 years(8)	<p>2009-12 Good Neighbor Clinic, Beaufort, SC—triage</p> <p>2002-03 Clinical rotations in US</p>
Teaching or other professional experience in P-12 schools(9)	None
Faculty Member Name	Rebecca Krygiel
Highest Degree, Field, & University(3)	M.S. Human and Applied Physiology, King's College, London
Assignment: Indicate the role of the faculty member(4)	Anatomy and Physiology
Faculty Rank(5)	Instructor
Tenured/Tenure Track (Y/N)	N
Scholarship(6), Leadership in Professional Associations, and Service (7):List up to 3 major contributions in the past 3 years(8)	Clinical Allergy Training Specialist for United Allergy Service; responsible for training new hires in the area, performing quarterly QA checks, giving guidance for all technical and clinical procedure questions for the South Georgia clinical team.
Teaching or other professional experience in P-12 schools(9)	None
Faculty Member Name	Edward D'Antonio
Highest Degree, Field, & University(3)	Ph.D. Chemistry, North Carolina State U.

Assignment: Indicate the role of the faculty member(4)	Chemistry, Biochemistry, Structural Biology
Faculty Rank(5)	Assistant Professor
Tenured/Tenure Track (Y/N)	Y
Scholarship(6), Leadership in Professional Associations, and Service (7):List up to 3 major contributions in the past 3 years(8)	<p>(6) D'Antonio, E. L., Deinema, M. S., Kearns, S. P., Frey, T. A., Tanghe, S., Perry, K., Roy, T. A., Gracz, H. S., Rodriguez, A., and D'Antonio, J. (2015) Structure-based approach to the identification of a novel group of selective glucosamine analogue inhibitors of <i>Trypanosoma cruzi</i> glucokinase. <i>Mol. Biochem. Parasitol.</i> 204, 64-76.</p> <p>D'Antonio, E. L. and D'Antonio, J. (2014) Therapeutic monosaccharide-based inhibitors of hexokinase and glucokinase for parasitic diseases, along with methods of their formation and use. <i>U.S. Provisional Patent Application No. 62/082,861.</i></p> <p>Taratula, O., Bai, Y., D'Antonio, E. L., and Dmochowski, I. J. (2014) Enantiopure cryptophane-<sup>129</sup>Xe nuclear magnetic resonance biosensors targeting carbonic anhydrase. <i>Supramol. Chem.</i> 1-8.</p> <p>(8) Research training of VR Hearn, 2014-2015; Dr. Butch Alvarez, 2013-2015.</p> <p>Faculty Advisor for Magellan Scholar Awards, 2013 - 2015</p>
Teaching or other professional experience in P-12 schools(9)	None
Faculty Member Name	Gordon Sproul
Highest Degree, Field, & University(3)	Ph.D. Inorganic Chemistry, U. Illinois
Assignment: Indicate the role of the faculty member(4)	Chemistry
Faculty Rank(5)	Professor
Tenured/Tenure Track (Y/N)	Y
Scholarship(6), Leadership in Professional Associations, and Service (7):List up to 3 major contributions in the past 3 years(8)	<p>(6) Gordon Sproul, 2015 Abiogenic Syntheses of Lipoamino Acids and Lipopeptides and their Prebiotic Significance; <i>Orig Life Evol Biosph</i> 45:427-437;</p> <p>Electronegativity and Bond Type: Predicting Bond Type, Gordon Sproul, J. Chem. Ed., 2001, 78, 387-390;</p> <p>Eisenhower Found. Grant (\$47,000) for <i>Inquiry-Based Science in a Coastal Learning Evt.</i>, 2002-03.</p> <p>(7) Initiated &amp; held Beaufort County Science Fair 1977-1982; Board Member 1983-2002</p> <p>South Carolina Academy of Science member (1980-), Council Member(1986-), Chairman of Science Fair Coordinating Committee (1986-1988), Vice President (1988-1989), President Elect (1989-1990), President (1990-1991).</p> <p>(8) Chair Natural Sciences Department, USCB 2013-2016;</p> <p>Gordon Sproul (2014) Patent Application: Preparation of Lipoamino Acids and Lipopeptides Using Salts as Co-Reactants. USC-430.</p>
Teaching or other professional experience in P-12 schools(9)	None

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Faculty Member Name	William Henshaw
Highest Degree, Field, & University(3)	Ph.D. Engineering Physics, U. Virginia
Assignment: Indicate the role of the faculty member(4)	Physics
Faculty Rank(5)	Instructor
Tenured/Tenure Track (Y/N)	N
Scholarship(6), Leadership in Professional Associations, and Service (7):List up to 3 major contributions in the past 3 years(8)	(6) 8/03 – 7/08 Assoc. Professor of Physics, LSUE, Eunice, LA. Teaching Algebra/Trig Based Physics & Calculus Based Physics; 1/93 – 8/03 Physics Professor, Union College, Barbourville, KY. Courses taught at all levels through the BS level in physics and the MS level in science education; J. G. Childers, W. F. Henshaw, Junqing Zhang, L. E. De Long, and R. C. Bud-hani, "Nonlinear vortex dissipation and peak effect in NbSe <sub>2</sub> ," Bull. Am. Phys. Soc. 40 (1), 387 (1995); J. G. Childers, W. F. Henshaw, Junqing Zhang, L. E. De Long, and R. C. Bud-hani, "Dynamical scaling and peak effect in the superconducting critical current of pure and ion-damaged NbSe <sub>2</sub> ," Bull. Am. Phys. Soc. 39 (8), 1813 (1994).  (7) 8/88 - 11/91 Manager, New Product Development, CORDEC Corporation, Lorton, VA. Supervise a team of engineers in research, design, and development of composite processes.
Teaching or other professional experience in P-12 schools(9)	None
Faculty Member Name	Leon Ember
Highest Degree, Field, & University(3)	Ph.D. Marine Science, U. South Carolina
Assignment: Indicate the role of the faculty member(4)	Marine Science
Faculty Rank(5)	Instructor
Tenured/Tenure Track (Y/N)	N
Scholarship(6), Leadership in Professional Associations, and Service (7):List up to 3 major contributions in the past 3 years(8)	Research Assistant, Dept. of Geological Sciences, USC, Columbia, SC, operating and maintaining oxygen extraction line for determination of stable oxygen isotopic ratios in silicate rocks and minerals, 1987-1993.
Teaching or other professional experience in P-12 schools(9)	Science Teacher, Beaufort County School District, Beaufort, SC, 1997-2012, teaching Applied Chemistry, Applied Physics, Environmental Studies, Marine Science, and Earth & Space Science.
Faculty Member Name	Debra Wallace
Highest Degree, Field, & University(3)	Ph.D. Astronomy, Georgia State U.
Assignment: Indicate the role of the faculty member(4)	Astronomy and Physics
Faculty Rank(5)	Assistant Professor
Tenured/Tenure Track (Y/N)	Y
Scholarship(6), Leadership in Professional Associations, and Service (7):List up to 3 major contributions in the past 3 years(8)	(6) Nelan, E. P., Walborn, N. R., Wallace, D. J., Moffat, A. F. J., Makidon, R. B, Gies, D. R., & Panagia, N. 2010, "ERRATUM: Resolving OB Systems in the Carina Nebula with Hubble Space Telescope's Fine Guidance Sensor," Astronomical Journal, 139, 2714; Rajagopal, J., Menut, J.-L., Wallace, D., Danchi, W. C., Chesneau, O., Lopez, B.,

	<p>Monnier, J. D., Ireland, M., &amp; Tuthill, P. G. 2007, "Mid-Infrared Interferometry of Dust Around Massive Evolved Stars," <i>Astrophysical Journal</i>, 671, 2017.</p> <p>(7) After completing a Ph.D. centered on massive star observations at very high resolution with the Hubble, she spent 3 years at Goddard Space Flight Center on a NASA Fellowship expanding upon this research and supplementing the Hubble data with a variety of ground-based telescopes to provide better spectroscopic coverage and even higher resolution. She has returned to USCB from NASA Headquarters in Washington, D.C. where she served in the Astrophysics Division as the Deputy Program Officer for the Hubble Telescope, Program Scientist for the Named Fellow Postdoctoral Programs, and the Program Executive for the Astrophysical Archives.</p> <p>(8) 2015 she conducted a special study on the working conditions for postdoctoral fellows in several of NASA's postdoctoral fellowship programs including the Hubble Fellowship Program, the Einstein Fellowship Program, the Sagan Fellowship Program, and the NASA Postdoctoral Program;</p> <p>She managed peer review panels for multiple NASA proposal evaluations including the Astrophysics Research and Analysis Program, the Astrophysics Theory Program, the Origin of Solar Systems Program, and the Astrophysics Data Analysis Program.</p>
Teaching or other professional experience in P-12 schools(9)	None
Faculty Member Name	C. Beck-Ungavarsky
Highest Degree, Field, & University(3)	M.S. Educational Technology Lesley University
Assignment: Indicate the role of the faculty member(4)	Technology
Faculty Rank(5)	Instructor
Tenured/Tenure Track (Y/N)	N
Scholarship(6), Leadership in Professional Associations, and Service (7):List up to 3 major contributions in the past 3 years(8)	2011-present: Beaufort Co. School District Instructional Technology Coordinator 2008-2011: Instructional Technology Coach ;
Teaching or other professional experience in P-12 schools(9)	2005-2008: Third Grade Teacher, Hilton Head Elementary School, Hilton Head, SC;
Faculty Member Name	E Brinkerhoff
Highest Degree, Field, & University(3)	Ph.D. Educational Psychology—Learning and Cognition, Florida State U.
Assignment: Indicate the role of the faculty member(4)	Reading; Teaching and Learning
Faculty Rank(5)	Assistant Professor
Tenured/Tenure Track (Y/N)	Y

Scholarship(6), Leadership in Professional Associations, and Service (7):List up to 3 major contributions in the past 3 years(8)	(6) Brinkerhoff, E.H., & Roehrig, A.D. (in review). Primary grade teachers' understanding of and perceived role in the development of their students' oral and academic language. <i>Journal of Literacy Research</i> ; Brinkerhoff, E.H., & Roehrig, A.D. (2014). <i>No More Sharpening Pencils During Work Time and Other Time Wasters</i> . Portsmouth, NH: Heinemann; Arrastia, M. C., Rawls, E. S., Brinkerhoff, E. S., & Roehrig, A. D. (2014). The nature of elementary preservice teachers' reflection during an early field experience. <i>Reflective Practice</i> , 15, 427-444.  (7) 2014-2015 School Leadership Team: Second grade co-leader, Palm Terrace Elementary School. 2014 Professional Development Leader: I am leading a book study for first and second grade teachers (Fall, 2014). The book, <i>Building Background Knowledge for Academic Achievement</i> (Marzano, 2004) will help teachers develop and implement a plan for increasing the frequency of use and depth of understanding of academic language.
Teaching or other professional experience in P-12 schools(9)	2013- present: Teacher: General/Inclusion Education Grade 2, Palm Terrace Elem, (Volusia County School District, FL); 2006-2011: Teacher: General/Inclusion Education Grade 2, Edith I. Starke Elem. (Volusia County School District, FL) 2004-06: Pan American School of Bahia, Salvador, Brazil, 5 <sup>th</sup> grade math and science.
Faculty Member Name	Elizabeth Johnson
Highest Degree, Field, & University(3)	Ph.D. Elementary Education, U. South Carolina
Assignment: Indicate the role of the faculty member(4)	Clinical Observation, Classroom Management
Faculty Rank(5)	Assistant Professor
Tenured/Tenure Track (Y/N)	Y
Scholarship(6), Leadership in Professional Associations, and Service (7):List up to 3 major contributions in the past 3 years(8)	(6) Johnson, E.L. (2014). Relationships between Prior Experiences, Current Teaching Contexts, and Novice Teachers' Use of Concrete Representation for Mathematics Instruction. University of South Carolina: Columbia, SC. (7) 2010-present: Beaufort Co. School District Web Content Manager; 2008-10: Instructional Technology Coach; 2000: Leader 1, 2, 3 – Administrative Leadership Institute Training-- Winthrop University – North/Central Math/Science Hub
Teaching or other professional experience in P-12 schools(9)	2004-06: Pan American School of Bahia, Salvador, Brazil, 5 <sup>th</sup> grade math and science;  1993-2004: Finley Road Elementary, Rock Hill, SC, Gr. 5, Self-contained
Faculty Member Name	TBD
Highest Degree, Field, & University(3)	M.S. or PH.D.
Assignment: Indicate the role of the faculty member(4)	Secondary Teacher Education in Biology
Faculty Rank(5)	TBD
Tenured/Tenure Track (Y/N)	
Scholarship(6), Leadership in Professional Associations, and Service (7):List up to 3 major contributions in the past 3 years(8)	
Teaching or other professional experience in P-12 schools(9)	
Faculty Member Name	Lindsay Delaney
Highest Degree, Field, & University(3)	D.C. Chiropractic, chiropractor, Logan College of Chiropractic

Assignment: Indicate the role of the faculty member(4)	Anatomy and Physiology
Faculty Rank(5)	Instructor
Tenured/Tenure Track (Y/N)	N
Scholarship(6), Leadership in Professional Associations, and Service (7):List up to 3 major contributions in the past 3 years(8)	Atlantic Chiropractic - Hardeeville, SC, overseeing the day to day tasks of the office, including managing three positions (two receptionists, and one massage therapist) developing and fulfilling patient treatment plans after completing orthopedic, neurological, and chiropractic examinations; facilitating insurance billing and coding and collecting of monies; Facilitated the development and successful follow through of a new chiropractic office, through oversight of staff, and rendering chiropractic services and education to patients.
Teaching or other professional experience in P-12 schools(9)	None

## SECTION II- LIST OF ASSESSMENTS

In this section, list the 6-8 assessments that are being submitted as evidence for meeting the NSTA standards. All programs must provide all six assessments. If your state does not require a state licensure test in the content area, you must substitute an assessment that documents candidate attainment of content knowledge in #1 below. For each assessment, indicate the type or form of the assessment and when it is administered in the program.

Type and # Assessment	Name of Assessment	Type or Form of Assessment	When the Assessment Is administered
<b>Assessment #1: Content Knowledge: Licensure Test</b>	Praxis II: Biology: Content Knowledge (5235)	South Carolina Licensure Test	Must pass before candidate begins internship
<b>Assessment #2: Content Knowledge in Discipline to be Taught</b>	Required science and math courses	Grade Point Average (GPA)	Courses are taken before admission and throughout the program; science GPA is available throughout and compiled at completion of program; all science, mathematics and education courses must be at least 2.00 score; overall GPA in science must be a 2.50.
<b>Assessment #3: Pedagogical and Professional Knowledge and Skills—Planning instruction and assessment</b>	Science Unit Plan (Lesson Plans)	Lesson Plan Rubric	Spring Semester of Senior Year ( EDSE B430 Teaching Science in the Secondary School)

<b>Assessment #4:          Pedagogical and Professional Knowledge and Skills—Student Teaching Assessment with Legal/Safety/Ethical Issues</b>	Practicum/ Internship Midterm and Final Evaluations	Practicum/ Internship Midterm and Final Evaluations Rubrics	Fall Semester (EDSE B430P, Practicum) and Spring Semester (EDSE 469, Internship) of Senior Year
<b>Assessment #5:          Candidate Effects on Student Learning</b>	Teacher Work Sample	Teacher Work Sample Rubric	Spring Semester of Senior Year (EDSE B469, Internship)
<b>Assessment #6:          Pedagogical and Professional Knowledge and Skills—Professional Development</b>	Safety, Legal and Ethical Issues  Research Project Portfolio	Quizzes, Practicums, Portfolio Rubrics	Fall of Senior Year
<b>Assessment #7:          Pedagogical and Professional Knowledge and Skills—Collected Works</b>	Research and Reports	Summary reports and Research paper Rubrics	Spring of Sophomore year (BIOL B290, Seminar) Spring of the Junior year (MSCI B210 , Oceans and Man) Junior or Senior years (EDSE B430, Teaching Science in the Secondary School).

**SECTION III – RELATIONSHIP OF ASSESSMENT TO STANDARDS**

For each NSTA standard on the chart below, one or more assessment(s) in Section II that address the standard will be indicated. One assessment may apply to multiple NSTA standards. [Indicators are listed at <http://ngss.nsta.org/AccessStandardsByTopic.aspx>

**1. NSTA Standard 1: Content Knowledge**

Effective teachers of science understand and articulate the knowledge and practices of contemporary science. They interrelate and interpret important concepts, ideas, and applications in their fields of licensure.

<i>Preservice teachers will:</i>	1	2	3	4	5	6	7
1a) Understand the major concepts, principles, theories, laws, and interrelationships of their fields of licensure and supporting fields as recommended by the National Science Teachers Association.							
1b) Understand the central concepts of the supporting disciplines and the supporting role of science-specific technology.							
1c) Show an understanding of state and national curriculum standards and their impact on the content knowledge necessary for teaching P-12 students	X	X	X	X	X	<input type="checkbox"/>	X

**Assessment:** This Standard is usually met using Assessments 1- state licensure exam and Assessment 2 - comprehensive content exams or science courses' GPA and content analysis form.

**2. NSTA Standard 2: Content Pedagogy**

Effective teachers of science understand how students learn and develop scientific knowledge. Preservice teachers use scientific inquiry to develop this knowledge for all students.

<i>Preservice teachers will:</i>	1	2	3	4	5	6	7
2a) Plan multiple lessons using a variety of inquiry approaches that demonstrate their knowledge and understanding of how all students learn science.							
2b) Include active inquiry lessons where students collect and interpret data in order to develop and communicate concepts and understand scientific processes, relationships and natural patterns from empirical experiences. Applications of science-specific technology are included in the lessons when appropriate.	X	X	<input type="checkbox"/>	X	X	<input type="checkbox"/>	<input type="checkbox"/>
2c) Design instruction and assessment strategies that confront and address naïve concepts/preconceptions							

**Assessment:** This Standard is usually met using Assessment 3 - Unit Plan.

**3. NSTA Standard 3: Learning Environments**

Effective teachers of science are able to plan for engaging all students in science learning by setting appropriate goals that are consistent with knowledge of how students learn science and are aligned with state and national standards. The plans reflect the nature and social context of science, inquiry, and appropriate safety considerations. Candidates design and select learning activities, instructional settings, and resources--including science-specific technology, to achieve those goals; and they plan fair and equitable assessment strategies to evaluate if the learning goals are met.

<i>Preservice teachers will:</i>	1	2	3	4	5	6	7
3a) Use a variety of strategies that demonstrate the candidates' knowledge and understanding of how to select the appropriate teaching and learning activities – including laboratory or field settings and applicable instruments and/or technology- to allow access so that all students learn. These strategies are inclusive and motivating for all students.							
3b) Develop lesson plans that include active inquiry lessons where students collect and interpret data using applicable science-specific technology in order to develop concepts, understand scientific processes, relationships and natural patterns from empirical experiences. These plans provide for equitable achievement of science literacy for all students.	X	X	X	X	X	□	X
3c) Plan fair and equitable assessment strategies to analyze student learning and to evaluate if the learning goals are met. Assessment strategies are designed to continuously evaluate preconceptions and ideas that students hold and the understandings that students have formulated.							
3d) Plan a learning environment and learning experiences for all students that demonstrate chemical safety, safety procedures, and the ethical treatment of living organisms within their licensure area.							

**Assessment:** *This Standard is usually met using Assessment 3 - Unit Plan*

**Assessment:** *This Standard is usually met using Assessment 3 - Unit Plan.*

**4. NSTA Standard 4: Safety**

Effective teachers of science can, in a P-12 classroom setting, demonstrate and maintain chemical safety, safety procedures, and the ethical treatment of living organisms needed in the P-12 science classroom appropriate to their area of licensure.

<i>Preservice teachers will:</i>	1	2	3	4	5	6	7
4a) Design activities in a P-12 classroom that demonstrate the safe and proper techniques for the preparation, storage, dispensing, supervision, and disposal of all materials used within their subject area science instruction.							
4b) Design and demonstrate activities in a P-12 classroom that demonstrate an ability to implement emergency procedures and the maintenance of safety equipment, policies and procedures that comply with established state and/or national guidelines. Candidates ensure safe science activities appropriate for the abilities of all students.	X	X	X	X	X	□	X
4c) Design and demonstrate activities in a P-12 classroom that demonstrate ethical decision-making with respect to the treatment of all living organisms in and out of the classroom. They emphasize safe, humane, and ethical treatment of animals and comply with the legal restrictions on the collection, keeping, and use of living organisms.							

**Assessment:** *This Standard is usually met using Assessments 3 - Unit Plan and Assessment 4- Student Teaching Observation Form.*

**5. NSTA Standard 5: Impact on Student Learning**

Effective teachers of science provide evidence to show that P-12 students' understanding of major science concepts, principles, theories, and laws have changed as a result of instruction by the candidate and that student knowledge is at a level of understanding beyond memorization. Candidates provide evidence for the diversity of students they teach.

<i>Preservice teachers will:</i>	1	2	3	4	5	6	7
5a) Collect, organize, analyze, and reflect on diagnostic, formative and summative evidence of a change in mental functioning demonstrating that scientific knowledge is gained and/or corrected.							
5b) Provide data to show that P-12 students are able to distinguish science from non-science, understand the evolution and practice of science as a human endeavor, and critically analyze assertions made in the name of science.	X	X	X	X	X	<input type="checkbox"/>	<input type="checkbox"/>
5c) Engage students in developmentally appropriate inquiries that require them to develop concepts and relationships from their observations, data, and inferences in a scientific manner.							

**Assessment:** *This Standard is usually met using Assessment 5 – Evidence of P-12 student learning*

**6. NSTA Standard 6: Professional Knowledge and Skills**

Effective teachers of science strive continuously to improve their knowledge and understanding of the ever changing knowledge base of both content, and science pedagogy, including approaches for addressing inequities and inclusion for all students in science. They identify with and conduct themselves as part of the science education community.

<i>Preservice teachers will:</i>	1	2	3	4	5	6	7
6a) Engage in professional development opportunities in their content field such as talks, symposiums, research opportunities, or projects within their community.	<input type="checkbox"/>	X	<input type="checkbox"/>	X	<input type="checkbox"/>	X	<input type="checkbox"/>
6b) Engage in professional development opportunities such as conferences, research opportunities, or projects within their community.							

**Assessment:** *This Standard is usually met using Assessment 6 – Evidence of Professional Knowledge and Skills.*

**SECTION IV – EVIDENCE FOR MEETING STANDARDS**

**Assessment #1--Content Knowledge: Licensure Test - Praxis II**

**1. Description:**

The Praxis II: Biology: Content Knowledge (5235) will be used since it is required for South Carolina teachers' certification. This exam includes 150 selected-response questions and addresses the following categories:

<b>Content Categories</b>	<b>Approximate Number of Questions</b>	<b>Approximate Percentage of Questions</b>
I. History and Nature of Science	21	14%
II. Molecular and Cellular Biology	30	20%
III. Genetics and Evolution	30	20%
IV. Diversity of Life and Organismal Biology	30	20%
V. Ecology: Organisms and Environments	24	16%
VI. Science, Technology, and Social Perspectives	15	10%

**2. NSTA Standard Addressed:**

Praxis II: Biology: Content Knowledge (5235) test is aligned with the National Science Teachers Association Standards (2012). Demonstration of successfully passing this examination will indicate acceptable student candidates' mastery of knowledge and practices of contemporary science as well as their ability to interrelate and interpret important concepts, ideas, and applications in their fields of licensure (NSTA Standard 1: Effective teachers of science understand and articulate the knowledge and practices of contemporary science. They interrelate and interpret important concepts, ideas, and applications in their fields of licensure.)

NSTA Standards 1-5 are represented (content knowledge, content pedagogy, learning environments, safety, and impact on student learning).

**Assessment #2: Content Knowledge in Discipline to be Taught--Grade Point Average**

This assessment is grade points. A grade point average of at least 2.50, is required in three areas of the program: 1) overall GPA, 2) in the science areas, and 3) in the professional education courses. Content knowledge in sciences therefore requires attaining and maintaining a GPA of at least a 2.50 with this minimum indicating mastery of the science content. At USCB GPA of 4.0 = A, 3.0 = B, @.0 = C and 1.0 = D.

This assessment includes alignment of core content courses with specific core and advanced competencies specified by NSTA. Teacher candidates must earn at least a C in all science courses; transfer students must have equivalent coursework and laboratory experiences with a minimum grade of C in science courses.

NSTA Standard Competencies are listed in the following table that correlates the competency with the course(s) in which materials for those competencies are presented. Additionally, technologic tools and the assessment mode are provided. This table includes the following five columns:

- Column 1: Name of Standard Competency
- Column 2: Course Number followed by Course Name
- Column 3: Course Description from USCB's Bulletin
- Column 4: Technology and Representational Tools employed in course (relating to NSTA Standards 2a, 2b & 3b)
- Column 5: Grading evaluation modes used in the course

NSTA STANDARD COMPETENCY	COURSE NUMBER & NAME	COURSE DESCRIPTION	Technology & Tools	ASSESSMENTS
<p>1a) Understand the major concepts, principles, theories, laws, and interrelationships of their fields of licensure and supporting fields as recommended by the National Science Teachers Association.</p>	BIOL B101, General Biology I	<p>Introductory survey of cell structure and function, genetics and evolution. For biology majors, premed students and others needing a prerequisite in biological sciences. Three lecture hours and three laboratory hours per week.</p>	Prezi, Online survey, PowerPoint, Word, Excel,	Average GPA and Grade of C or better in course, with each of 3 exams, final and labs counting 20% each
	BIOL B102, General Biology II	<p>(Prerequisite: grade of C or better in BIOL B101) Introductory survey of plant and animal systems, principles of development, physiology, reproduction and ecology. Three lecture hours and three laboratory hours per week.</p>	Word, Web	Average GPA and Grade of C or better in course, with three exams @ 50% and final and labs worth 25% each
	BIOL B230, Microbiology	<p>(Prerequisite: college-level biology) An introduction to bacteria and viruses, emphasizing structure, metabolism and pathogenesis. Discussion of infectious diseases, antigen-antibody relations hips and anti-microbial agents in chemotherapy.</p>	PowerPoint, Word, Web, Hyperlinks	Average GPA and Grade of C or better in course, with hourly exams @ 60% and final and lab worth 20%
	BIOL B243, Anatomy and Physiology I	<p>(Prerequisites: placement into MATH B111 or higher.) Recommended for students with 1 year of high school (or higher) biology or chemistry with laboratory with a grade of B or better. Functional anatomy and physiology of the human body, including the integumentary, skeletal, muscular and nervous systems.</p>	PowerPoint, Word, Web	Average GPA and Grade of C or better in course, with four exams worth 15% each and both final exam and lab worth 20% each
	BIOL B270, Introduction to Environmental Biology, with L	Basic ecological principles and the impacts of human population growth and technology.	Prezi, Online survey, PowerPoint, Word, Excel, PDF, Web	Average GPA and Grade of C or better in course, with three hourly exams, final exam and assignments each worth 20%
	BIOL B290, Seminar	<p>(Prerequisite: BIOL B101) Study of a topic not otherwise available to student. May involve reading assignments, tutorial,</p>	Word	Average GPA and Grade of C or better in course, grade will be based on attendance at least 12

	<p>BIOL B301/L, Ecology and Evolution</p> <p>BIOL B303, Fundamental Genetics</p>	<p>lectures, papers, presentations, or field or laboratory study, determined in consultation with instructor.</p> <p>(Prerequisite: BIOL B102) Concepts of evolution, populations and population interactions; communities and ecosystems. Three lecture hours per week. / (Prerequisite or Co-requisite: BIOL B301) Experiments, exercises and demonstrations. Three hours per week.</p> <p>(Prerequisite: BIOL B102) Basic principles of transmission and molecular genetics; quantitative inheritance; recombination; biochemical aspects of gene function and regulation; developmental genetics and population genetics. Three lecture hours per week.</p>	<p>PowerPoint, Excel, Online statistical software</p> <p>Excel, Web, Hyperlinks</p>	<p>seminars and written summaries of four of these</p> <p>Average GPA and Grade of C or better in course,</p> <p>Average GPA and Grade of C or better in course,</p>
<p>1b) Understand the central concepts of the supporting disciplines and the supporting role of science-specific technology.</p>	<p>ASTR B211/L, Descriptive Astronomy with Laboratory</p> <p>CHEM B111, General Chemistry I</p> <p>CHEM B112, General Chemistry II</p>	<p>Prerequisite: Grade of C or better in MATH B111 or a higher level mathematics course) Study of Galactic Astronomy including stars, black holes and Galaxies. / (Prerequisite or Co-requisite: ASTR B111L) Topics from ASTR B111/B211 studied in greater depth. Laboratory experience required of students who have not completed ASTR B111.</p> <p>(Prerequisite: MATH B111 or B115) A survey of the principles that underlie all chemistry with applications illustrating these principles. Three lecture, one recitation and two laboratory hours per week.</p> <p>(Prerequisites: MATH B111 or B115 and a grade of C or better in CHEM B111) A continuation of CHEM 111. Special emphasis on chemical equilibrium. Three lecture, one recitation and three laboratory hours per week.</p> <p>A non-technical introduction to the oceans: organisms, systems</p>	<p>Word</p> <p>PowerPoint, Word, Excel, PDF, Web, Hyperlinks</p> <p>PowerPoint, Word, Excel, PDF, Web, Hyperlinks</p> <p>PowerPoint, Word, Excel,</p>	<p>Average GPA and Grade of C or better in course,</p> <p>Average GPA and Grade of C or better in course, graded as 37.5% on exams, 12.5% on problems, 25% on final and 25% on lab</p> <p>Average GPA and Grade of C or better in course, graded 25% each on three exams, homework, final and lab</p> <p>Average GPA and Grade of C or better in course, graded</p>

	MSCI B210, Oceans and Man	and the physical and chemical characteristics. Laboratories illustrate the structure and function of marine environments. Three lecture and two laboratory hours per week. Attendance on field trips may be required.	PDF, Hyperlinks to websites, Web	25% on lab, with 4 exams, final and research project evenly weighted for 68% and quizzes worth 7%
	PHYS B201/L, General Physics I with Lab	(Prerequisite: MATH B115, or MATH B122, or equivalent) First part of an introductory course sequence. Topics include mechanics, wave motion, sound and heat. No previous background in physics is assumed. / (Prerequisite or Co-requisite: PHYS B201	Word, Web	Average GPA and Grade of C or better in course, with 4 exams and homework @ 15% and final exam worth 25%
	PHYS B202/L, General Physics II with Lab	Prerequisite: a grade of C or better in PHYS B201) Continuation of PHYS B201; includes electromagnetism, relativity, quantum physics, atomic and nuclear physics. / (Prerequisite or Co-requisite: PHYS B202.	Word, Web	Average GPA and Grade of C or better in course, with 4 exams and homework @ 15% and final exam worth 25%
	MATH B115, Precalculus	(Prerequisite: Qualification through placement or a grade of 'C' or better in B111) Topics in algebra and trigonometry specifically needed for MATH 141, 142, 240. Polynomial, rational, inverse, logarithmic, exponential functions; circular functions; analytic trigonometry.	Graphing Calculator	Average GPA and Grade of C or better in course, with each of 4 exams worth 15%, each of quizzes and homework worth 10%, and final @ 20%
	STAT B201, Elementary Statistics	Prerequisite: MATH B101 or higher or consent of instructor) An introductory course in the fundamentals of modern statistical methods. Topics include descriptive statistics, normal distributions, random sampling, statistical studies and ethics, probability, confidence intervals, tests of hypothesis, simple linear regression and correlation.	PowerPoint, Word, PDF, Graphing Calculator	Average GPA and Grade of C or better in course, with each of 4 exams along with quizzes worth 15% and final worth 25%

<p>1c) Show an understanding of state and national curriculum standards and their impact on the content knowledge necessary for teaching P-12 students</p>	<p>EDSE B430, Teaching Science in the secondary school</p> <p>EDSE B430P, Practicum in Teaching Science in the secondary school</p>	<p>(Prerequisite: Admission to the Department of Education's Professional Program for Secondary Education) Materials, resources, programs, and methods for teaching biology to diverse learners in grades 7-12. Included are supervised practicum experiences that promote reflective teaching in secondary school settings.</p> <p>(Prerequisite: Admission to the Professional Program or permission of the Department Chair; Co-requisite EDSE B430, Supervised clinical experience in a secondary education setting. Teacher candidates will apply principles of planning, instruction, assessment, management, and professionalism in diverse field-based settings serving students in grades 7-12. Offered in Fall.</p>	<p>PowerPoint presentation</p>	<p>Average GPA and Grade of C or better in course, with the first two work samples worth 25 points, the third worth 50, and two final work samples, a midterm, a final and group assignment worth 100 points each</p> <p>Average GPA and Grade of C or better in course, with each of a case diagnostic, an observation and the midterm and final worth 100 points and self-analysis video and attendance worth 50 points.</p>

<p>2a) Plan multiple lessons using a variety of inquiry approaches that demonstrate their knowledge and understanding of how all students learn science.</p>	<p>EDSE B430P, Practicum in Teaching Science in the secondary school</p> <p>EDSE B476, Internship in secondary science teacher education</p>	<p>(Prerequisite: Admission to the Professional Program or permission of the Department Chair; Co-requisite EDSE B430, Supervised clinical experience in a secondary education setting. Teacher candidates will apply principles of planning, instruction, assessment, management, and professionalism in diverse field-based settings serving students in grades 7-12. Offered in Fall.</p> <p>(Co-requisite: EDSE B469) The synthesis and critical evaluation of professional studies in secondary education.</p>	<p>Blackboard discussion, Video analysis</p>	<p>Average GPA and Grade of C or better in course, with each of a case diagnostic, an observation and the midterm and final worth 100 points and self-analysis video and attendance worth 50 points.</p> <p>Average GPA and Grade of C or better in course.</p>
<p>2b) Include active inquiry lessons where students collect and interpret data in order to develop and communicate concepts and understand scientific processes, relationships and natural patterns from empirical experiences. Applications of science-specific technology are included in the lessons when appropriate.</p>	<p>EDSE B476, Internship in secondary science teacher education</p>	<p>(Co-requisite: EDSE B469) The synthesis and critical evaluation of professional studies in secondary education.</p>	<p>Blackboard discussion, Video analysis</p>	<p>Average GPA and Grade of C or better in course.</p>

<p>2c) Design instruction and assessment strategies that confront and address naïve concepts/preconceptions.</p>	<p>EDSE B430, Teaching Science in the secondary school</p> <p>EDSE B430P, Practicum in Teaching Science in the secondary school</p> <p>EDSE B476, Internship in secondary science teacher education</p>	<p>(Prerequisite: Admission to the Department of Education's Professional Program for Secondary Education) Materials, resources, programs, and methods for teaching biology to diverse learners in grades 7-12. Included are supervised practicum experiences that promote reflective teaching in secondary school settings.</p> <p>(Prerequisite: Admission to the Professional Program or permission of the Department Chair; Co-requisite EDSE B430, Supervised clinical experience in a secondary education setting. Teacher candidates will apply principles of planning, instruction, assessment, management, and professionalism in diverse field-based settings serving students in grades 7-12. Offered in Fall.</p> <p>(Co-requisite: EDSE B469) The synthesis and critical evaluation of professional studies in secondary education.</p>	<p>PowerPoint presentation</p> <p>Blackboard discussion, Video analysis</p>	<p>Average GPA and Grade of C or better in course, with the first two work samples worth 25 points, the third worth 50, and two final work samples, a midterm, a final and group assignment worth 100 points each,</p> <p>Average GPA and Grade of C or better in course, with each of a case diagnostic, an observation and the midterm and final worth 100 points and self-analysis video and attendance worth 50 points.</p> <p>Average GPA and Grade of C or better in course.</p>
<p>3a) Use a variety of strategies that demonstrate the candidates' knowledge and understanding of how to select the appropriate teaching and learning activities – including laboratory or field settings and applicable instruments and/or technology- to allow access so that all students learn. These strategies are inclusive and motivating for all students.</p>	<p>EDSE B430, Teaching Science in the secondary school</p> <p>EDSE B430P, Practicum in Teaching Science in the secondary school</p>	<p>(Prerequisite: Admission to the Department of Education's Professional Program for Secondary Education) Materials, resources, programs, and methods for teaching biology to diverse learners in grades 7-12. Included are supervised practicum experiences that promote reflective teaching in secondary school settings.</p> <p>(Prerequisite: Admission to the Professional Program or permission of the Department Chair; Co-requisite EDSE B430, Supervised clinical experience in a secondary education setting. Teacher candidates will apply principles of planning, instruction, assessment,</p>	<p>PowerPoint presentation</p>	<p>Average GPA and Grade of C or better in course, with the first two work samples worth 25 points, the third worth 50, and two final work samples, a midterm, a final and group assignment worth 100 points each</p> <p>Average GPA and Grade of C or better in course, with each of a case diagnostic, an observation and the midterm and final worth 100 points and self-analysis video and attendance worth 50 points</p>

	<p>EDSE B476, Internship in secondary science teacher education</p> <p>EDSE B469, Internship in Secondary Science Teacher Education</p> <p>EDCI B243, Technology Resources for Teaching</p>	<p>management, and professionalism in diverse field-based settings serving students in grades 7-12. Offered in Fall.</p> <p>(Co-requisite: EDSE B469) The synthesis and critical evaluation of professional studies in secondary education.</p> <p>(Prerequisite: Admission to the Professional Program in Secondary Education; Co-requisite: EDSE B476) A program of observation and teaching in the public schools under the supervision of university and public school personnel.</p> <p>(Prerequisite or Co-requisite: EDCI B210) Introduction to technological resources relevant to the teaching profession including computer technology, educational software, and telecommunications. This course focuses on examining how applying technology in the classroom can be used to support teaching and learning and addresses the methods and materials used for technology integration.</p>	<p>Blackboard discussion, Video analysis</p>	<p>Average GPA and Grade of C or better in course.</p> <p>Average GPA and Grade of C or better in course.</p> <p>Average GPA and Grade of C or better in course, with each of two internet assignments worth 10 points, each of two review articles, website review, newsletter and activities worth 20 points apiece and midterm and final each worth 25 points</p>
<p>3b) Develop lesson plans that include active inquiry lessons where students collect and interpret data using applicable science-specific technology in order to develop concepts, understand scientific processes, relationships and natural patterns from empirical experiences. These plans provide for equitable</p>	<p>EDSE B469, Internship in Secondary Science Teacher Education</p>	<p>(Prerequisite: Admission to the Professional Program in Secondary Education; Co-requisite: EDSE B476) A program of observation and teaching in the public schools under the supervision of university and public school personnel.</p>		<p>Average GPA and Grade of C or better in course.</p>

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achievement of science literacy for all students.				
3c) Plan fair and equitable assessment strategies to analyze student learning and to evaluate if the learning goals are met. Assessment strategies are designed to continuously evaluate preconceptions and ideas that students hold and the understandings that students have formulated.	EDSE B469, Internship in Secondary Science Teacher Education	(Prerequisite: Admission to the Professional Program in Secondary Education; Co-requisite: EDSE B476) A program of observation and teaching in the public schools under the supervision of university and public school personnel.		Average GPA and Grade of C or better in course.
3d) Plan a learning environment and learning experiences for all students that demonstrate chemical safety, safety procedures, and the ethical treatment of living organisms within their licensure area.	EDSE B469, Internship in Secondary Science Teacher Education	(Prerequisite: Admission to the Professional Program in Secondary Education; Co-requisite: EDSE B476) A program of observation and teaching in the public schools under the supervision of university and public school personnel.		Average GPA and Grade of C or better in course.
4a) Design activities in a P-12 classroom that demonstrate the safe and proper techniques for the preparation, storage, dispensing, supervision, and disposal of all materials used within their subject area science instruction.	EDSE B469, Internship in Secondary Science Teacher Education	(Prerequisite: Admission to the Professional Program in Secondary Education; Co-requisite: EDSE B476) A program of observation and teaching in the public schools under the supervision of university and public school personnel.		Average GPA and Grade of C or better in course.

<p>4b) Design and demonstrate activities in a P-12 classroom that demonstrate an ability to implement emergency procedures and the maintenance of safety equipment, policies and procedures that comply with established state and/or national guidelines. Candidates ensure safe science activities appropriate for the abilities of all students.</p>	<p>EDSE B469, Internship in Secondary Science Teacher Education</p>	<p>(Prerequisite: Admission to the Professional Program in Secondary Education; Co-requisite: EDSE B476) A program of observation and teaching in the public schools under the supervision of university and public school personnel.</p>		<p>Average GPA and Grade of C or better in course.</p>
<p>4c) Design and demonstrate activities in a P-12 classroom that demonstrate ethical decision-making with respect to the treatment of all living organisms in and out of the classroom. They emphasize safe, humane, and ethical treatment of animals and comply with the legal restrictions on the collection, keeping, and use of living organisms.</p>	<p>EDSE B469, Internship in Secondary Science Teacher Education</p>	<p>(Prerequisite: Admission to the Professional Program in Secondary Education; Co-requisite: EDSE B476) A program of observation and teaching in the public schools under the supervision of university and public school personnel.</p>		<p>Average GPA and Grade of C or better in course.</p>
<p>5a) Collect, organize, analyze, and reflect on diagnostic, formative and summative evidence of a change in mental functioning demonstrating that scientific knowledge is gained and/or corrected.</p>	<p>EDPY B335, Educational Psychology</p>	<p>(Prerequisite or Co-requisite: EDCI B210) This course will introduce pre-service teachers and education majors to psychological principles, theory and data upon which effective classroom practices are based, including general methods and techniques. A variety of teaching methods for classroom management will be considered with the focus on the teacher as a decision maker in planning, evaluation and control.</p>		<p>Average GPA and Grade of C or better in course, with 10 quizzes worth 10 points, online discussions worth 140 points, research paper and final each worth 100 points</p>

	EDSE B469, Internship in Secondary Science Teacher Education	<p>Emphasis will be placed on student motivation, learning problems, individual differences and measurement.</p> <p>(Prerequisite: Admission to the Professional Program in Secondary Education; Co-requisite: EDSE B476) A program of observation and teaching in the public schools under the supervision of university and public school personnel.</p>		Average GPA and Grade of C or better in course.
5b) Provide data to show that P-12 students are able to distinguish science from nonscience, understand the evolution and practice of science as a human endeavor, and critically analyze assertions made in the name of science.	EDSE B469, Internship in Secondary Science Teacher Education	(Prerequisite: Admission to the Professional Program in Secondary Education; Co-requisite: EDSE B476) A program of observation and teaching in the public schools under the supervision of university and public school personnel.		Average GPA and Grade of C or better in course.
5c) Engage students in developmentally appropriate inquiries that require them to develop concepts and relationships from their observations, data, and inferences in a scientific manner.	EDSE B469, Internship in Secondary Science Teacher Education	(Prerequisite: Admission to the Professional Program in Secondary Education; Co-requisite: EDSE B476) A program of observation and teaching in the public schools under the supervision of university and public school personnel.		Average GPA and Grade of C or better in course.
6a) Engage in professional development opportunities in their content field such as talks, symposiums, research opportunities, or projects within their community.	BIOL B 290, Seminar	Weekly seminar in science is a survey of scientific research seminars presented by both USCB researchers and visiting researchers from other institutions. Format is that of a departmental seminar. Grades are based on attendance and on a number of executive summaries of seminars by students taking the course for credit. Class can be taken up to 4 times under different semesters.		Average GPA and Grade of C or better in course, grade will be based on attendance at least 12 seminars and written summaries of four of these

<p>6b) Engage in professional development opportunities such as conferences, research opportunities, or projects within their community.</p>	<p>EDSE B430P, Practicum in Teaching Science in the secondary school</p> <p>EDSE B469, Internship in Secondary Science Teacher Education</p>	<p>(Prerequisite: Admission to the Professional Program or permission of the Department Chair; Co-requisite EDSE B430, Supervised clinical experience in a secondary education setting. Teacher candidates will apply principles of planning, instruction, assessment, management, and professionalism in diverse field-based settings serving students in grades 7-12. Offered in Fall.</p> <p>(Prerequisite: Admission to the Professional Program in Secondary Education; Co-requisite: EDSE B476) A program of observation and teaching in the public schools under the supervision of university and public school personnel.</p>	<p>Average GPA and Grade of C or better in course, with each of a case diagnostic, an observation and the midterm and final worth 100 points and self-analysis video and attendance worth 50 points</p> <p>Average GPA and Grade of C or better in course.</p>
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**Description of Assignment: NA**

**3. Assessment of the Praxis II**

In order to ensure knowledge of content, the Secondary Education Biology teacher candidate is required to achieve the South Carolina passing score of 148 on the Praxis II Specialty Area Examination prior to the internship semester. Each area of the PRAXIS II, Biology exam Sections I-VI is covered by at least one of the NSTA Standards as shown in the following table.

PRAXIS II--Biology, 5235	NSTA Standards
<p><b>I. Nature of Science: Scientific Inquiry, Methodology, Techniques, and History</b></p>	
<p>A. Processes Involved in Scientific Inquiry</p>	<p>3b) Develop lesson plans that include active inquiry lessons where students collect and interpret data using applicable science-specific technology in order to develop concepts, understand scientific processes, relationships and natural patterns from empirical experiences. These plans provide for equitable achievement of science literacy for all students.</p>
<p>B. Science Involves Many Disciplines</p>	<p>1b) Understand the central concepts of the supporting disciplines and the supporting role of science-specific technology</p>
<p>C. Differences among Facts, Hypotheses, Theories, and Laws</p>	<p>1a) Understand the major concepts, principles, theories, laws, and interrelationships of their fields of licensure and supporting fields as recommended by the National Science Teachers Association.</p>

D. Scientific Ideas Change over Time; Contributions Made by Major Historical Figures	5b) Provide data to show that P-12 students are able to distinguish science from nonscience, understand the evolution and practice of science as a human endeavor, and critically analyze assertions made in the name of science.
E. Appropriate Use of Scientific Measurement and Notation Systems	2b) Include active inquiry lessons where students collect and interpret data in order to develop and communicate concepts and understand scientific processes, relationships and natural patterns from empirical experiences. Applications of science-specific technology are included in the lessons when appropriate.
F. Read and Interpret Data Represented in Tables, Graphs, and Charts	5c) Engage students in developmentally appropriate inquiries that require them to develop concepts and relationships from their observations, data, and inferences in a scientific manner.
G. Construct and Use Scientific Models to Explain Complex Phenomena	3a) Use a variety of strategies that demonstrate the candidates' knowledge and understanding of how to select the appropriate teaching and learning activities – including laboratory or field settings and applicable instruments and/or technology- to allow access so that all students learn. These strategies are inclusive and motivating for all students.
H. Procedures Involved in the Safe Preparation, Storage, Use, and Disposal of Laboratory and Field Materials	4a) Design activities in a P-12 classroom that demonstrate the safe and proper techniques for the preparation, storage, dispensing, supervision, and disposal of all materials used within their subject area science instruction
I. Appropriate and Safe Use and Care of Laboratory Equipment	3d) Plan a learning environment and learning experiences for all students that demonstrate chemical safety, safety procedures, and the ethical treatment of living organisms within their licensure area
J. Safety and Emergency Procedures for Science Classrooms and Laboratories	4b) Design and demonstrate activities in a P-12 classroom that demonstrate an ability to implement emergency procedures and the maintenance of safety equipment, policies and procedures that comply with established state and/or national guidelines. Candidates ensure safe science activities appropriate for the abilities of all students.
<b>II. Molecular and Cellular Biology</b>	
A. Chemical Structures and Properties of Biologically Important Molecules	1a) Understand the major concepts, principles, theories, laws, and interrelationships of their fields of licensure and supporting fields as recommended by the National Science Teachers Association.
B. Biological Processes Are Dependent on Chemical Principles	1b) Understand the central concepts of the supporting disciplines and the supporting role of science-specific technology.
C. Structure and Function of Enzymes and Factors Influencing their Activity	1a) Understand the major concepts, principles, theories, laws, and interrelationships of their fields of licensure and supporting fields as recommended by the National Science Teachers Association.
D. Biochemical Pathways and Energy Flow Within an Organism	1a) Understand the major concepts, principles, theories, laws, and interrelationships of their fields of licensure and supporting fields as recommended by the National Science Teachers Association.
E. Major Differences between Prokaryotes and Eukaryotes	1a) Understand the major concepts, principles, theories, laws, and interrelationships of their fields of licensure and supporting fields as recommended by the National Science Teachers Association.
F. Structure and Function of Cells and Organelles	1a) Understand the major concepts, principles, theories, laws, and interrelationships of their fields of licensure and supporting fields as recommended by the National Science Teachers Association.

G. Cells Maintain their Internal Environment and Respond to External Signals	1a) Understand the major concepts, principles, theories, laws, and interrelationships of their fields of licensure and supporting fields as recommended by the National Science Teachers Association.
H. Cellular Division, the Cell Cycle, and How They Are Regulated	1a) Understand the major concepts, principles, theories, laws, and interrelationships of their fields of licensure and supporting fields as recommended by the National Science Teachers Association.
I. Structure and Function of Nucleic Acids	1a) Understand the major concepts, principles, theories, laws, and interrelationships of their fields of licensure and supporting fields as recommended by the National Science Teachers Association.
J. Processes Involved in Protein Synthesis	1a) Understand the major concepts, principles, theories, laws, and interrelationships of their fields of licensure and supporting fields as recommended by the National Science Teachers Association.
K. Regulation of Gene Expression	1a) Understand the major concepts, principles, theories, laws, and interrelationships of their fields of licensure and supporting fields as recommended by the National Science Teachers Association.
L. Cells May Undergo Differentiation and Specialization	1a) Understand the major concepts, principles, theories, laws, and interrelationships of their fields of licensure and supporting fields as recommended by the National Science Teachers Association.
M. Nature of Mutations	1a) Understand the major concepts, principles, theories, laws, and interrelationships of their fields of licensure and supporting fields as recommended by the National Science Teachers Association.
N. Use of Basic Laboratory Techniques to Study Biological Processes	1a) Understand the major concepts, principles, theories, laws, and interrelationships of their fields of licensure and supporting fields as recommended by the National Science Teachers Association.
O. Use and Applications of DNA Technologies and Genetic Engineering	1a) Understand the major concepts, principles, theories, laws, and interrelationships of their fields of licensure and supporting fields as recommended by the National Science Teachers Association.
<b>III. Genetics and Evolution</b>	
A. Mendel's Laws and Predicting the Probable Outcome of Given Genetic Crosses	1a) Understand the major concepts, principles, theories, laws, and interrelationships of their fields of licensure and supporting fields as recommended by the National Science Teachers Association.
B. Non-Mendelian inheritance	1a) Understand the major concepts, principles, theories, laws, and interrelationships of their fields of licensure and supporting fields as recommended by the National Science Teachers Association.
C. Chromosomal and Genetic Changes that Lead to Common Human Genetic Disorders	1a) Understand the major concepts, principles, theories, laws, and interrelationships of their fields of licensure and supporting fields as recommended by the National Science Teachers Association.
D. Sources of Genetic Variation	1a) Understand the major concepts, principles, theories, laws, and interrelationships of their fields of licensure and supporting fields as recommended by the National Science Teachers Association.
E. Mutations, Gene Flow, Genetic Drift, and Nonrandom Mating Affect the Gene Pool of a Population	1a) Understand the major concepts, principles, theories, laws, and interrelationships of their fields of licensure and supporting fields as recommended by the National Science Teachers Association.

F. Principles and Applications of Hardy-Weinberg Equilibrium	1a) Understand the major concepts, principles, theories, laws, and interrelationships of their fields of licensure and supporting fields as recommended by the National Science Teachers Association.
G. Mechanisms of Evolution	1a) Understand the major concepts, principles, theories, laws, and interrelationships of their fields of licensure and supporting fields as recommended by the National Science Teachers Association.
H. Evidence that Supports Evolution	1a) Understand the major concepts, principles, theories, laws, and interrelationships of their fields of licensure and supporting fields as recommended by the National Science Teachers Association.
I. Genetic Basis of Speciation	1a) Understand the major concepts, principles, theories, laws, and interrelationships of their fields of licensure and supporting fields as recommended by the National Science Teachers Association.
J. Models of Evolutionary Rates	1a) Understand the major concepts, principles, theories, laws, and interrelationships of their fields of licensure and supporting fields as recommended by the National Science Teachers Association.
K. Scientific Explanations for the Origin of Life on Earth	1a) Understand the major concepts, principles, theories, laws, and interrelationships of their fields of licensure and supporting fields as recommended by the National Science Teachers Association.
L. Factors that Lead to Extinction of Species	1a) Understand the major concepts, principles, theories, laws, and interrelationships of their fields of licensure and supporting fields as recommended by the National Science Teachers Association.
<b>IV. Diversity of Life and Organismal Biology</b>	
A. Characteristics of Living versus Nonliving Things	1b) Understand the central concepts of the supporting disciplines and the supporting role of science-specific technology.
B. Historical and Current Biological Classification Systems of Organisms	1a) Understand the major concepts, principles, theories, laws, and interrelationships of their fields of licensure and supporting fields as recommended by the National Science Teachers Association.
C. Defining Characteristics of Viruses, Bacteria, Protista, Fungi, Plants, and Animals	1a) Understand the major concepts, principles, theories, laws, and interrelationships of their fields of licensure and supporting fields as recommended by the National Science Teachers Association.
D. Characteristics of the Major Animal Phyla	1a) Understand the major concepts, principles, theories, laws, and interrelationships of their fields of licensure and supporting fields as recommended by the National Science Teachers Association.
E. Organizational Hierarchy of Multicellular Organisms	1a) Understand the major concepts, principles, theories, laws, and interrelationships of their fields of licensure and supporting fields as recommended by the National Science Teachers Association.
F. Anatomy and Physiology of Major Organ Systems in Animals	1a) Understand the major concepts, principles, theories, laws, and interrelationships of their fields of licensure and supporting fields as recommended by the National Science Teachers Association.
G. Maintenance of Homeostasis in Organisms	1a) Understand the major concepts, principles, theories, laws, and interrelationships of their fields of licensure and supporting fields as recommended by the National Science Teachers Association.

H. Reproduction, Development, and Growth in Animals	1a) Understand the major concepts, principles, theories, laws, and interrelationships of their fields of licensure and supporting fields as recommended by the National Science Teachers Association.
I. Characteristics of Major Plant Divisions	1a) Understand the major concepts, principles, theories, laws, and interrelationships of their fields of licensure and supporting fields as recommended by the National Science Teachers Association.
J. Structure and Function of Major Plant Tissues and Organs	1a) Understand the major concepts, principles, theories, laws, and interrelationships of their fields of licensure and supporting fields as recommended by the National Science Teachers Association.
K. Plant Life Cycles and Reproductive Strategies	1a) Understand the major concepts, principles, theories, laws, and interrelationships of their fields of licensure and supporting fields as recommended by the National Science Teachers Association.
L. Plants Obtain and Transport Water and Inorganic Nutrients	1a) Understand the major concepts, principles, theories, laws, and interrelationships of their fields of licensure and supporting fields as recommended by the National Science Teachers Association.
M. Plants Transport and Store Products of Photosynthesis	1a) Understand the major concepts, principles, theories, laws, and interrelationships of their fields of licensure and supporting fields as recommended by the National Science Teachers Association.
<b>V. Ecology: Organisms and Environments</b>	
A. Hierarchical Structure of the Biosphere	1a) Understand the major concepts, principles, theories, laws, and interrelationships of their fields of licensure and supporting fields as recommended by the National Science Teachers Association.
B. Biotic and Abiotic Components of an Ecosystem Influence Population Size	1a) Understand the major concepts, principles, theories, laws, and interrelationships of their fields of licensure and supporting fields as recommended by the National Science Teachers Association.
C. Models of Population Growth	1a) Understand the major concepts, principles, theories, laws, and interrelationships of their fields of licensure and supporting fields as recommended by the National Science Teachers Association.
D. Relationship between Reproductive Strategies and Mortality Rates	1a) Understand the major concepts, principles, theories, laws, and interrelationships of their fields of licensure and supporting fields as recommended by the National Science Teachers Association.
E. Relationships Within and Between Species	1a) Understand the major concepts, principles, theories, laws, and interrelationships of their fields of licensure and supporting fields as recommended by the National Science Teachers Association.
F. Changes Occur During Ecological Succession	1a) Understand the major concepts, principles, theories, laws, and interrelationships of their fields of licensure and supporting fields as recommended by the National Science Teachers Association.
G. Types and Characteristics of Biomes	1a) Understand the major concepts, principles, theories, laws, and interrelationships of their fields of licensure and supporting fields as recommended by the National Science Teachers Association.
H. Energy Flow in the Environment	1a) Understand the major concepts, principles, theories, laws, and interrelationships of their fields of licensure and supporting fields as recommended by the National Science Teachers Association.

I. Biogeochemical Cycles	1a) Understand the major concepts, principles, theories, laws, and interrelationships of their fields of licensure and supporting fields as recommended by the National Science Teachers Association.
J. Effects of Natural Disturbances on Ecosystems	1a) Understand the major concepts, principles, theories, laws, and interrelationships of their fields of licensure and supporting fields as recommended by the National Science Teachers Association.
K. Humans Affect Ecological Systems and Biodiversity	1a) Understand the major concepts, principles, theories, laws, and interrelationships of their fields of licensure and supporting fields as recommended by the National Science Teachers Association.
L. Connections among Ecosystems on a Local and Global Scale	1a) Understand the major concepts, principles, theories, laws, and interrelationships of their fields of licensure and supporting fields as recommended by the National Science Teachers Association.
<b>VI. Science, Technology, and Social Perspectives</b>	
A. Impact of Science and Technology on the Environment	2b) Include active inquiry lessons where students collect and interpret data in order to develop and communicate concepts and understand scientific processes, relationships and natural patterns from empirical experiences. Applications of science-specific technology are included in the lessons when appropriate.
B. Impact of Human Activity and Natural Phenomena on Society	2b) Include active inquiry lessons where students collect and interpret data in order to develop and communicate concepts and understand scientific processes, relationships and natural patterns from empirical experiences. Applications of science-specific technology are included in the lessons when appropriate.
C. Societal Impacts Associated with the Management of Natural Resources	2b) Include active inquiry lessons where students collect and interpret data in order to develop and communicate concepts and understand scientific processes, relationships and natural patterns from empirical experiences. Applications of science-specific technology are included in the lessons when appropriate.

**NSTA Content Analysis Form for Secondary Science, Biology  
Science Content Requirement Analysis Tables A, B, and C for biology**

**Table A: Biology**

A. Core Competencies	B: Required course number & name or advising requirements
Life processes in living systems including organization of matter and energy.	BIOL B101 & B102, Biological Principles I & II
Similarities and differences among animals, plants, fungi, microorganisms, and viruses	BIOL B102: Biological Principles II
Ecological systems including the interrelationships and dependencies of organisms with each other and their environments.	BIOL B301: Ecology & Evolution
Population dynamics and the impact of population on its environment.	BIOL B301: Ecology & Evolution
General concepts of genetics and heredity	BIOL B303: Fundamental Genetics
Organizations and functions of cells and multi-cellular systems.	BIOL B102: Biological Principles II
Behavior of organisms and their relationships to social systems.	BIOL B102 & B301: Biological Principles II & Ecology & Evolution
Regulation of biological systems including homeostatic mechanisms	BIOL B102& B243: Biological Principles II & Anatomy & Physiology I
Fundamental processes of modeling and investigating in the biological sciences	BIOL B301: Ecology & Evolution
Applications of biology in environmental quality and in personal and community health	BIOLB290: Seminar
Bioenergetics including major biochemical pathways and in personal and community health	BIOL B101, B102: Biological Principles I & II
Molecular genetics and heredity and mechanisms of genetic modification	BIOL B101 & B102 & B303: Biological Principles I & II; Fundamental Genetics
Molecular basis for evolutionary theory and classification	BIOL B303: Fundamental Genetics

**Table B: Biology**

A. Advanced Competencies	B: Required course number & name or advising requirements
Biochemical interactions of organisms and their environments	BIOL B270/L & B301: Intro to Environmental Biology w/ lab; Ecology & Evolution
Causes, characteristic, and avoidance of viral, bacterial, and parasitic diseases	BIOL B230: Microbiology
Molecular genetics	BIOL B303: Fundamental Genetics
Issues related to living systems such as genetic modification, uses of biotechnology, cloning, and pollution from farming	BIOL B303: Fundamental Genetics
Historical development and perspectives of biology including contributions of significant figures and underrepresented groups, and the evolution of theories in biology	BIOL B101: Biological Principles I
How to design, conduct, and report research in biology	BIOL B290: Seminar

**Table C: Biology**

<b>C: Supporting Competencies</b>	<b>B: Required course number &amp; name or advising requirements</b>
General chemistry	CHEM B111 & B112: General Chemistry I & II
Biochemistry	CHEM B112: General Chemistry II
Basic chemistry laboratory techniques	CHEM B111 & B112: General Chemistry I & II
Physics	PHYS B201/L & B202/L: General Physics I & II w/ labs
Light	PHYS B202/L: General Physics II w/ lab
Sound	PHYS B201/L & B202/L: General Physics I & II w/ labs
Optics	PHYS B202/L: General Physics II w/ lab
Electricity	PHYS B202/L: General Physics II w/ lab
Energy and order	PHYS B201/L & B202/L: General Physics I & II w/ labs
Magnetism	PHYS B202/L: General Physics II w/ lab
Earth and space sciences	MSCI B210, ASTR B201: Oceans & Man; Descriptive Astronomy II w/ lab
Energy and geochemical cycles	MSCI B210: Oceans & Man
Climate	MSCI B210: Oceans & Man
Oceans	MSCI B210: Oceans & Man
Weather	MSCI B210: Oceans & Man
Natural resources	MSCI B210: Oceans & Man
Changes in the earth	MSCI B210, ASTR B201: Oceans & Man; Descriptive Astronomy II w/ lab
Mathematics	MATH B115: Precalculus
Probability	STAT B201: Elementary Statistics
Statics	STAT B201: Elementary Statistics

**1. Assessment #3 – Pedagogical and Professional Knowledge and Skills—Planning instruction and assessment: Science Unit Plan Description**

Assessment 3 addresses NSTA Standards 1c, 2a-c, 3a-d and 5a and requires science unit plans that teacher candidates develop and implement lesson plans from each science content area in their practicum classrooms two times per week. Data from these assignments are collected each fall. For these assignments, candidates are required to: (a) develop and teach science lessons; (b) develop and implement an appropriate assessment tool; (c) conduct an analysis of student learning based on assessment results from each lesson taught; and (e) reflect on their own teaching for each lesson taught. Candidates are expected to demonstrate basic knowledge of core concepts and South Carolina Academic Standards and Performance Indicators for Science (2015), as well as standards of professional organizations (NSTA Standards 1-6) relying on sound resources for that knowledge. Drawing from NSTA Standards candidates shall develop, implement and evaluate curriculum for secondary students as outlined in NSTA Standards. As they implement lesson plans, candidates shall demonstrate both organization and flexibility, where they adapt the curriculum to meet the interests and needs of diverse students (Standard 3a) while proactively supporting their learning (Standard 3a, b, d, and 4a). Moreover, candidates shall demonstrate essential skills in evaluating the curriculum in light of their own goals and of student’s engagement in learning activities, and they are expected to modify curriculum in light of their own evaluation and feedback from supervisors (Standard 3c). Finally, candidates shall demonstrate competency in analyzing both student learning and their own practices in a broader context and using reflections to modify and improve their work with secondary students (Standard 3c).

Candidates will complete lesson plans for every day they will be teaching. They will use the common lesson plan template that has been required for all group and individual class lesson plans. Candidates will indicate whether they are planning for block or traditional schedules, and will include time estimates for the major parts of each lesson. Candidates will submit 2 Lesson Plans (25 points each) and Reflection on Teaching following each of these (10 points each) that include basic components noted above.

**2. NSTA Standards Addressed by Assessment**

The Lesson Plan and Reflection on Teaching

Assignments address NSTA Standards, as indicated in the following table, Indicators in NSTA Standards 3, 4 & 5 are met by this assessment, as shown in the following table.

**Alignments between NSTA Standards and Assessment 3**

<b>Topic Addressed by Assessment 3 NSTA Standard and Indicators</b>	<b>NSTA Standard and Indicators</b>
3. Content Pedagogy	1c, 3 a, b, c, d
4. Safety	3 d, 4 a, b, c
5. Impact on Student Learning	5 a

Lesson plans developed by teacher candidates will follow a standard format which includes both the plan and evaluation of the pedagogical effectiveness of the lesson.

**3. Description of Assignment (Lesson Plan Template)**

**Each Lesson Plan will use the following format: Secondary Education Lesson Plan Template**

**1. Information**

<b>Name:</b>	<b>School Name:</b>	<b>Grade Level:</b>
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<b><i>Subject/Content:</i></b>	<b><i>Date Lesson is Taught:</i></b>
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**2. Standard(s)/Relevancy/Objective(s)**

**Standard(s):**

**Vocabulary:**

**3. Assessment** [In the designated column below, state objective(s) and assessment(s). Add additional rows as needed and number them]

<b>Objectives(s)</b>	<b>Assessment Tool</b>	<b>Mastery Level, Performance Level, or Criteria</b>
1) The student will	1)	1)

**4. Materials/Resources/Equipment/References**

**Materials/Resources:**

**Equipment:**

**References:**

**5. Effective Instructional Approaches, Strategies, or Tools**

\*Imbed and BOLD transitions throughout this section of your lesson. If possible, remember to connect the transition to the lesson in order to stimulate student interest.

**Introduction: (time estimate)**

**Procedures: (time estimate)**

**Closure: (time estimate)**

**6. Differentiation of Instruction**

**Accommodations:**

**Extensions:**

**Modifications:**

**7. Analysis of Student Learning - to be completed AFTER lesson is taught (refer to specific questions noted on Lesson Plan Components)**

**8. Reflection – to be completed AFTER lesson is taught (refer to specific questions noted on Lesson Plan Components)**

**4. Assessment tool and scoring rubric**

Name \_\_\_\_\_

Content \_\_\_\_\_

Date: \_\_\_\_\_

Your Score \_\_\_\_\_ /25                      /35

Exceeds Expectations	Meets Expectations	Does Not Meet Expectations	NSTA Standard
<p>2 points</p> <p>Standards show an accurate and in-depth knowledge of and direct connection to the National Standards and South Carolina College- and Career-Ready Standards and Performance Indicators for content area(s) (mathematics, science, social studies, and/or English language arts).</p>	<p>1 point</p> <p>Standards reflect knowledge of and connections to the National Standards and South Carolina College- and Career-Ready Standards and Performance Indicators for content area(s) (mathematics, science, social studies, and/or English language arts).</p>	<p>0 points</p> <p>Standards do not show an understanding of and connection to the National Standards and South Carolina College- and Career-Ready Standards and Performance Indicators for content area(s) (mathematics, science, social studies, and/or English language arts).</p>	1c
<p>2 points</p> <p>Vocabulary related to content of lesson is clearly presented.</p>	<p>1 point</p> <p>Vocabulary related to content of lesson is adequately presented.</p>	<p>0 points</p> <p>Vocabulary is not included and/or it is unclear how it relates to content of lesson.</p>	3a
<p>2 points</p> <p>Well written objective(s) meet all aspects of SMART criteria and clearly reflect developmentally appropriate outcomes for students.</p>	<p>1 point</p> <p>Objective(s) meet SMART criteria and reflect developmentally appropriate outcomes for students.</p>	<p>0 points</p> <p>Objective(s) do not meet all aspects of SMART criteria or do not reflect developmentally appropriate outcomes for students.</p>	5c
<p>3 points</p> <p>Assessment tools and approaches are developmentally, culturally, and linguistically appropriate.</p>	<p>1-2 point</p> <p>Assessment tools and approaches are developmentally appropriate.</p>	<p>0 points</p> <p>Assessment tools and approaches are not developmentally appropriate.</p>	3b
<p>Assessment tools and approaches reflect complex understanding of responsible assessment practices. Each objective was fully assessed.</p>	<p>Assessment tools and approaches reflect understanding of responsible assessment practices. Objective(s) was/were adequately assessed.</p>	<p>Assessment tools which reflect limited application of principles of responsible assessment practices. One or more objective(s) was/were not assessed.</p>	3c

<p>2 points          Curriculum development is clearly characterized by extensive use of high quality professional resources. A well-organized list of materials, resources, and/or equipment to support this lesson is included. References are cited using APA format.</p>	<p>1 point          Curriculum development is characterized by use of high quality professional resources. The list of materials, resources, and/or equipment to support this lesson is complete. References are cited using APA format.</p>	<p>0 points          Curriculum development is inadequately informed by the use of high quality professional resources. The list of materials, resources and/or equipment was incomplete. References are incomplete or are not cited.</p>	<p>3b</p>
<p>8 points          Effective instructional approaches, strategies, and tools, including appropriate uses of technology reflect an in-depth knowledge of theoretical foundations underlying content area(s) (mathematics, science, social studies, and/or English language arts).</p>	<p>1-7 point          Effective instructional approaches, strategies, and tools, including appropriate uses of technology reflect knowledge of content area(s) (mathematics, science, social studies, and/or English language arts).</p>	<p>0 points          Instructional approaches, strategies, and tools, including appropriate uses of technology reflect a minimal knowledge of content area(s) (Mathematics, Science, Social Studies, and/or English language arts).</p>	<p>3b</p>
<p>Effective instructional approaches, strategies, or tools reflect an in-depth knowledge of concepts.</p>	<p>Effective instructional approaches, strategies, or tools reflect knowledge of concepts.</p>	<p>Effective instructional approaches, strategies, or tools reflect a minimal knowledge of concepts.</p>	<p>1a</p>
<p>Effective instructional approaches, strategies, or tools reflect an in-depth knowledge of using positive relationships and supportive interactions with students.</p>	<p>Effective instructional approaches, strategies, or tools reflect knowledge of using positive relationships and supportive interactions with students.</p>	<p>Effective instructional approaches, strategies, or tools reflect a minimal knowledge of using positive relationships and supportive interactions with students.</p>	<p>3a</p>
<p>All components of the lesson provide meaningful and clear detail.          Introduction          Procedures          Closure          Transitions</p>	<p>All components of the lesson are included but may require additional detail.          Introduction          Procedures          Closure          Transitions</p>	<p>Lesson components are incomplete or lack sufficient detail.          Introduction          Procedures          Closure          Transitions</p>	<p>3c</p>
<p>3 points          Lesson development reflects complex attention to student's developmental, individual, and cultural characteristics.</p>	<p>1-2 points          Lesson development takes into account student's developmental, individual, and cultural characteristics of students.</p>	<p>0 points          Lesson development takes insufficient account of student's developmental, individual, and cultural characteristics.</p>	<p>2a</p>

Extensive modifications/accommodations and extensions are appropriate for individual learners.	Modifications/accommodations and extensions are appropriate for individual learners.	Modifications/accommodations and/or extensions are inappropriate or not included for individual learners.	2a
<b>Writing Conventions Apply to All Lesson Plan Components and/or Analysis/Reflections</b>			
3 points High quality writing demonstrates excellent organization and sentence structure. Paper contains no spelling or grammatical errors.	1-2 points Writing demonstrates proper organization and sentence structure. Paper contains fewer than four (4) spelling or grammatical errors.	0 points Significant improvement in organization and/or sentence structure is needed. Paper contains many spelling or grammatical error that interfere with readability.	2b
<b>These Sections are Required After the Lesson is Taught in the Field</b>			
5 points Analysis of student learning reflects in-depth knowledge of responsible assessment for diverse learners.	1-4 points Analysis of student learning reflects knowledge of responsible assessment regarding diverse learners.	0 points Analysis of student learning reflects limited knowledge of responsible assessment regarding diverse learners.	5a
Demonstrates a high level of skill in interpreting assessment results and using assessment information to inform practice.	Assessment results are interpreted and used to inform practice.	Assessment results are not adequately interpreted and/or not used to inform practice.	5a
5 points Reflection clearly describes how challenging behaviors are addressed; demonstrates an in-depth knowledge of student's characteristics, needs, interests and positive interactions.	1-4 points Reflection describes how challenging behaviors were addressed; demonstrates knowledge of student's characteristics, needs, interests and positive interactions.	0 points Reflection inadequately describes how challenging behaviors were addressed; demonstrates limited knowledge of student's characteristics, needs, interests and positive interactions.	5a
Reflection includes an in-depth evaluation of the lesson in terms of specific aspects that could have been planned or taught differently to have greater impact on student learning.	Reflection includes an evaluation of the lesson in terms of aspects that could have been planned or taught differently to have greater impact on student learning.	Evaluation of the lesson in terms of planning and teaching to have impact on student learning is inadequate.	5a
Reflection includes an in-depth analysis of practice with notable insight and sophisticated level of critical thinking to improve work with young students.	Reflection includes an analysis of practice with critical thinking to improve work with young students.	Reflection shows limited use of critical thinking.	5a

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Reflection clearly identifies specific areas for growth and extensive resources needed to gain deeper understandings.	Areas for growth and resources needed to gain understanding are identified.	Areas for growth and resources to gain understanding are not identified.	5a
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I have neither provided nor receive assistance not authorized by the professor in the creation of work to be submitted for academic evaluation.  
Please sign below:

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**Assessment #4 – Pedagogical and Professional Knowledge and Skills—Student Teaching  
 Assessment with Legal/Safety Ethical Issues: Internship Evaluation**

**1. Description:**

The secondary science education internship experience at the University of South Carolina Beaufort is the culmination of the secondary education biology preparation program and represents a bridge between theory and practice. The internship is a full-time teaching assignment where candidates are assigned to a cooperating teacher in a secondary education classroom (9-12) for five full days a week for 15 weeks. The knowledge, skills, and dispositions developed through formal course work, observational opportunities, and the field internship experience are put into practice through an intensive practical application of professional attributes as a teacher candidate.

In *EDSE B469, Internship*, Internship assessment instruments used to assess candidates' performance include the *Secondary Science (Biology) Internship Midterm/Final Evaluation Report* and the *Secondary Science (Biology) Internship Evaluation Scoring Rubric*. Individual items are listed in five domains that measure teaching behaviors aligned with specific NSTA standards and key elements. These evaluation instruments are common to all teacher education programs in the unit, but the *Secondary Science Teacher (Biology) Internship Scoring Rubric* is specific to the content area. Five domains are measured: Long-range Planning, Short-range Planning, Instruction, Classroom Management, and Professionalism. A sixth area is included to allow content areas to evaluate specific teaching behaviors unique to their content area. Candidates are evaluated at midterm and at the conclusion of the internship using the *Secondary Science Teacher Education (Biology) Internship Midterm/Final Evaluation Report* and the *Secondary Science Teacher Education (Biology) Internship Evaluation Scoring Rubric*. Candidates must achieve the acceptable level on the final evaluation to successfully complete the internship. Both the cooperating teacher and university supervisor collaborate on the evaluation. An Addendum is included that specifically addresses legal, safety and ethical issues.

**2. NSTA Standards Addressed by Assessment:**

The *Secondary Teacher Education, Biology Internship Evaluation* addresses NSTA and CAEP Standards. As indicated in the following table, several Indicators in NSTA Standards 1, 2, 3, 4 & 5 are met by this assessment, as shown in the following table.

**Alignments between NSTA Standards and Assessment #4**

<b>Topic Addressed by Assessment 4: NSTA Standards and Indicators</b>	<b>NSTA Standard and Indicators</b>
1. Content Knowledge	1 a
2. Content Pedagogy	2 a, b
3. Learning Environments	3 a, b, c, d
4. Safety	4 a, b, c
5. Impact on Student Learning	5 a, b, c
6. Professional Knowledge and Skills	6 a

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Assessment #4 requires a holistic knowledge of both content and pedagogy with competency in planning, delivering and evaluating student candidates' efforts. As such, it encompasses most of NSTA Standards. While successful delivery of content to students frequently requires extended experience, evaluation of teacher candidates serves to identify those whose classroom demeanor or delivery would be counterproductive in the classroom. On the other hand and most importantly, evaluation of teacher candidates serves as mentoring, promoting development of good teaching habits. By evaluating the entire battery of Standards, Assessment #4 is a culminating evaluative tool that addresses most NSTA Standards.

**3. Assessment Tool and Scoring Rubric**

**Department of Natural Sciences**  
**University of South Carolina Beaufort**  
**Article I. SECONDARY SCIENCE INTERNSHIP MIDTERM/FINAL EVALUATION REPORT**

Teacher Candidate:	ID#:	Date:
Cooperating Teacher:	Grade:	School:
University Supervisor:		

Number of *formative observations* this evaluation is based on: \_\_\_\_\_ University Supervisor                      \_\_\_\_\_ Cooperating Teacher  
 Number of *visits* this evaluation is based on: \_\_\_\_\_ University Supervisor

**Please check appropriate box:**                       **Midterm Evaluation**                       **Final Evaluation**

**Directions:** Please refer to the **Internship Evaluation Scoring Rubric** when completing this form. This rubric provides detailed descriptions for teacher candidates at each of the following levels:

**E= Exceeds Expectations (3 points each); M = Meets Expectations (2 points each); D = Does Not Meet Expectations (1 point each); NO= No Opportunity (NO will not hinder total points)**

LONG-RANGE PLANNING – Domain 1		E	M	D	NO	SUPPORTING DOCUMENTATION and EVIDENCE (required only if E, M, or D is checked)
1.	Uses contextual factors to develop long-range goals and to guide instructional planning. (ADEPT APS 1.A, USCB CF N-3, F/I-1, NSTA Standard 3c)					
2.	Establishes appropriate standards-based long-range learning and developmental goals for internship (ADEPT APS 1.B, USCB CF F/I-3, NSTA Standard 3a)					

3.	Identifies and sequences instructional units in a manner that facilitates the accomplishment of the long-range goals for internship. (ADEPT APS 1.C, USCB CF F/I-2, NSTA Standard 1c)				
4.	Plans strategies for evaluating and recording students' progress and achievement and communicating achievement results to students (ADEPT APS 1.D, USCB CF F/I-5, NSTA 3a)				
5.	Plans appropriate procedures for managing the classroom that promotes positive behaviors and maximizes instructional time. (ADEPT APS 1.E, USCB CF F/I-5, NSTA Standard 3d)				

<b>SHORT-RANGE PLANNING – Domain 1 (cont.)</b>		<b>E</b>	<b>M</b>	<b>D</b>	<b>NO</b>	<b>SUPPORTING DOCUMENTATION and EVIDENCE</b> (required only if E, M, or D is checked)
	<b><u>CHECK ONE</u></b>					
6.	Plans developmentally appropriate standards-based lessons in accordance with the requirements of the discipline, including learning objectives that are measurable, appropriate, and align with the standards. (ADEPT APS 2.A, APS 6/B, USCB CF F/I-1, F/I-3, NSTA 3d)					
7.	Designs, selects, or modifies meaningful assessments that are aligned with lesson objectives. (ADEPT APS 3.A, USCB CF F/I-5, NSTA 5a)					
8.	Uses student performance data to guide instructional planning. (ADEPT APS 3.B, USCB CF R-I, F/I-2, NSTA 5a)					
9.	Plans developmentally appropriate and differentiated instruction to address diverse learning needs (ADEPT APS 2.A, USCB CF F/I-2, F/I-5, NSTA Standard 2a)					
10.	Plans for the learner use of technology* to support 21 <sup>st</sup> century learning. (ADEPT APS 2.B, USCB CF F/I-2, NSTA 2b)					

Overall rating for **planning** (circle one): **Exceeds Expectations (27-30 pts); Meets Expectations (18-26 pts); Does Not Meet Expectations (0-17 pts)**

Describe one strength in the area of **planning**: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

List at least one goal in the area of **planning** to be addressed: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

<b>INSTRUCTION – Domain 2</b>		<b>E</b>	<b>M</b>	<b>D</b>	<b>NO</b>	<b>SUPPORTING DOCUMENTATION and EVIDENCE</b> (required only if E, M, or D is checked)
<b>CHECK ONE</b>						
11.	Communicates, and maintains high expectations for student achievement and participation. Students are given opportunities and support to assume responsibility for their own learning. (ADEPT APS 4.A., APS 4.B, USCB CF C-1, N-1, NSTA 5a)					
12.	Helps students assume responsibility for their own learning. (ADEPT APS. 4.A, USCB CF N-3, NSTA Standard 4b)					
13.	Uses appropriate instructional strategies. (ADEPT APS. 5.USCB CF F/I-2, NSTA 2a)					
14.	Uses a variety of instructional strategies to actively engage all students. (ADEPT APS 5.B, USCB CF N-3, F/I-2, NSTA 2a)					
15.	Uses instructional strategies effectively. (ADEPT APS 5.B, USCB CF F/I-2, NSTA Standard 2c)					
16.	Continually monitors student learning during instruction by using a variety of informal and formal assessment strategies. (ADEPT APS 7A, USCB CF F/I-5, NSTA Standard 5a)					
17.	Enhances student learning by using informal and formal assessments to guide instruction. (ADEPT APS 7.B, USCB CF F/I-2, F/I-5, NSTA Standard 5c)					
18.	Enhances student learning by providing appropriate instructional feedback to all students. (ADEPT APS 7.C, USCB CF C-1, F/I-5, NSTA Standard 2b)					
19.	Uses technology* to enhance student learning. (ADEPT 9..B, USCB C-1, F/I-2, NSTA 3b)					
20.	Implements strategies that address the needs of diverse learners**. (ADEPT APS 6.B, USCB CF F/I-2, NSTA 3b)					
21.	Uses appropriate voice tone, inflection, and nonverbal communication to manage instruction effectively. (ADEPT APS 9.A, USCB CF C-1, F/I-4, NSTA Standard 2b)					

Overall rating for **instruction** (circle one): **Exceeds Expectations (28-33 pts); Meets Expectations (19-27 pts); Does Not Meet Expectations (0-18 pts)**

Describe one strength in the area of **instruction**: \_\_\_\_\_

List at least one goal in the area of **instruction** to be addressed: \_\_\_\_\_

<b>CONTENT – Domain 3</b>		<b>E</b>	<b>M</b>	<b>D</b>	<b>NO</b>	<b>SUPPORTING DOCUMENTATION and EVIDENCE</b> (required only if E, M, or D is checked)
<b><i>CHECK ONE</i></b>						
22.	Demonstrates a thorough command of the content taught. (ADEPT APS 6.A, USCB CF F/I-2, F/I-3, NSTA Standard 1a)					
23.	Provides appropriate content. (ADEPT APS 6.B, USCB F/I-3, NSTA Standard 2a)					
24.	Structures the content to provide meaningful learning. (ADEPT APS 6.B, USCB CF N-3, F/I-2, F/I-3, NSTA 5b)					
25.	Employs literacy strategies that assist learners in accessing content in their discipline. (ADEPT APS 6.B, USCB CF C-I, F/I-3, NSTA Standard 3a)					

Overall rating for **content area** (circle one): **Exceeds Expectations (11-12 pts)**; **Meets Expectations (7-10 pts)**; **Does Not Meet Expectations (0-6 pts)**

Describe one strength in the area of **content**: \_\_\_\_\_

List at least one goal in the area of **content** to be addressed: \_\_\_\_\_

<b>ENVIRONMENT – Domain 4</b>		<b>E</b>	<b>M</b>	<b>D</b>	<b>NO</b>	<b>SUPPORTING DOCUMENTATION and EVIDENCE</b> (required only if E, M, or D is checked)
<b><i>CHECK ONE</i></b>						
26.	Maintains a physically safe classroom environment that is conducive for learning. (ADEPT 8.A, USCB CF F/I-4, NSTA 4a)					

27.	Maintains a positive affective climate in his or her classroom. (ADEPT APS 8.B, USCB CF N-3, F/I-4, NSTA Standard 3a)					
28.	Maintains a culture of learning in his or her classroom. (ADEPT APS 8.C, USCB CF N-2, R-4, F/I-2, NSTA Standard 5c)					
29.	Manages student behavior appropriately. (ADEPT APS 9.A, USCB CF N-1, F/I-4, NSTA Standard 3a)					
30.	Makes maximal use of instructional time. (ADEPT APS 9.B, USCB CF N-3, F/I-4, NSTA Standard 3a)					
31.	Makes maximal use of instructional time. (ADEPT APS 9.C, USCB CF N-3, F/I-4, NSTA Standard 3a)					

Overall rating for **environment** (circle one): **Exceeds Expectations (17-18 pts)**; **Meets Expectations (11-16 pts)**; **Does Not Meet Expectations (0-10 pts)**

Describe one strength in the area of **environment**: \_\_\_\_\_

\_\_\_\_\_

List at least one goal in the area of **environment** to be addressed: \_\_\_\_\_

\_\_\_\_\_

<b>PROFESSIONALISM – Domain 5</b>		<b>E</b>	<b>M</b>	<b>D</b>	<b>NO</b>	<b>SUPPORTING DOCUMENTATION and EVIDENCE</b> (required only if E, M, or D is checked)
32	Effectively co-teaches with the cooperating teacher. (ADEPT APS 10.A, USCB CF F/I-2, R-3, NSTA Standard 3a)					
33	Collaborates with other professionals to enhance student learning. (ADEPT APS 10.A, USCB CF C-1, NSTA Standard 6b)					
34	Establishes appropriate professional relationships with school personnel and students. (ADEPT APS 10.A, USCB CF C-1, NSTA Standard 6b)					
35	Is an active participant in school initiatives and supports school-related organizations and activities. (ADEPT APS 10.B, USCB CF N-1, N-2, NSTA Standard 6b)					
36	Demonstrates effective verbal communication that is appropriate for the intended audiences and use Standard English. (ADEPT APS 10.C, USCB CF R-2, NSTA Standard 6a)					

37	Demonstrates effective external written communication that is appropriate for the intended audience and uses Standard English. (ADEPT APS 10.C, USCB CF C-1, NSTA Standard 6a)					
38	Adheres to the university and school/district rules, <i>Standards of Conduct for South Carolina Educators</i> , and FERPA requirements and acts appropriately when faced with legal issues with children. *** (ADEPT APS 10.D, USCB CF R-4, NSTA Standard 6b)					
39	Is receptive to constructive criticism from cooperating teacher, university supervisor, and administrators and incorporates feedback. (ADEPT APS 10.E, USCB CF R-1, NSTA Standard 6b)					
40	Uses self-reflection to evaluate and improve professional practice. (ADEPT APS 10.E, USCB CF R-1, NSTA Standard 5a)					
41	Is a member of a state or national professional educator organization. (ADEPT APS 10.E, USCB CF R-2, NSTA 6b)					
42	Demonstrates professional responsibility (e.g. preparedness, responsibility, initiative, time management). (ADEPT 10.D, USCB CF R-2, R-4, NSTA Standard 5a)					

\*\* A *Does Not Meet Expectations* rating on this item may result in failure for the internship.

Overall rating for **professionalism** (circle one): **Exceeds Expectations (28-33 pts); Meets Expectations (19-27 pts); Does Not Meet Expectations (0-18 pts)**

Describe one strength in the area of **professionalism**: \_\_\_\_\_

\_\_\_\_\_

List at least one goal in the area of **professionalism** to be addressed: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Domain 6: SCIENCE EDUCATION		E	M	D	NO	SUPPORTING DOCUMENTATION and EVIDENCE (required only if E, M, or D is checked)
43	TC plans and carries out a variety of inquiry approaches that demonstrate knowledge and understanding of how students learn science. <i>(NSTA Standard 2a)</i>					
44	TC demonstrates knowledge of safety for use of chemicals and all other materials used in lesson plans within his/her subject area (includes safe and proper techniques for preparation, storage, dispensing, supervision and disposal). <i>(NSTA Standard 4a)</i>					
45	TC designs and demonstrates activities that implement use and maintenance of safety equipment and emergency procedures that comply with state and/or national guidelines. <i>(NSTA Standard 4b)</i>					
46	TC designs and demonstrates activities that are safe for abilities of all students. <i>(NSTA Standard 4b)</i>					
47	TC designs and demonstrates activities that demonstrate safe, humane, and ethical decision making with respect to all living organisms in and out of the classroom, complying with legal restrictions of the collection, keeping and use of living organisms. <i>(NSTA Standard 4c)</i>					

Overall rating for **science education** [circle one]: **Exceeds Expectations (13-15); Meets Expectations (8-12); Below Expectations (0-7)**

Describe one **science education** strength: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

List at least one **science** goal to be addressed: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

**Overall comments:** \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

Based on my work with \_\_\_\_\_, it is my assessment that he/she is performing at the following level for each performance cluster:



<p>1. Uses contextual factors to develop long-range goals and to guide instructional planning. (ADEPT APS 1.A, USCB CF N-3, F/I-1 NSTA Standard 3c)</p>	<p><b>Teacher candidate analyzes pertinent contextual factors (e.g., both informal and formal assessment data, prior achievement levels, learning styles and needs, cultural and socioeconomic backgrounds, and individual interests) to make direct connections to long-range goals and instructional plans.</b></p>	<p>Teacher candidate references contextual factors (e.g., both informal and formal assessment data, prior achievement levels, learning styles and needs, cultural and socioeconomic backgrounds, and individual interests) to develop long-range goals and guide instructional planning.</p>	<p>Teacher candidate does not demonstrate an understanding of contextual factors and long-range goals chosen Long-range goals are unrelated to contextual factors.</p>	<p>3c</p>
<p>2. Establishes appropriate standards-based long-range learning and developmental goals for internship. (ADEPT APS 1.B, USCB CF F/I-3, NSTA Standard 3a)</p>	<p><b>Unit goal(s) is/are measurable, aligned with state and/or national standards, and reflect the appropriate developmental and/or functional expectations of students in the classroom.</b></p>	<p>Unit goal(s) is/are measureable and aligned with state and/or national standards.</p>	<p>Unit goal(s) is/are not measurable and fail to align with state and/or national standards.</p>	<p>3a</p>
<p>3. Identifies and sequences instructional units in a manner that facilitates the accomplishment of the long-range goals for internship. (ADEPT APS 1.C, USCB CF F/I-2, NSTA Standard 1c)</p>	<p><b>Instructional units are logically sequenced and aligned with long-range goals. Teacher candidate provides a progressive and logical set of integrated lessons (scope and sequence).</b></p>	<p>Instructional units are logically sequenced and aligned with developmental long-range goals. Teacher candidate provides a progressive and logical set of lessons (scope and sequence).</p>	<p>Instructional units are not aligned with developmental long-range goals. Teacher candidate fails to provide a progressive and logical set of lessons (scope and sequence).</p>	<p>1c</p>
<p>4. Plans strategies for evaluating and recording students' progress and achievement and communicating achievement results to students. (ADEPT APS 1.D, USCB CF F/I-5, NSTA Standard 3a)</p>	<p><b>Strategies for evaluating student progress (e.g., observations, performance projects, portfolios and other appropriate assessments) include well-organized plans for communicating achievement results on a regular basis to students in an appropriate manner.</b></p>	<p>Strategies for evaluating student progress (e.g., observations, performance projects, portfolios and other appropriate assessments) include plans for communicating achievement results to students in an appropriate manner.</p>	<p>Teacher candidate plans strategies for evaluating student progress; however, communication to students is limited to the use of report cards.</p>	<p>3a</p>

<p>5. Plans appropriate procedures for managing the classroom that promotes positive behaviors and maximizes instructional time. (ADEPT APS 1.E, USCB CF F/I-5, NSTA Standard 3d)</p>	<p><b>Teacher candidate plans specific proactive management procedures that promote positive classroom behaviors and provides explicit instruction on transitions and routines and positively stated classroom rules.</b></p>	<p>Teacher candidate plans appropriate management procedures that promote positive classroom behaviors and transitions and routines that maximize instructional time, and positively stated classroom rules.</p>	<p>Teacher candidate plans general classroom management techniques that do not maximize instructional time and/or rules and/or routines are not identified in the plan.</p>	<p>3d</p>
<p><b>Short-Range Planning</b></p>				
<p>6. Plans developmentally appropriate standards-based lessons in accordance with the requirements of the discipline. (ADEPT APS 2.A, APS 6.B, USCB CF F/I-1, F/I-3, NSTA Standard 3d)</p>	<p>Lesson plans are consistent with long-range goals, are aligned with appropriate grade-level academic standards, and include measurable objectives. Developmentally appropriate learning experiences accurately reflect objectives and procedures to ensure student engagement, and differentiation for individual learners. Lesson plans meet expectations of the discipline.</p>	<p>Lesson plans are consistent with long-range goals, are aligned with appropriate grade-level academic standards, and include measurable objectives. Developmentally appropriate learning experiences accurately reflect objectives and procedures to ensure student engagement Lesson plans meet expectations of the discipline.</p>	<p>Lesson plans are not consistent with unit goals. Some learning experiences included in the lessons do not meet any identified objectives or are developmentally inappropriate. Learning experiences are passive and do not ensure student engagement. Lesson plans do not meet expectations of the discipline.</p>	<p>3d</p>
<p>7. Designs, selects, or modifies appropriate assessments that are aligned with lesson objectives. (ADEPT APS 3.A, USCB CF F/I-5, NSTA Standard 5a)</p>	<p>Lesson assessments are appropriate and align with lesson objectives. Assessments include verbal and/or written directions, models, prompts, etc. that clearly define learner expectations. Teacher candidate plans appropriate accommodations to meet individual learner needs.</p>	<p>Informal or formal lesson assessments are appropriate and align with lesson objectives. Teacher candidate plans appropriate accommodations to meet individual learner needs.</p>	<p>Assessments do not align with lesson objectives, or no assessments are identified. Accommodations are not planned or are inappropriate.</p>	<p>5a</p>
<p>8. Uses student performance data to guide instructional planning. (ADEPT APS 3.B, USCB CF R-I, F/I-2, NSTA Standard 5a)</p>	<p>Teacher candidate gathers and analyzes a variety of student performance data on informal and formal assessments to modify or determine lesson objectives and to modify instructional plans.</p>	<p>Teacher candidate gathers and analyzes student performance data to modify or determine lesson objectives or to modify instructional plans.</p>	<p>Teacher candidate does not gather student performance data or does not use data appropriately.</p>	<p>5a</p>

<p>9. Plans developmentally appropriate and differentiated instruction to address diverse learning needs. (ADEPT APS 2.A, USCB CF F/I-2, F/I-5, NSTA Standard 2a)</p>	<p>Lesson plans are developmentally appropriate and include differentiation of learning objectives, teaching procedures, and/or assessment methods to address individual learning needs. Differentiation is based on formal and informal assessment information, IEPs, and/or 504 plans.</p>	<p>Lesson plans are developmentally appropriate lessons that include differentiation of teaching procedures to address diverse learning needs. Plans appropriately meet requirements identified in IEPs and/or 504 plans.</p>	<p>Lesson plans are developmentally appropriate lessons, but do not include differentiation strategies to address diverse learner needs or meet requirements identified in IEPs and/or 504 plans.</p>	<p>2a</p>
<p>10. Plans for the learner use of technology* to support the 21<sup>st</sup> century classroom. (ADEPT APS 2.B, USCB CF F/I-2, NSTA Standard 2b)</p>	<p>Teacher candidate plans for the learner use of current and emerging digital tools providing multiple opportunities for problem solving, conducting research, and creative expression.</p>	<p>Teacher candidate plans for the learner use of current and emerging digital tools providing opportunities for problem solving, conducting research, or creative expression.</p>	<p>Teacher candidate plans lessons without including the use of current and emerging digital tools to support student learning.</p>	<p>2b</p>

INSTRUCTION – Domain 2	Exceeds Expectations	Meets Expectations	Does Not Meet Expectations	NSTA Standard
11. Communicates and maintains high expectations for student achievement and participation. (ADEPT APS 4.A., APS 4.B, USCB CF C-1, N-1, NSTA Standard 5a)	Teacher candidate consistently communicates and designs many experiences that require student participation in a challenging, yet supportive environment.	Teacher candidate communicates and designs some experiences that encourage student participation in a challenging, yet supportive environment.	Teacher candidate does not communicate and/or design experiences that encourage student participation in a challenging, yet supportive environment.	5a
12. Helps students assume responsibility for their own learning. (ADEPT APS. 4.A, USCB CF N-3, NSTA Standard 4b)	Teacher candidate encourages students to become active agents of their own learning, through problem-solving, setting goals, persisting in independent task completion, and self-assessment and reflection.	Teacher candidate encourages students to become active agents of their own learning, (setting goals, task persistence, and self-assessment).	Teacher candidate takes full responsibility for setting student goals, keeping students on task, and evaluating their performance <i>without</i> facilitating the development of student self-management strategies.	4b
13. Uses appropriate instructional strategies. (ADEPT APS. 5.A, USCB CF F/I-2, NSTA Standard 2a)	Teacher candidate uses students' interests and prior learning to scaffold their learning experiences, encourage them to connect familiar concepts to new instruction, and challenge them to apply prior learning or experiences to new instruction.	Teacher candidate uses students' interests and prior learning to build on content knowledge and scaffold their learning experiences, and encourage them to connect familiar concepts to new instruction.	Teacher candidate implements instruction in isolation with no reference or acknowledgment of prior learning. No attempt to connect familiar concepts or knowledge previous learned or related to current instruction.	2a
14. Uses a variety of instructional strategies to actively engage all students. (ADEPT APS 5.B, USCB CF N-3, F/I-2, NSTA Standard 2a)	To meet the needs of diverse learners, the teacher candidate differentiates what students are learning (content), how students are learning (engagement), and/or how students demonstrate understanding (assessment).	To meet the needs of diverse learners, the teacher candidate uses a variety of strategies for presenting content and engaging learners.	Teacher candidate uses a "one size fits all" approach to delivering instruction and assessing student performance.	2a
15. Uses instructional strategies effectively. (ADEPT APS 5.B, USCB CF F/I-2, NSTA Standard 2c)	Teacher candidate skillfully addresses cultural differences in creative and varied ways. If English Language Learners (ELL) are in the classroom, a variety of individual accommodations and modifications are made in content, instruction, and assessment.	Teacher candidate uses instructional strategies that address the needs of learners from diverse cultural backgrounds (e.g., providing examples that are relevant to specific culture). If English Language Learners (ELL) are in the classroom, the teacher	Teacher candidate exhibits a "one size fits all" approach to content presentation and learning experiences, ignoring cultural and linguistic backgrounds.	2c

		candidate differentiates content and instruction appropriately.		
16. Continually monitors student learning during instruction by using a variety of informal and formal assessment strategies. (ADEPT APS 7.A, USCB CF F/I-5, NSTA Standard 5a)	Teacher candidate uses a variety of informal and formal assessment strategies (e.g. checks for understanding, quizzes, and probing questions) with established performance criteria throughout instruction.	Teacher candidate uses informal and formal assessments (e.g., checks for understanding, quizzes, and probing questions) with established performance criteria throughout instruction.	Teacher candidate does not establish performance criteria for informal and formal assessments or does not assess during the instructional episode.	5a
17. Enhances student learning by using informal and formal assessments to guide instruction. (ADEPT APS 7.B, USCB CF F/I-2, F/I-5, NSTA Standard 5c)	Teacher candidate effectively modifies instruction and/or learning tasks based on student responses, informal, or formal assessments. Modifications may include things such as choosing alternative instructional strategies, re-teaching, modifying instructional sequence, restating the questions, providing additional explanation, etc.	Teacher candidate attempts to modify instruction and/or learning tasks based on student responses, informal, or formal assessments. Modifications may include things such as choosing alternative instructional strategies, re-teaching, modifying instructional sequence, restating the questions, providing additional explanation, etc.	Teacher candidate does not attempt to modify instruction and/or learning tasks based on student responses, informal, or formal assessments.	5c
18. Enhances student learning by providing appropriate instructional feedback to all students. (ADEPT APS 7.C, USCB CF C-1, F/I-5, NSTA Standard 2b)	Teacher candidate provides specific, corrective, and timely instructional feedback to students related to lesson objectives. Feedback is based on both class-wide <b>and</b> individual responses.	Teacher candidate provides specific, corrective, and timely instructional feedback to students related to lesson objectives. Feedback is based on class-wide or individual responses.	Teacher candidate provides general and motivational feedback unrelated to lesson objectives. For example, student is told that "it was better" without the teacher candidate identifying why it was better.	2b
19. Uses technology* to enhance student learning. (ADEPT 9.B, USCB C-1, F/I-2, NSTA Standard 3b)	Teacher candidate uses digital tools to support content presentation, engage students in learning activities, and facilitate content mastery. Teacher candidate and students <i>use technology*</i> to enhance the learning experience.	Teacher candidate uses digital tools to support content presentation, engage students in learning activities, and facilitate content mastery. Teacher candidate or students <i>use technology*</i> to enhance the learning experience.	Teacher candidate uses digital tools, but the use of the digital tools does not enhance content presentation, engagement of students or facilitate content mastery. Only teacher candidate <i>uses technology*</i> .	3b
20. Implements strategies that address the needs of diverse	Teacher candidate uses of a <b>variety</b> of strategies <b>specific to each lesson</b> that	Teacher candidate uses strategies that address the	Teacher candidate exhibits a "one size fits all" approach to content presentation	3b

learners**. (ADEPT APS 6.B, USCB CF F/I-2, NSTA Standard 3b)	address the needs of students from diverse cultural and/or linguistic backgrounds including such strategies as providing examples from different cultures or using multiple methods for presenting content.	needs of students from diverse cultural and/or linguistic backgrounds including such strategies as providing examples from different cultures or using multiple methods for presenting content.	and learning experiences, ignoring cultural and linguistic backgrounds.	
21. Uses appropriate voice tone, inflection, and nonverbal communication to manage instruction effectively. (ADEPT APS 9.A, USCB CF C-1, F/I-4, NSTA Standard 2b)	Teacher candidate demonstrates effective and <b>strategic</b> teaching and communication skills by varying voice inflection and tone, changing the pacing of the presentation, and using body language that encourages student engagement. In addition, Teacher candidate moves throughout the space to maintain eye contact with students.	Teacher candidate demonstrates effective teaching and communication skills by varying voice inflection and tone, changing the pacing of the presentation, and using body language that encourages student engagement.	Teacher candidate exhibits one or more of the following: (a) a monotone with no changes in inflection or tone, (b) flat presentation with no changes in pacing, (c) body language that does not encourage student engagement, (d) limited eye contact with students, and/or (e) limited movement (rooted in one place).	2b
<b>CONTENT – Domain 3</b>	<b>Exceeds Expectations</b>	<b>Meets Expectations</b>	<b>Does Not Meet Expectations</b>	
22. Demonstrates a thorough command of the content taught. (ADEPT APS 6.A, USCB CF F/I-2, F/I-3, NSTA Standard 1a)	Teacher candidate's presentation of content is clear, precise, accurate and relevant to learners.	Teacher candidate's presentation of content is clear, accurate and relevant to learners.	Teacher candidate's presentation of content has misinformation and lacks clarity.	1a
23. Provides appropriate content. (ADEPT APS 6.B, USCB F/I-3, NSTA Standard 2a)	Teacher candidate draws lesson content from multiple sources and presents it in innovative ways to expose students to a variety of intellectual, social, and/or cultural perspectives.	Teacher candidate draws lesson content from a few sources and presents it in ways to expose students to a variety of intellectual, social, and/or cultural perspectives.	Teacher candidate draws lesson content from one source and does not presents it in ways to expose students to a variety of intellectual, social, and/or cultural perspectives.	2a
24. Structures the content to provide meaningful learning. (ADEPT APS 6.B, USCB CF N-3, F/I-2, F/I-3, NSTA Standard 5b)	Teacher candidate consistently uses real-life examples to make content relevant, meaningful, and applicable to students. The teacher candidate uses content knowledge to field questions, address misconceptions, and provide relevant examples to clarify answers.	Teacher candidate uses real-life examples to make content relevant, meaningful, and applicable to students. Teacher candidate uses content knowledge to field questions and address misconceptions.	Teacher candidate does not attempt to use real-life examples in presentation of content. Teacher candidate is unable to effectively address learner questions or misunderstandings related to content.	5b
25. Employs literacy strategies that assist learners in accessing content in their discipline.	Teacher candidate models appropriate and varied content-specific literacy strategies involving print (reading,	Teacher candidate models appropriate content-specific literacy strategies involving print	Teacher candidate's use of content-specific literacy strategies is limited or inappropriate.	3a

(ADEPT APS 6.B, USCB CF C-1, F/I-3, NSTA Standard 3a)	writing) and non-print (speaking, listening, viewing, visually representing) to assist learners in accessing content in their discipline.	(reading, writing) and non-print (speaking, listening, viewing, visually representing) to assist learners in accessing content in their discipline.		
<b>ENVIRONMENT - Domain 4</b>	<b>Exceeds Expectations</b>	<b>Meets Expectations</b>	<b>Does Not Meet Expectations</b>	
26. Maintains a physically safe classroom that is conducive to learning. (ADEPT 8.A, USCB CF F/I-4, NSTA Standard 4a)	Teacher candidate makes appropriate adjustments to the physical environment to promote learning, avoid distractions, and ensure safe use of materials.	Teacher candidate follows the cooperating teacher's safety procedures to physically arrange the classroom to promote learning, avoid distractions, and ensure safe use of materials	Teacher candidate does not follow safety procedures, which results or could result in lack of learning and/or student harm.	4a
27. Maintains a positive affective climate in his or her classroom. (ADEPT APS 8.B, USCB CF N-3, F/I-4, NSTA Standard 3a)	Teacher candidate responds positively to student difficulties, concerns, and questions without bias towards gender, ethnicity, exceptionality, sexual orientation, or social economic status. Teacher candidate considers proactive measures to foster classroom community and respect for diversity.	Teacher candidate responds positively to student difficulties, concerns, and questions without bias towards gender, ethnicity, exceptionality, sexual orientation, or social economic status.	Teacher candidate responds with bias toward students who differ by gender, ethnicity, exceptionality, sexual orientation, or social economic status.	3a
28. Maintains a culture of learning in his or her classroom. (ADEPT APS 8.C, USCB CF N-2, R-4, F/I-2, NSTA Standard 5c)	Teacher candidate structures classroom activities to support positive social interactions, productive teamwork, and cooperative learning. Teacher candidate purposefully structures group composition, assigns specific roles, and promotes group autonomy.	Teacher candidate structures classroom activities (e.g., partner and group work, procedures, project-based learning, etc.) to support positive social interactions, productive teamwork, and cooperative learning.	Teacher candidate solely focuses on learners working independently of one another. Attempts to use cooperative learning are ineffective and lack structure.	5c
29. Manages student behavior appropriately. (ADEPT APS 9.A, USCB CF N-1, F/I-4, NSTA Standard 3a)	In addition to meeting acceptable expectations, the teacher candidate is able to adjust classroom management strategies during instruction and/or address the needs of individual learners.	Teacher candidate develops and implements strategies for setting behavioral, social, and academic expectations for active engagement, positively reinforcing learners who meet those expectations and	Teacher candidate implements ineffective, reactive classroom management strategies resulting in persistent problem behavior.	3a

		positively redirecting learner behavior as needed.		
30. Makes maximal use of instructional time. (ADEPT standard 9.B, USCB CF N-3, F/I-4, NSTA Standard 3a)	Teacher candidate develops and implements procedures to manage instructional routines that effectively maximize learner engagement.	Teacher candidate follows and adjusts the cooperating teacher's procedures to manage instructional routines that effectively maximize learner engagement.	Teacher candidate implements ineffective, reactive procedures to manage instructional routines resulting in reduced engagement in instructional activities and increased problem behavior.	3a
31. Manages essential non-instructional routines in an efficient manner. (ADEPT standard 9.C, USCB CF N-3, F/I-4, NSTA Standard 3a)	Teacher candidate follows and makes appropriate adjustments to the cooperating teacher's procedures for managing non-instructional routines (e.g., bathroom breaks, sharpening pencils, turning in work), and transitions.	Teacher candidate follows the cooperating teacher's procedures for managing non-instructional routines (e.g., bathroom breaks, sharpening pencils, turning in work), and transitions.	Teacher candidate implements ineffective procedures for managing non-instructional routines and transitions resulting increased problem behavior.	3a

<b>PROFESSIONAL - Domain 5</b>	<b>Exceeds Expectations</b>	<b>Meets Expectations</b>	<b>Does Not Meet Expectations</b>	<b>NSTA Standard</b>
32. Effectively co-teaches with the cooperating teacher. (ADEPT APS 10.A, USCB CF F/I-2, R-3)	Teacher candidate plans with the cooperating teacher and implements co-taught lessons.	Teacher candidate follows the guidance of the cooperating teacher to plan and implement co-taught lessons.	Teacher candidate does not co-teach with the cooperating teacher.	3a
33. Collaborates with other professionals to enhance student learning. (ADEPT APS 10.A, USCB CF C-1)	Teacher candidate collaborates with professionals within and outside of the school community to enhance student learning.	Teacher candidate collaborates with other school professionals (i.e. colleagues, administrators, & other student-oriented professionals) to enhance student learning.	Teacher candidate does not collaborate with other professionals (i.e. colleagues, administrators, & other student-oriented professionals) to enhance student learning.	6b
34. Establishes appropriate professional relationships with school personnel and students. (NAEYC Standard 6c: Becoming a Professional, ADEPT APS 10.A, USCB CF C-1)	Teacher candidate not only maintains a professional demeanor, but takes initiative to establish positive relationships with school personnel (e.g. colleagues, administrators, cooperating teachers, other school staff members, and university supervisor) and students.	Teacher candidate maintains a professional demeanor when interacting with school personnel (e.g. colleagues, administrators, cooperating teachers, other school staff members, and university supervisor) and students.	Teacher candidate exhibits unprofessional behaviors that damage relationships with school personnel (e.g. colleagues, administrators, cooperating teachers, other school staff members, and university supervisor) or students.	6b
35. Is an active participant in school initiatives and supports school-related organizations and activities. (ADEPT APS 10.B, USCB CF N-1, N-2, NSTA Standard 6a)	Teacher candidate actively contributes to departmental meetings, faculty meetings, strategic planning sessions, team meetings, and the like. Teacher candidate actively supports school-related organizations (e.g., PTA and school improvement council) and extracurricular activities (i.e. clubs, student council, athletics, and cultural/artistic events) that contribute to the overall learning and development of students.	Teacher candidate regularly attends and participates in departmental meetings, faculty meetings, strategic planning sessions, team meetings, and the like. Teacher candidate actively supports school-related organizations, such as PTA and school improvement council.	Teacher candidate does not regularly attend nor participate in departmental meetings, faculty meetings, strategic planning sessions, team meetings, and the like. Teacher candidate does not actively support school-related organizations, such as PTA and school improvement council.	6b
36. Demonstrates effective verbal communication that is appropriate for the intended audiences and uses standard English. (ADEPT	Teacher candidate's verbal communication integrates professional vocabulary which is appropriate for students and professionals and reflects standard English conventions.	Teacher candidate's verbal communication is appropriate for students and professionals and reflects standard English conventions.	Teacher candidate's verbal communication is not appropriate for students and/or professionals and/or does not reflect standard English conventions.	6a

<p>APS 10.C, USCB CF R-2, NSTA Standard 3a)</p>				
<p>37. Demonstrates effective external written communication that is appropriate for the intended audience and uses standard English. (ADEPT APS 10.C, USCB CF C-1, NSTA Standard 3a)</p>	<p>Teacher candidate's external written communication is clear, appropriate for varied audiences, and reflects standard English conventions (i.e., with no errors in writing mechanics and sentence structure).</p>	<p>Teacher candidate's external written communication is appropriate for students and professionals and reflects standard English conventions (i.e., very few errors in writing mechanics and sentence structure).</p>	<p>Teacher candidate's external written communication is not appropriate for students and/or professionals and/or does not reflect standard English conventions (i.e., frequent or substantive errors in writing mechanics and/or sentence structure).</p>	<p>6a</p>
<p>38. Adheres to the university and school/district rules, <i>Standards of Conduct for South Carolina Educators</i>, and FERPA requirements and acts appropriately when faced with legal issues with children. *** (ADEPT APS 10.D, , USCB CF R-4)</p>	<p>Teacher candidate meets all requirements at the acceptable level and acts as an advocate, when appropriate, when faced with legal issues with children the teacher candidate serves.</p>	<p>Teacher candidate conforms to school/district rules as well as the <i>Standards of Conduct for South Carolina Educators</i>. The teacher candidate observes confidentiality of student information (FERPA). The teacher candidate acts appropriately when faced with legal issues facing the children he/she serves.</p>	<p>Teacher candidate violates the school/district rules, <i>Standards of Conduct for South Carolina Educators</i>, or FERPA requirements, and/or the teacher candidate's lack of actions on legal issues involves harm to the children served.</p>	<p>6b</p>
<p>39. Is receptive to constructive criticism from cooperating teacher, university supervisor, and administrators and incorporates feedback. (ADEPT APS 10.E, USCB CF R-1)</p>	<p>Teacher candidate seeks feedback without prompting and receives constructive criticism in a mature manner. Changes in behavior demonstrate feedback has been incorporated.</p>	<p>Teacher candidate is receptive to constructive criticism and often incorporates appropriate feedback from others (e.g., planning, instruction, assessment, management, communication, and/or dispositions).</p>	<p>Teacher candidate is argumentative, oppositional, or defensive when receiving constructive feedback. Teacher candidate makes no attempt to incorporate appropriate feedback from others (e.g., planning, instruction, assessment, management, communication, and/or dispositions).</p>	<p>6b</p>
<p>40. Uses self-reflection to evaluate and improve professional practice. (ADEPT APS 10.E, USCB CF R-1)</p>	<p>Teacher candidate's reflections include specific statements supported by evidence (e.g., assessment data, observation, student behavior). Reflections include detailed explanation of strategies that will be used to improve instruction and student learning.</p>	<p>Teacher candidate's reflections include specific statements supported by evidence (e.g., assessment data, observation, student behavior) with suggestions to improve instruction and student learning.</p>	<p>Teacher candidate's reflections include general statements not supported by specific examples and plans for change are not included.</p>	<p>5a</p>

41. Is a member of a state or national professional educator organization. (ADEPT APS 10.E, USCB CF R-2, NSTA Standard 6b)	Teacher candidate is active in state or national professional organizations (e.g., along with membership, teacher candidate also presents at state or local conferences or assumes leadership role in a student chapter of the professional organization).	Teacher candidate is a member of a state or national professional educator organization.	Teacher candidate is not a member of a state or national professional educator organization.	6b
42. Demonstrates professional responsibility (e.g. preparedness, responsibility, initiative, time management). (ADEPT APS 10.D, USCB CF R-2, R-4, NSTA Standard 5a)	Teacher candidate is consistently prepared to teach each day and displays a high degree of planning, organization, creativity, and initiative. Plans are prepared in advance and discussed with cooperating teacher.	Teacher candidate comes to the classroom prepared for each day. Plans are prepared in advance and discussed with the cooperating teacher. Teacher candidate organizes materials and activities in advance.	Teacher candidate is not prepared to teach each day. Lesson plans may be missing or incomplete; materials may not be organized in advance; others (assistants or colleagues) may not be informed of their instructional roles for the lesson. Lack of preparedness and initiative negatively impacts student learning opportunities.	5a
<b>Domain 6: Science</b>	<b>Exceeds Expectations</b>	<b>Meets Expectations</b>	<b>Does Not Meet Expectations</b>	
43. TC plans and carries out a variety of inquiry approaches that demonstrate knowledge and understanding of how students learn science (NSTA Standard 2a)	TC uses varying developmentally appropriate inquiry methods in instruction (several times or more); at least once students are required by TC to develop concepts and relationships from their observations, data, and inferences (active inquiry).	At least once during instruction, TC utilizes inquiry methods, illustrating a basic understanding of utilizing inquiry in instruction.	Inquiry methods are not utilized during instruction by the TC. TC does not require students to make conclusions based on their results in any activities or if so, inquiry is not developmentally appropriate.	2a
44. TC demonstrates knowledge of safety for use of chemicals and all other materials used in lesson plans within his/her subject area (includes safe and proper techniques for preparation, storage, dispensing, supervision and disposal). (NSTA Standard 4a)	TC uses proper and safe techniques for preparation, storage, dispensing, supervision and disposal of chemicals and all other applicable materials consistently.	At least once during instruction, TC had the opportunity for instruction in safe procedures with science chemicals and/or other applicable materials occurred and it was properly implemented.	TC uses unsafe and improper techniques with chemicals and/or applicable materials consistently.	4a

<p>45. TC designs and demonstrates activities that implement use and maintenance of safety equipment and emergency procedures that comply with state and/or national guidelines. <i>(NSTA Standard 4b)</i></p>	<p>TC exhibits knowledge of and proper implementation of emergency procedures, safety equipment, and safety procedures for students. TC models safe behavior and attempts to ensure students do the same.</p>	<p>TC generally exhibits knowledge of and proper use of safety equipment and models safe behavior.</p>	<p>TC exhibits no knowledge of emergency procedures, safety equipment, or safety procedures for the students. TC does not model and supervise safe behaviors by students.</p>	<p>4b</p>
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46. TC designs and demonstrates activities that are safe for abilities of all students ( <i>NSTA Standard 4b</i> ).	TC takes into account the abilities of all students in the design and implementation of activities that require safety considerations; specific accommodations may exist.	For the most part, TC takes into account the abilities of students in the design and implementation of activities that require safety considerations.	TC does not take into account the abilities of students in the design and implementation of activities that require safety considerations.	4b
47. TC designs and demonstrates activities that demonstrate safe, humane, and ethical decision making with respect to all living organisms in and out of the classroom, complying with legal restrictions on the collection, keeping and use of living organisms. ( <i>NSTA Standard 4c</i> )	Living organisms are always treated properly in the classroom and/or in the field by the TC, and student safety is always a consideration by the TC.	Living organisms are generally treated properly in the classroom and/or in the field by the TC, and student safety is almost always a consideration by the TC.	Living organisms are not treated in a proper manner by the TC; the safety and welfare of the organisms and/or the students is not taken into consideration by the TC.	4c

- **\*Examples of appropriate application of technology include:** P-3 students using multimedia software to create presentations; P-3 students using spreadsheet/graphing software to analyze data; P-3 students using digital video to tell a story; P-3 students with special needs/ESOL using assistive technology to meet curricular objectives. Using a word processor to type lesson plans, showing a video or using the overhead projector, or intern e-mail communication are **not** considered adequate use of technology for this indicator.
- **\*\*\*"Diverse learners"** refers to "differences among groups of people and individuals based in ethnicity, race, socioeconomic status, gender, exceptionalities, language, religion, sexual orientation, and geographic area." (NCATE Professional Standards, 2002, p.53)
- **\*\*\* A Does Not Meet Expectations** rating on this item may result in failure for the internship.

## Assessment #5: Candidate's Effects on Student Learning--Teacher Work Sample

### 1. Description

The teaching intern is required to complete a Teacher Work Sample (TWS) during the internship which demonstrates proficiency in short and long range planning for instruction and analysis of student learning. The TWS is prepared under the guidance of the cooperating teacher, the university supervisor, and the EDSE B469 instructor. The university is responsible for grading the work sample using the Teacher Work Sample (TWS) Rubric. In addition, the TWS provides evidence of candidates' mastery of the Conceptual Framework Standards detailed in *The Constructivist Educator* and the NSTA Standards. The TWS is designed to document the specific activities interns engage in to help students learn.

### 2. NSTA Standards Addressed by Assessment

Topic Addressed by Assessment 5	NSTA Standard and Elements
1. Content Knowledge	1b, 1c
2. Content Pedagogy	2a, 2b, 2c
3. Learning Environments	3a, 3b, 3c, 3d
4. Safety	4a, 4b, 4c
5. Impact on Student Learning	5a, 5b, 5c

### 3. Description of Assignment

e. The TWS contains four sections (*Unit Context, Assessment Plan, Design for Instruction, Analysis of Student Learning Over Time*) identified by research and best practice as fundamental to improving student learning. Each section contains a task, a description of requirements, and a rubric that defines various levels of performance. These rubrics will be used to evaluate the TWS.

Candidates are required to teach a comprehensive unit. For the unit, candidates will describe contextual factors, identify learning goals based on the state content standards, create an assessment plan designed to measure student performance before (pre-assessment), during (formative assessment), and after (post-assessment) the unit, and plan for their instruction. After they teach the unit, they will analyze student assessment data and then reflect upon and evaluate their teaching as related to student learning.

f. *Description of Teacher Work Sample (TWS)*

The TWS details the development and implementation of the TWS. The *Teacher Work Sample Rubric* will be used to assess the TWS. These documents are below.

### Teacher Work Sample

#### University of South Carolina Beaufort Department of Natural Sciences

### Introduction

The Teacher Work Sample (TWS) provides you with a structured experience to document the impact of your teaching on learners in your classroom. Knowing how to effectively document your progress with students is critical for teacher accountability. The TWS is designed to document the specific activities interns engage in to help students learn. These activities provide evidence that you can apply in the classroom what you have learned in your course of study in the university and the Departments of Education and Natural Sciences.

Analysis of the strengths and weaknesses of the TWS will be used for instructional and programmatic improvements. Annually, data will provide the Department with important information that we use to improve our programs. For all instructional and programmatic improvements, your confidentiality will be maintained. Candidates' work will not be identified by name in any samples or publications.

Material for the TWS was adapted from The Renaissance Partnership for Improving Teacher Quality, a Title II federally funded project with offices at Western Kentucky University. The Teacher Work Sample was also modified from Winthrop University's *Teacher Work Sample* (2011).

### **Assignment**

There are five dimensions identified by research and best practice as fundamental to improving student learning that are contained in the TWS. Each dimension contains a task, a description of requirements, and a rubric that defines various levels of performance. These rubrics will be used to evaluate your TWS.

You are required to teach a comprehensive two-week unit. To provide a brief overview, you will describe contextual factors, identify unit goals based on South Carolina College- and Career-Ready Standards and NSTA Standards, create an assessment plan designed to measure student performance before (pre-assessment), during (formative assessment), after (post-assessment), and plan for your instruction.

**One lesson must also include integration of technology.** After you teach the unit, you will analyze student assessment data and reflect upon and evaluate your teaching as related to student learning.

### **Format**

- **Overview.** The TWS product should conform to the following outline:
  - D.1 Contextual Factors
  - D.2 Unit goals
  - D.3 Assessment Plan and Pre-assessment Results
  - D.4 Lesson Plans
  - D.5 Post-assessment Plan and Results
- **Tables and assessment instruments.** Tables and assessment instruments are required as part of the TWS document. Each table should be consecutively labeled with a number and a short description (e.g., Table 4: Assessment Plan Overview). Computational tables must be completed in Excel®.
- **Narratives.** A **suggested** page length for your narrative is provided at the beginning of each dimension. You have some flexibility for length across components, but the total length of your written narrative (**excluding lesson plans and assessments**) should not exceed **14 word-processed pages in Microsoft Word**, double-spaced in **12-point font**, with 1-inch margins, and a header with name and page number. Narratives within lesson plans may be single-spaced.
- **References and credits.** Make sure to cite any information or ideas you obtain from published material or the Internet using the American Psychological Association (APA) style. APA guidelines can be located at the following website: <http://www.apastyle.org/> and in the manual entitled *Publication Manual of the American Psychological Association Sixth Edition (2009) Washington, DC: American Psychological Association*.
- **Anonymity.** In order to ensure the anonymity of students in your class, **do not** include actual student names or identification (e.g., initials) or their work samples in any part of your TWS. Identify students by number (e.g., 1, 2, 3, etc.) only.
- **Mechanics.** Throughout the TWS, mastery of English language usage and writing skills and appropriate format are expected. Please note that mechanics are a part of the rubric score for each dimension.

- **Submission.**
  - You will submit the final copy of your TWS to LiveText. Include a title page, Table of Contents, and summary Reference page. All pages should be consecutively numbered from Dimension 1 through Dimension 5. ***Make sure that the LiveText submission is your final draft and includes all parts of the TWS clearly following the TWS Outline.***
  - Throughout the semester, individual dimensions of the TWS will be submitted in a variety of ways to your University Supervisor. As the dimension is assigned, you will be given submission directions.

**Instruction for and Grading of the TWS**

EDSE B490 University Supervisors and the EDSE B469 professor will provide instruction for Dimensions 1 - 5. In addition, cooperating teachers will provide guidance throughout the TWS. University Supervisors will grade the TWS with input from the EDSE B469 professor. A grading rubric for each dimension will be used to grade the TWS. There are a total of 5 dimensions and 5 rubrics. **To pass the TWS (and EDSE B469), you must score at least Acceptable on all 5 dimensions.** The final score on each dimension is the earned score based on the descriptors in the rubrics. University Supervisors will forward final TWS grades to the EDSE B469 professor.

**Note:** To pass EDSE B469 teacher candidates must score at least *Meets Expectations* on all ADEPT Domains included on the *Internship Midterm/Final Evaluation Report* and Acceptable on all 5 dimensions of the TWS.

**Rewriting:** **You are permitted no more than one rewrite of each dimension.** After you receive feedback on a dimension from your University Supervisor, you have the option of rewriting the dimension following the time frame established. If the first submitted product is deemed not gradable by your University Supervisor, he/she will score that dimension(s) as unacceptable. If any component is deemed unacceptable, regardless of your overall score, the unacceptable component must be rewritten. The next submitted version is considered the one rewrite. The final score on each dimension is the earned score based on the descriptors in the rubrics.

**Timeline for Teacher Work Sample by Dimension**

The TWS is a recurrent process that requires time before, during, and after instruction; **you cannot wait until you are finished teaching the unit to begin the TWS.** This timeline is designed to guide you through the dimensions related to the planning, implementation and reflection for your unit. Your University Supervisor and cooperating teacher will give guidance as needed.

Cooperating teachers should always play a part in helping you develop appropriate lesson plans with appropriate assessments. In addition, cooperating teachers are particularly valuable in giving you information on students in the classroom for input on the contextual factors dimension and helping you make sure that your TWS goal(s) fit into the overall instructional program of the classroom.

Suggested Timeframe Table

	<b>Dimension</b>	<b>Sequence</b>
<b>1</b>	Contextual factors	<b>Before</b> unit starts (your first task)
<b>2</b>	Unit goals	<b>Before</b> unit starts
<b>3.1</b>	Pre-assessment	<b>Before</b> unit starts and after unit goals developed: pre-assessment instrument designed, approved, and administered.
<b>3.2</b>	Assessment plan and pre-assessment results	<b>Before</b> unit starts, after pre-assessment administered: pre-assessment data and analysis used to inform instruction; unit assessment plan developed. <b>During</b> unit: adjustments made.
<b>4</b>	Detailed lesson plans	<b>Before</b> unit starts and <b>during</b> unit

5	Post-assessment plan and results	After unit: post-assessment data and final analysis
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## Dimension 1. Contextual Factors

**Suggested Page Length: 4-5 pages including Contextual Factors Table**

### Task

Discuss information about the learning-teaching context and how it will inform your instruction.

Through a variety of sources, such as conversations with school personnel, surveys of students and the cooperating teacher, build a contextual factors' background. After the information is gathered, complete a contextual factors table and write a narrative:

- Briefly describe relevant and most current characteristics of the **school** (e.g. AYP status and goals relating to student performance, parent involvement).
- Next, describe resources available in the schools and community relevant to your students and to your instruction (e.g. after school programs, sports programs, parks, libraries).
- Describe the physical **classroom** and the environmental demands (see glossary) that may affect student learning.
- Using a variety of documented sources, complete the Contextual Factors Table.
- Describe how specific relevant characteristics of **students** in your class and their functioning on critical assessments impact your decisions when designing your instruction and assessments.
- Use information from the Contextual Factors Table (see next page) and other sources to provide specific information on these categories. For example, if you have students who are identified as special education or gifted/talented in your class, note the number of students and type of exceptionalities and relevant Individual Education Plan (IEP) goals. If you have students who are native speakers of other languages, note the number of students and their approximate level of language proficiency [ex.: Limited English Proficiency (LEP) vs. English Language Learners (ELL), Gifted and Talented (G/T)] including all factors relevant to your classroom, and write a narrative. Keep in mind that this information is for the class for which you are teaching the unit.
- Describe general and specific implications for instruction and assessments throughout the work sample. Base these implications on information about the considerations (e.g. instructional, language, communication, social, behavior accommodations) needed for specific students. This is the bridge between the contextual factors and the work sample's content. Specify how the information you have gathered might affect your instruction and assessments.

Reference the sources you used to obtain this information. (Note that sources such as school documents are more reliable sources than your personal observations.) Along with in text citations, you should have a Reference page at the end of this section. However, as you add Dimensions to your TWS, the Reference page should move to the last page of the TWS document.



***Suggested Page Length: 2 pages including unit goals chart aligned with state and/or national standards and unit rationale***

**Task**

The unit goal(s) guide the planning, delivery, and assessment of your unit. The unit goal(s) should be significant in that goals (see glossary) reflect all of the big ideas or concepts of the unit. The Unit goal(s) should be measurable, challenging, varied, and appropriate. From your unit goal(s), you will later formulate lesson objectives, which are more narrow and specific, but aligned with the achievement of the unit goal(s).

- Identify the South Carolina Academic Standard(s) and/or NSTA standards that will direct your unit. Use the standard(s) to create your unit goal(s). Limit the number of unit goals to no more than 4. If you have more than one unit goal, number your unit goals so they may be easily referenced throughout the unit. South Carolina Academic Standards list indicators after each standard. In some cases, those indicators may be used as unit goals.
- Consult your University Supervisor and cooperating teacher to help you select appropriate standards. They will guide you in developing the unit goal(s).
- Create a table where the standard(s) is/are listed with the related unit goal(s).
- Construct a unit rationale. In a paragraph, explain why students should learn about the topic of the unit. Describe real-life application (see glossary) for the learning. Merely stating that the lesson is part of the standards is not sufficient. Why should students be required to learn this material—what, beyond the standards, warrants the inclusion of the material in the unit? Explain how this information will connect to your students' lives.

**Dimension 3. Assessment Plan and Pre-assessment Results**

*Suggested page length: 4-5 pages including table of pre-assessment results and table of assessment plan overview, plus a copy of pre-assessment.*

**Task**

Design a pre-assessment (see glossary) and analyze the resulting student data. Use this information to develop an assessment plan for monitoring student progress toward the unit goal(s). Design **multiple** assessments that are aligned with the unit goal(s) to assess student learning during and after instruction. These assessments should authentically (see glossary) measure student learning and may include performance-based tasks, paper-and-pencil tasks, observation checklists, and/or others.

**1. Designing a Pre-Assessment**

Design a diagnostic pre-unit assessment that you will administer to your class before teaching the new unit you are planning. This brief assessment is a systematic way to gather information on what your students already know about the unit and what skills they already have related to the unit.

- Prioritize the content from your unit goal(s).
- Design a **brief measure** of the highest priority content central to mastering the unit goal(s). Your measure(s) should address both demonstration of *understanding/knowledge* **and** the performance of key *skills* addressing a range of understanding and skills from easy to difficult associated with the unit. **Label** each item or element of the pre-assessment with the unit goal(s) it measures. The assessment should contain directions for students to follow as well as point values for each question type.
- The pre-assessment should be reviewed by your cooperating teacher prior to the submission to University Supervisor. The pre-assessment should be submitted to your University

Supervisor prior to the administration of the assessment and with ample time to make necessary corrections.

Design a simple, clear scoring method. For example, use 3, 4, or 5 items per task, so you can convert scores easily to percentage correct. Other hints: Be sure to include *difficult* knowledge and skills to avoid a ceiling effect (see glossary). Also steer clear of time-consuming tasks such as essay questions or lengthy multiple choice tests on material you do not expect students to know yet. This helps prevent wasting time and avoids pain or embarrassment for students. Clearly explain how you will evaluate or score the pre-assessment (**including mastery levels as defined on cooperating teacher’s grading scale**) to determine if the students’ performance meets the unit goal(s). **Include all scoring instruments such as rubrics, observation checklists, rating scales, item weights, and/or answer keys.**

**2. Pre-Assessment Results and Analysis**

Summarize the results of the pre-assessment and analyze the data to develop an assessment plan for monitoring student progress toward the unit goal(s).

- Create a table (example below) in Excel® showing the pre-assessment results **for the unit goal(s) or each unit goal**. (Complete only columns 1 & 2). Compute the averages and report classroom results for each unit goal. **You will need a separate table for each unit goal.**
- Analyze the data and link to contextual factors to find patterns of student performance. Describe the patterns you find and how this information will guide specific instructional decisions. **If necessary, revise the unit goal(s), pre-assessment and/or instructional decisions based on pre-assessment results.** Describe the reasoning behind the revision of the goal and instructional revisions. Using your pre-assessment data and the Contextual Factors Table, list individual students and ideas for differentiation (see glossary). Make sure to include any applicable IEP, ELL, reading, math, communication difficulties or extensions for highly motivated and/or advanced students in your accommodations.

**Table #\_\_\_: Results for Unit Goal #\_\_\_**

<b>Column 1</b> Student Number	<b>Column 2</b> Differentiation Needs (ELL, IEP, G/T)	<b>Column 3</b> Pre-unit measure (% of total)	<b>Column 4</b> Post-unit measure (% of total)	<b>Column 5</b> Change in Percentage Points	<b>Column 6</b> Was unit goal met? (Yes or No)
# of 1 <sup>st</sup> student					
(List each student # on a separate line; list ALL students)					
<b>From Col 1: Total number of students:</b>		<b>Column 2: Average pre-unit score (%):</b>	<b>Column 3: Average post- unit score (%):</b>	<b>Column 5: Total number of students making gains:</b>	<b>Column 6: Total number of students meeting this unit goal:</b>

- Provide an overview of your assessment plan in a table (refer to example below). List the assessments by unit goal used to judge student performance **before (pre-), during, and after (post-)** instruction. The purpose of this table is to illustrate the alignment between unit goals and

assessments. Your formative (see glossary) and post-assessments (see glossary) will depend on the size and scope of your unit and the results of your pre-instruction assessment.

**Table #\_\_ : Assessment Plan Overview**

Unit goal Addressed	Pre-Instruction Assessment Description(s)	During Instruction Assessment (Formative) Description(s)	Post-Instruction Assessment Description(s)
Unit goal 1			
Unit goal 2			
Unit goal 3			
Unit goal 4			

#### Dimension 4. Detailed Lesson Plans

***Suggested Page length: 3- 4 pages plus 5 representative lesson plans including lesson assessments***

##### Task

You must include at least 5 representative lesson plans for your unit. Each unit goal should be represented in at least one lesson plan. In addition, at least one lesson plan will demonstrate use of technology by teacher candidate and/or students \*.

Make a table (example below) that shows where, within the unit, these 5 lessons fall (**and bold each one of the five lesson plans only**). Include all lessons taught during the unit in the table highlighting those included in the TWS. Along with your table, in a brief paragraph, explain why you chose these 5 lessons as representative lessons.

**Table #\_\_ : Lesson Plan Overview**

Lesson #	Unit Goal Addressed	Brief Description

Your submitted lesson plans will follow the outline table. **Make sure that all assessments used are submitted with each lesson plan.**

Each lesson plan must follow the format for the Lesson Plan template and include *all components*:

- **Related state and/or national standards and specific objectives** of the lesson with **aligned assessment(s)**.
- **Relevance to the unit goal(s)**
- **Materials/Resources/Equipment/References** needed for the lesson (for teacher and students).
- **Introductions and Procedures/ steps of instruction including content** written in detail so anyone could teach your lesson.

1. **Differentiation of Instruction (accommodations/modifications/extensions) - Information on student needs and previous assessment results from Dimension 1 (Contextual Factors) will inform your differentiation and/or interventions (accommodations/modifications/extensions).** List these interventions by student number within each lesson plan. As much as possible, the interventions should be specific to each plan. Students with IEPs or who are ELL or GT should have specific accommodations/modifications/extensions. **It may be appropriate to consult with other school personnel (special education teacher, ELL teacher) in creating interventions for special populations.**
  - **All assessments**, formative or summative, formal or informal for each less are listed and attached.
  - **Analysis of Student Learning and Reflection (refer to questions posed on Lesson Plan Components for each)** on each lesson that includes:
    1. **Use of data to summarize student performance and analyze** whether students learned what was intended.
    2. Explanation of what you will do to **increase student learning in future instruction** through interventions (accommodations/modifications, extensions with accommodations/modifications, etc.)
  - ✓ Examples of instructional technology might include computer hardware and software, the Internet, “smart” board, digital cameras, digital camcorders, digital audio players, heart-rate monitors, midi keyboards, digital microscopes, handheld computers/calculators, and data collection probes.
  - ✓ Examples of technology integration might include students using multimedia software to create presentations; students using spreadsheet/graphing software analyze data; students using digital video to tell a story; students with special needs/ELL using assistive technology to meet curricular objectives.

Using a word processor to type lesson plans, showing a video or using the overhead projector, or candidate e-mail communication are **not** considered instructional technology for this assignment.

## Dimension 5. Post-Assessment Plan and Results

***Suggested Page length: 3- 5 pages including pre- and post-table(s) plus copy of post-assessment***

### Task

Analyze your assessment data, including pre-/post-assessments and formative assessments, to determine students’ progress toward meeting the unit goal(s). You will also describe instructional decision making related to unit activities, modification, and technology.

- Design and attach a post-assessment for your unit topic. Make sure that you **align** and **label** each item of the post-assessment with the unit goal(s) and state the point value. Include prompts and/or student directions. Clearly explain how you evaluated or scored the post- assessment. Review the **mastery level** established in Dimension 3 to determine if the students’ performance met the unit goal(s). Include all scoring instruments such as rubrics, observation checklists, rating scales, item weights, tests, and/or **answer key(s)**.
- Describe the post-assessment and how it is aligned with your unit goal(s). If the post-assessment is different than the pre-assessment, explain the differences and the rationale for modifying. If the post-assessment is the same, justify this decision.

- For each unit goal, copy and insert the table from Dimension 3. The completed table (example below) should include the following information for all students in the class: student number (Column 1), differentiation needs (Column 2), pre-unit measure (Column 3), post-unit measure (Column 4), gains (Column 5), and whether the Unit goal was met for each student (Column 6). Use percent of total correct for Columns 3 and 4. The purpose of this table is to provide an overview of the impact of your instruction on students' attainment of **each** unit goal.

**Table #\_\_ : Results for Unit Goal #\_\_ [Sample]**

Column 1 Student Number	Column 2 Differentiation Needs (IEP, ELL, G/T)	Column 3 Pre-unit measure (% of total)	Column 4 Post-unit measure (% of total)	Column 5 Change in percentage points	Column 6 Was Mastery of the Unit Goal met?
Student #1	IEP	25%	70%	45%pts	No
Student #2	GT	80%	100%	25% pts	yes
Student #3	IEP	50%	80%	30%pts	no
Student #4	GT	60%	65%	5%pts	no
Student #5	NONE	70%	85%	15%pts	yes
Student #6	NONE	77%	80%	3%pts	no
Student #7	ELL	45%	60%	15%pts	no
Student #8	ELL	70%	88%	18%pts	yes
Student #9	GT	100%	100%	0%pts	yes
Student #10	NONE	85%	88%	3%pts	yes
<b>Column 1 Total number of students:</b>		<b>Column 3 Average pre-unit score (%):</b>	<b>Column 4 Average post-unit score (%):</b>	<b>Column 5 Total number of students making gains:</b>	<b>Column 6 Total number of students meeting this unit goal:</b>

- Write a **summary of the class progress** to address the following prompts:
  - Use the overall pre- and post-assessment data to describe the impact on student learning of the entire unit. Make sure to reference the data to support your conclusions.
  - On which unit goal or lesson objective did students do well? Why do you think so?
  - On which unit goal or lesson objective did students do poorly? Why do you think so?
  - On the unit goal or lesson objective on which students did poorly, what would you change instructionally and why to ensure mastery by all students?
  - Using your Excel® data table, choose one learning goal and **sort the data by mastery or gains**. Include sorted table(s) and discuss individual students who met mastery (85%) or did not meet mastery or who made significant or minimal gains.

**Table #\_\_ : Results for Unit Goal #\_\_ Sorted by Mastery Sample**

Student Number	ELL, IEP, GT	Pre-unit assessment (% of total)	Post-unit assessment (% of total)	Changes in percentage points	Was Mastery of the Unit Goal Met?
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Student #6	None	77%	80%	03%pts	no
Student #4	GT	60%	65%	05%pts	no
Student #7	ELL	45%	60%	15%pts	no
Student #3	IEP	50%	80%	30%pts	no
Student #1	IEP	25%	70%	45%pts	no
Student #9	GT	100%	90%	-10%pts	yes
Student #10	None	85%	88%	03%pts	yes
Student #5	None	70%	85%	15%pts	yes
Student #8	ELL	70%	88%	18%pts	yes
Student #2	GT	80%	100%	20%pts	yes

6. Discuss interventions (accommodations/modifications/extensions) you used for students including those described in Dimension 1 and others. Explain which were most effective, which were least effective, and why you think so.
7. Instructional Technology:
  - a. Looking over your entire unit, list all of the ways you and/or your students used instructional technology, including any Assistive Technology.
  - b. Reflect on the benefits and drawbacks of the technology you chose to use.

**IMPORTANT:** Mastery of English language usage and writing skills and appropriate format are expected.

### Glossary

**Accommodations** – Support provided to diverse learners needed to successfully demonstrate learning. Accommodations should not change expectations or standards and/or assessment.

**Align** – Showing direct connection between two ideas.

**Asset perspective** - An asset approach does not start with what is lacking or problematic. It focuses on what capacities the individual has, that are assets. It is referred to as the glass “half-full” approach.

**Authentic** – Activities and assessments that resemble real world tasks.

**Ceiling effect** - Occurs when a student attains the maximum score or attains the maximum score or “ceiling” on an assessment and thus prevents the appraisal of the full extent of the student’s knowledge.

**Contextual Factors** – Description of pertinent community/school/classroom characteristics that may influence teaching and learning.

**Differentiate** – Recognizing students varying background knowledge, readiness, language, preferences in learning, interests, and reacting responsively in designing instruction. Differentiated instruction is a process to approach teaching and learning for students of differing abilities in the same class. The intent of differentiating instruction is to maximize each student's growth and individual success by meeting each student where he or she is, and assisting in the learning process  
 ([http://www.cast.org/publications/ncac/ncac\\_diffinstruc.html](http://www.cast.org/publications/ncac/ncac_diffinstruc.html)).

**Environmental Demands** - The environment demands that can or may interfere with learning. One such demand can be the climate of the classroom, including temperature, noise, uncomfortable seating arrangements, and/or students in groups that place their back to the teacher and/or board. In addition, students working in small groups can present an environmental demand that is difficult for some group members who may have difficulty concentrating on their group's discussion since they are distracted by conversations of other groups.

**Formative Assessment** – Measurement of student learning taken during unit instruction in order to make necessary changes to teaching to ensure mastery of unit goals. Feedback from formative assessment should also be provided to students with opportunity for improvement.

**Interventions** – Accommodations or modifications made to instruction and assessment to meet the needs of diverse learners.

**Unit goals** – Big ideas or concepts of the unit; driven by state or national academic standards.

**Lesson Objective** – A measurable statement of student achievement that is within a specific lesson that leads to achieving unit goal. Includes a behavior, condition, and criterion for mastery.

**Modifications** – Changes made to standards and/or assessment in order to meet the needs of diverse learners that alter typical expectations or standards for the class. Modifications are made when expectations go beyond ability level of student.

**National Standards** – Often used in K-12 content areas because of the complexity in teaching multiple grade levels.

**Pre-Assessment** – Administered prior to teaching in order to measure students’ prior knowledge of content. Data should be used to plan instruction and measure individual needs.

**Post-Assessment** – Often referred to as “summative assessment.” Provides information regarding students’ understanding of unit goals after unit is taught.

**Rationale** – Reason behind decisions made; should be convincing and related to contextual factors, application to real life, and/or educational research.

**Real-life Application** – How content can be related to everyday life for students.

**State Content Standards** – Although based upon national standards, state standards are specific to each state. These are used in the core academic areas of English Language Arts, Mathematics, Science, and Social Studies in grades kindergarten through 12.

**4. Scoring rubric for assignment**

**Teacher Work Sample Rubric**

**D1 Rubric:**

**Teacher Candidate’s Name:** \_\_\_\_\_

**Instructor:** \_\_\_\_\_

Dimensions	Exemplary	Acceptable	Unacceptable	NSTA Standard
	<b>2 points per element</b>	<b>1 point per element</b>	<b>0 points per element</b>	
	Comprehensive description of the relevant and current	General comprehensive description of the	Minimal description of the relevant and current	3a

<b>1. Contextual Factors</b>  <b>Grades are calculated using the following point scale:</b>  <b>E= 12- 14 pts</b>  <b>A= 7- 11 pts</b>  <b>U= 0- 6 pts</b>  <b>Aligned with:</b>  APS 1.A APS 2.A	<b>characteristics of the school</b>	<b>relevant and current characteristics of the school.</b>	<b>characteristics of the school</b>	
	Comprehensive description of resources available in the school and community relevant to students in instruction	General comprehensive description of resources available in the school and community relevant to students in instruction	Minimal or no description of resources available in the school and community relevant to students in instruction	3a
	Contextual Factors Table with all required elements.	Contextual Factors Table with most required elements.	Incomplete or no Contextual Factors Table	
	Comprehensive description of environmental and physical demands of the <b>classroom</b> that may affect learning	General description of environmental and physical demands of the <b>classroom</b> that may affect learning.	Minimal description of environmental and/or physical demands of the <b>classroom</b> that may affect learning	3a
	Comprehensive description of specific relevant <b>student</b> characteristics based on contextual factors' data.	General description of specific relevant <b>student</b> characteristics based on contextual factors' data	Minimal or no description of specific and relevant <b>student</b> characteristics is provided.	3a
	Comprehensive description of general strategies for unit instruction and assessment based on contextual factors.	General description of general strategies for unit instruction and assessment based on contextual factors	Minimal description of general and strategies for instruction and assessment based on contextual factors.	2a
	Demonstrates mastery of English language usage and writing skills with no mechanical errors. All sources cited in the narrative are referenced. References are correctly cited using APA.	Demonstrates mastery of English language usage and writing skills with few mechanical errors. Most sources cited in the narrative are referenced. References are correctly cited using APA.	Errors in English language usage and writing skills interfere with readability. Few or no sources cited in the narrative are referenced. References are not cited using APA.	2b

**D2 Rubric:**

**Teacher Candidate's Name:** \_\_\_\_\_

**Instructor:** \_\_\_\_\_

Dimension	Exemplary	Acceptable	Unacceptable	NSTA Standard
<b>2. Unit goals</b>  <b>Grades are figured using the following point scale:</b>  <b>E= 7- 8 pts</b>  <b>A= 4- 6 pts</b>  <b>U= 0- 3 pts</b>  <b>Aligned with:</b>  APS 2.A	<b>2 points per element</b>  Unit goal(s) is/are aligned with state and/or national standards and reflect all of the big ideas of the unit.	<b>1 point per element</b>  Unit goal(s) is/are aligned with state and/or national standards and reflects some of the big ideas of the unit.	<b>0 points per element</b>  Unit goal(s) is/are unclear and is/are not properly aligned with appropriate state and/or national standards.	1c
	Unit goal(s) is/are measurable, challenging, and appropriate.	Unit goal(s) is/are measurable. Unit goal(s) is/are somewhat challenging and appropriate.	Unit goal(s) is/are not measurable, challenging and/or appropriate.	5a
	Compelling rationale for unit content beyond inclusion in standards.	Adequate rationale for unit content beyond inclusion in standards.	Vague rationale for unit content.	5c
	Demonstrates mastery of English language usage and writing skills with no mechanical errors.	Demonstrates mastery of English language usage and writing skills with few mechanical errors.	Errors in English language usage and writing skills interfere with readability.	2b

**D3 Rubric:**

**Teacher Candidate's Name:** \_\_\_\_\_

**Instructor:** \_\_\_\_\_

Dimension	Exemplary	Acceptable	Unacceptable	NSTA Standard
<b>3. Assessment plan and results</b>  <b>Grades are figured using the following point scale:</b>  <b>E= 13-16 pts</b>  <b>A= 8- 12 pts</b>	<b>2 points per element</b>  Content of pre-assessment targets highest priority elements of the unit goal(s). If appropriate, alternative pre-assessment and/or administration is addressed. Each item/element is labeled by unit goal and point value.	<b>1 point per element</b>  Minor changes to the pre-assessment needed to address high priority content. If appropriate, alternative pre-assessment and/or administration is addressed. Most items/elements are labeled by unit goal and point value.	<b>0 points per element</b>  Significant changes to the pre-assessment needed to address content. If appropriate, alternative pre-assessment and/or administration is needed, but not addressed. Items/elements are not labeled by unit goal and/or point value.	3c

<b>U= 0- 7 pts</b>  <b>Aligned with:</b>  APS 2.C  APS 3.A  APS 3.B	Items (or elements) for unit goal(s) in pre-assessment are brief; they address excellent range of knowledge and skills from basic to challenging.	Items (or elements) for unit goal(s) in pre-assessment need minor modifications; <b>or</b> range of knowledge and skills needs expanding.	Items (or elements) for unit goal(s) in pre-assessment need significant modifications <b>and</b> range of knowledge and skills need significant expansion.	3c
	Scoring method for pre-assessment is quick, easy, and yields organized, meaningful information. Mastery level specified. Directions included. Scoring instrument(s) is/are included.	Scoring method for pre-assessment is too time-consuming <b>or</b> yields confusing information. Mastery level vague. Directions included. Scoring instrument(s) is/are included.	Scoring method for pre-assessment is too time-consuming <b>and</b> yields confusing information. No mastery level included. No directions included. Scoring instrument(s) is/are not included.	3a
	Appropriately labeled table includes all required elements for this dimension. Correct computation of averages.	Appropriately labeled table includes all required elements for this dimension. Minor problems with computation of averages.	Inappropriately labeled table with some required elements missing. Incorrect computation of averages (NCTM 3c).	2c
	Significant patterns accurately analyzed and described based upon both pre-assessment data and contextual factors.	Patterns generally analyzed and described based upon pre-assessment data or contextual factors.	Patterns vaguely described but are not based upon pre-assessment data or contextual factors.	3c
	Specific instructional decisions linked to analysis.	Instructional decisions linked to analysis, but lack specificity.	Instructional decisions are generic.	5a
	Overview of assessment plan contains unit goal(s) that is/are assessed before, during, and after instruction with multiple types of assessment.	Overview of assessment plan contains unit goal(s) that is/are assessed before, during, and after instruction.	Overview of assessment plan does not assess unit goal(s) before, during, and after instruction.	5a
	Demonstrates mastery of English language usage and writing skills with no mechanical errors.	Demonstrates mastery of English language usage and writing skills with few mechanical errors.	Errors in English language usage and writing skills interfere with readability.	2b

**D4 Rubric:**

**Teacher Candidate's Name:** \_\_\_\_\_

**Instructor:** \_\_\_\_\_

<b>Dimensions</b>	<b>Exemplary</b>	<b>Acceptable</b>	<b>Unacceptable</b>	<b>NSTA Standard</b>
<b>4. Detailed lesson plans and reflections</b>  <b>Grades are figured using the following point scale:</b>  <b>E= 15- 18 pts</b> <b>A= 9- 14 pts</b> <b>U=0- 8 pts</b>  <b>Aligned with:</b>  <i>APS 2.B</i>  <i>APS 5.A</i> <i>APS 5.B</i> <i>APS 7.A</i>  <i>APS 7.B</i>	<b>2 points per element</b>	<b>1 point per element</b>	<b>0 points per element</b>	
	Well-developed table of lessons, with all components, and compelling rationale for selecting the lessons (if applicable).	Table of lessons, with all components, and rationale for selecting the lessons (if applicable).	Missing components in the table of lessons and/or missing rationale for selecting the lessons (if applicable).	2a
	All state standards and/or specific learning objectives aligned with assessments. All assessments listed and attached.	State standards and/or specific learning objectives generally aligned with assessments. All assessments listed and are attached.	State standards and/or specific learning objectives are not aligned with assessments. Assessments not listed and/or not attached.	1c
	Lessons show excellent rationale/relevance to the unit goal(s).	Lessons show general rationale/relevance to the unit goal(s).	Lessons show little or no rationale/relevance to the unit goal(s).	5c
	All needed materials listed. Procedures logical, in detail, and clearly written.	Most needed materials are listed. Most procedures logical, in some detail, and adequately written.	Few or no needed materials are listed. Procedures are illogical, lack detail, and/or vaguely written.	3a
	Interventions related closely to individual student needs as outlined in Contextual Factors and specific to the individual lesson plans.	Most interventions related to individual student needs as outlined in Contextual Factors and most are specific to the individual lesson plans.	Little or no interventions related to individual student needs as outlined in Contextual Factors and few or none are specific to the individual lesson plans.	2c
	Complete description of the use of technology in at least one lesson.	General description of the use of technology in at least one lesson.	Vague or missing description of the use of technology in at least one lesson.	3b
	Reflections accurately use student assessment data to summarize and analyze student performance.	Most reflections accurately use student data to summarize and analyze student performance.	Reflections vaguely and/or inaccurately and/or do not use student data to summarize and	5a

			analyze student performance.	
	Reflections suggest specific changes to increase student learning through accommodations/modifications/extensions.	Reflections suggest general changes to increase student learning through accommodations/modifications/extensions.	Reflections vaguely suggest or do not address changes to increase learning through accommodations/modifications/extensions.	5a
	Demonstrates mastery of English language usage and writing skills with no mechanical errors.	Demonstrates mastery of English language usage and writing skills with few mechanical errors.	Errors in English language usage and writing skills interfere with readability.	2b

**D5 Rubric:**

**Teacher Candidate's Name:** \_\_\_\_\_

**Instructor:** \_\_\_\_\_

Dimension	Exemplary	Acceptable	Unacceptable	NSTA Standard
	<b>2 points per element</b>	<b>1 point per element</b>	<b>0 points per element</b>	
<b>5. Post-assessment plans and results</b>	Post- assessment is attached and all items aligned with unit goal (s).	Post-assessment is attached and most items aligned with unit goal(s).	Post-assessment not attached or some post-assessment items lack alignment.	5a
<b>Grades are figured using the following point scale:</b>	Scoring and criteria for mastery clearly explained. All scoring instruments included.	Scoring and criteria for mastery lack specificity. All scoring instruments included.	Scoring and explanation of criteria for mastery are not identified or are inappropriate. Some scoring instruments included.	3c
<b>E= 19-24 pts</b>	Logical and complete rationale for relationship to pre-assessment.	Vague but plausible rationale for relationship to pre-assessment.	Rationale for relationship to pre-assessment is missing.	5a
<b>A= 12- 18 pts</b>				
<b>U= 0- 11 pts</b>	Appropriately labeled table includes all required elements for this dimension. Correct computation of data.	Table includes most required elements for this dimension. Computation of data with minor errors.	Inappropriately labeled tables with some required elements missing. Incorrect computation of data.	5a

<b>Aligned with:</b>  <b>APS 3.C</b>	<b>Prompt 1:</b> Specific analysis of overall student learning of the entire unit which thoroughly references data to support conclusions.	<b>Prompt 1:</b> General analysis of student learning of the entire unit which references some data to support conclusions.	<b>Prompt 1:</b> Superficial analysis of overall student learning of the entire unit which thoroughly references data to support conclusions.	5a
	<b>Prompt 2:</b> Detailed description of unit goal/lesson objective on which students did well. Thoughtful analysis of why these results occurred.	<b>Prompt 2:</b> General description of unit goal/lesson objective on which students did well. Some analysis of why these results occurred.	<b>Prompt 2:</b> Superficial description of unit goal/lesson objective on which students did well. Little or no analysis of why these results occurred.	5a
	<b>Prompt 3:</b> Detailed description of unit goal/lesson objective on which students did poorly. Thoughtful analysis of why these results occurred.	<b>Prompt 3:</b> General description of unit goal/lesson objective on which students did poorly. Some analysis of why these results occurred.	<b>Prompt 3:</b> Superficial description of unit goal/lesson objective on which students did poorly. Little or no analysis of why these results occurred.	5a
	<b>Prompt 4:</b> Detailed description of instructional changes needed to ensure mastery by all students on the most difficult goal/lesson objective.	<b>Prompt 4:</b> General description of instructional changes needed to ensure mastery by all students on the most difficult goal/lesson objective.	<b>Prompt 4:</b> Superficial description of instructional changes needed to ensure mastery by all students on the most difficult goal/lesson objective.	5a
	<b>Prompt 5:</b> Excel® data table sorted by either mastery or gains and displayed correctly. Detailed discussion of individual students who did not meet mastery or who made significant or minimal gains.	<b>Prompt 5:</b> Excel® data table sorted by either mastery or gains and displayed correctly. Some discussion of individual students who did not meet mastery or who made significant or minimal gains.	<b>Prompt 5:</b> Excel® data table not sorted by either mastery and/or gains or displayed incorrectly. Little or no discussion of individual students who did not meet mastery or who made significant or minimal gains.	5a
	<b>Prompt 6:</b> Detailed description of interventions (accommodations/modifications/extensions) including those described in D.1. Specific explanations of which were most effective and least effective on individual student learning.	<b>Prompt 6:</b> General description of interventions (accommodations/modifications/extensions) including those described in D.1. Some explanation of which were most effective and least effective on individual student learning.	<b>Prompt 6:</b> Superficial description of interventions (accommodations/modifications/extensions) including those described in D.1. Little or no explanation of which were most effective and least effective on individual student learning.	5a

	<b>Prompt 7</b> Complete lists of use of multiple types of instructional technology by both teacher and students. Thoughtful reflection on benefits and/or drawbacks of technology chosen.	<b>Prompt 7:</b> General lists of use of instructional technology by teacher and/or students. Some reflection on benefits and/or drawbacks of technology chosen.	<b>Prompt 7:</b> Incomplete lists or limited use of instructional technology by teacher and/or students. Little or no reflection noted on benefits and/or drawbacks of technology chosen.	5a
	Demonstrates mastery of English language usage and writing skills with no mechanical errors.	Demonstrates mastery of English language usage and writing skills with few mechanical errors.	Errors in English language usage and writing skills interfere with readability.	2b

**Assessment #6: Professional Development Knowledge of Research and Investigations in Science—Research and Reports** (modified from Governors State University, Illinois, Spring 2009).

**1. Description**

Knowledge of research and investigation in science is assessed using a prescribed rubric for 1) MSCI B210 (Oceans and Man) Research Project, 2) BIOL B290 (Seminar), and 3) attendance at a regional or national scientific or educational conference with professional papers. In the marine science course pre-service candidates will conceptually develop a research project around an hypothesis, conduct a literature review, design and carry out an experiment, collect and organize data, analyze and interpret the data, develop the conclusion and present their report to the class. In the seminar, BIOL B290, students will submit summary reports on four presentations by invited scientists. Summary reports from the seminar and the conference will be presented in EDSE B430 (Teaching Science in the Secondary School) and included in the Senior Portfolio

**2. Standards Addressed**

Knowledge of research and investigation is used to assess NSTA Standard 6 in which *Effective teachers of science strive continuously to improve their knowledge and understanding of the ever changing knowledge base of both content and science pedagogy, including approaches for addressing inequities and inclusion for all students in science. They identify with and conduct themselves as part of the science education community.* More specifically, this assessment provides opportunity to assure that preservice teachers will *Engage in professional development opportunities in their content field such as talks, symposiums, research opportunities, or projects within their community.* (6a) and to *Engage in professional development opportunities such as conferences, research opportunities, or projects within their community.* (6b).

<b>NSTA STANDARD COMPETENCY</b>	<b>DESCRIPTION</b>	<b>ASSESSMENT</b>	<b>When the Assessment Is administered</b>
<b>6a.</b> Engage in professional development opportunities in their content field such as talks, symposiums, research opportunities, or projects within their community.	Seminar (BIOL B290) of invited scientific speakers describing their research; student teachers will prepare four summaries	Summary reports will be evaluated using described rubric; minimum acceptable score is 1 on each item for the four reports.	Spring of Sophomore Year in BIOL B290
	Attendance at a regional or national scientific or educational conference with professional papers; summaries of talks will be prepared	Summary reports will be evaluated using described rubric; minimum acceptable score is 1 on each item for four reports.	Spring of Senior year in EDSE B476

6b. Engage in professional development opportunities such as conferences, research opportunities, or projects within their community.	Oceans and Man (MSCI B210) research project will investigate an area of marine research and present a research paper	Research report items must score at least 3 or be redone.	Spring of Junior Year in MSCI B210
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### 3. Description of Assessments

The same rubric (Summaries' Rubric) will be used for evaluating four summaries in both BIOL B290 and for the research or professional talks. A separate rubric will be used for evaluating the research project (Research Rubric). Additionally, a scoring sheet will be used to record comments for each of the sections of the rubrics.

#### A. Summaries' Rubric

<b>Rubric for Assessing Summaries of Presentations</b>				<b>NSTA Standard</b>
The minimum acceptable score is 1 for each section and 6 for each of four reports.				
<b>Section</b>	<b>Exemplary (3)</b>	<b>Acceptable (2-1)</b>	<b>Unacceptable (0)</b>	
<b>Heading*</b>	Presenter's name and title, date, and title of talk included.	Presenter and title of talk included, date or title of presenter missing.	Two or more items of presenter, date, and title of talk missing.	
<b>I. Overview of Topic</b>	Clearly stated description of previous research bearing on development of this research as well as purpose of research.	Description of previous research bearing on development of this research as well as purpose of research, but missing some elements.	Inadequate description of previous research bearing on development of this research or on purpose of research.	6a
<b>II. Description of Methodology</b>	Clearly stated results from research, including limited amount of data.	Presentation of results from research, but without specifics.	Limited results from research, without any data.	6a
<b>III. Summary of Results and Significant Findings</b>	Clear statement of presenter's conclusion.	Statement of presenter's conclusion but missing important point.	Unclear statement of presenter's conclusion.	6a
<b>IV. Application(s), importance</b>	Description of application(s) of this research as presented.	Missing some applications.	Unclear or inadequate description of possible applications.	5a

\* Heading is ungraded

#### B. Research Rubric

<b>Rubric for Assessing Reports of Scientific Investigation</b>				<b>NSTA Standard</b>
The minimum acceptable score is 1 for each section and 12 for the report				
<b>Investigation Section</b>	<b>Exemplary (3)</b>	<b>Acceptable (2-1)</b>	<b>Unacceptable (0)</b>	

<b>A. Research problem</b>	Clear statement of intent of research with problem narrowed to manageable scope.	Stated problem is clear, key variables identified.	Stated problem is unclear or too broad	6b
<b>B. Literature review</b>	Thorough literature review that identifies need for and method of conducting research	Literature review adequate for the specific investigation (including primary peer-reviewed articles).	Missing or inadequate review of literature.	6b
<b>C. Experimental design</b>	Experimental design is clear and supports the research questions and includes clear description of procedures with both controlled and extraneous variables.	Experimental design is generally clear and supports the research question; variables are controlled.	Experimental design is incomplete or unclear.	6b
<b>D. Data collection and organization</b>	Data are organized to allow for analysis and interpretation; graphs and charts are utilized.	Data are organized and appropriately displayed using graphs, charts or tables.	Data are absent, poorly organized and/or inappropriately displayed.	6b
<b>E. Analysis and interpretation of data</b>	Thorough analysis and interpretation of data using appropriate mathematics for processing and interpreting data; interpretation of data is presented in relationship to findings from previous studies.	Appropriate techniques, mathematical and otherwise are used in data analysis and interpretation.	Inappropriate techniques used in data analysis and interpretation; little of no evidence of use of appropriate mathematics.	6b
<b>F. Discussion</b>	Discussion of research project includes suggestions for improvements, refinements, and /or new approaches to experimental design and includes a discussion of future research questions.	Discussion of research project includes suggestions for improvements or refinement to experimental design.	Discussion of the research project is absent or minimal and poorly thought out.	5b
<b>G. Conclusion(s)</b>	Conclusions are based on the analysis and are clearly related to problem and previous studies.	Conclusions are related to problem and supported by data.	Conclusions are absent or not clearly related to problem or supported by data.	6b
<b>H. Report quality</b>	Report of research is complete (literature review, procedures, data analysis, discussion and conclusions) and is grammatically correct.	Report of research is essentially complete; report is grammatically correct.	Research is not reported or incomplete and/or report is grammatically poor.	5a

**4. Scoring Sheets for Rubrics**

**A. Scoring Sheet for Summaries' Rubric**

<b>Scoring for Summaries of Presentations</b>		
<b>The minimum acceptable score is 1 on each part and 6 for the assignment.</b>		
<b>Section</b>	<b>Evaluation (Points)</b>	<b>Evidence Used and Comments</b>
<b>Heading*</b>		
<b>I. Overview of Topic</b>		
<b>II. Description of Methodology</b>		
<b>III. Summary of Results and Significant Findings</b>		
<b>IV. Application(s), importance</b>		
<b>TOTAL</b>		

\* Heading is ungraded  
 Sections scoring below 1 must be redone until acceptable

**B. Scoring Sheet for Research Rubric**

<b>Scoring for Research Rubric</b>		
<b>The minimum acceptable score is 1 on each part and 12 for the report</b>		
<b>Investigation Section</b>	<b>Evaluation (Points)</b>	<b>Evidence Used and Comments</b>

<b>A. Research problem</b>		
<b>B. Literature review</b>		
<b>C. Experimental design</b>		
<b>D. Data collection and organization</b>		
<b>E. Analysis and interpretation of data</b>		
<b>F. Discussion</b>		
<b>G. Conclusion(s)</b>		
<b>H. Report quality</b>		
<b>TOTAL</b>		

Sections scoring below 1 must be redone until acceptable

### 5. Candidate Data Derived from the Assessment

Data from the above rubrics will be collated to determine the success rate of the TC. A target of 90% with scores of Acceptable is desired for each evaluative rubric. The results will be tabulated by year:

<b>YEAR</b>	<b>Course Rubric</b>	<b>Target %</b>	<b>% Acceptable</b>	<b>% Unacceptable</b>
<b>2017-18</b>	BIOL B290-Seminar	90	?	?
	EDSE B430-Teaching Science	90		
	MSCI B210—Marine Science	90		
<b>2018-19</b>	BIOL B290-Seminar	90		
	EDSE B430-Teaching Science	90		
	MSCI B210—Marine Science	90		
<b>2019-20</b>				

**Assessment # 7: Knowledge and Skills Application--Safety, Legal and Ethical Issues (from NSTA Safety Module)**

The Safety Module has the following components. Student must meet the stated minimum requirements in each area to be eligible to pass the module and pass the course.

**1, Description:**

In EDSC B430, Teaching Science in the Secondary School, preservice teachers shall:

1) Pass the safety quiz with a score of at least 80% in each of the following subcomponents;

Section 1: Legal and ethical and laboratory procedures

Section 2: Care and use of living organisms

Section 3: Chemical use and storage

2) Perform a safety inspection in a laboratory and write a letter describing areas of weakness.

3) Take a safety practicum and pass with successful mastery in each area. This includes: put out a fire using a fire extinguisher, dispose of a chemical, demonstrate how to safely collect a soil sample, explain how to deal with a living creature that a child brings to class, demonstrate how to use an eyewash, show how to use a safety shower, demonstrate ability to acquire and use a Safety Data Sheet.

4) Develop an acceptable safety plan for the classroom that clearly demonstrates knowledge and plans of maintaining a safe classroom. This will include an age and subject appropriate safety contract for use in the classroom. The plan must include each of the areas of safety: legal and ethical, chemical use and storage; safety procedures; and animal care and use.

5) Plan a field trip and address all safety issues on the trip

6) Develop an *Animal Use Manual*

7) Include safety components in each lesson plan (see Unit Plan Rubric, Assessment 4)

8) Make a foldable display that summarizes the major topics in a safe science classroom.

**2. NSTA Standards Addressed**

This addresses Standards 3d and 4a-c, emphasizing student teacher's demonstrating professional competency in chemical safety, disposal of materials, emergency procedures, maintenance of safety equipment, understanding of state and national safety guidelines, and ethical and legal handling of all living organisms.

NSTA STANDARD COMPETENCY	DESCRIPTION	ASSESSMENT
<p>3d) Plan a learning environment and learning experiences for all students that demonstrate chemical safety, safety procedures, and the ethical treatment of living organisms within their licensure area.</p>	<p>A safety plan for the classroom will include areas of legal and ethical use of animals, chemical use and safety, storage and disposal of chemicals, safety procedures, and animal care, as described in Part 4.</p> <p>Student teachers will develop a class pet assignment that will emphasize safe, humane and ethical treatment of animals as well as comply with state and national laws: Part 6.</p> <p>Safety components will be included in each lesson plan: Part 7.</p> <p>A foldable will be developed that incorporates various safety procedures: Part 8</p>	<p>A minimum of 2, proficient, is required on all items with revisions allowed to attain this level</p> <p>Proficiency will be demonstrated by scoring at least 20 on the evaluation rubric, with all scores at least proficient</p> <p>See Assessment 4 for rubric</p> <p>All scores must be at least 2 and the total score to demonstrate proficiency is 35</p>
<p>4a) Design activities in a P-12 classroom that demonstrate the safe and proper techniques for the preparation, storage, dispensing, supervision, and disposal of all materials used within their subject area science instruction.</p>	<p>A safety quiz will be administered on the use and storage of chemicals, as described in Part 1 Section 3</p> <p>Safety practicum demonstrating mastery of chemical disposal: Part 3</p> <p>Safety plan will be developed to encourage safe storage and use of chemicals: Part 4</p> <p>Safety components will be included in each lesson plan: Part 7.</p> <p>A foldable will be developed that incorporates various safety procedures: Part 8</p>	<p>A passing score of 80% will be required</p> <p>A score of 80% is required</p> <p>A minimum of 2, proficient, is required on all items with revisions allowed to attain this level</p> <p>See Assessment 4 for rubric</p> <p>All scores must be at least 2 and the total score to demonstrate proficiency is 35</p>
<p>4b) Design and demonstrate activities in a P-12 classroom that demonstrate an ability to implement emergency procedures and the maintenance of safety equipment, policies and procedures that comply with established state and/or national guidelines. Candidates ensure safe science activities appropriate for the abilities of all students.</p>	<p>Student teachers will perform a laboratory safety inspection that includes evaluating 57 different items along with a summary letter to the principal: Part 2.</p> <p>Safety practicum demonstrating mastery of use of safety equipment: Part 3</p> <p>Safety plan will be developed to provide safe activities for students: Part 4</p> <p>Planning a safe field trip: Part 5.</p>	<p>Adequacy is successful completion of the assignment</p> <p>A score of 80% is required</p> <p>A minimum of 2, proficient, is required on all items with revisions allowed to attain this level</p> <p>A minimum of 2, proficient, is required on all items with revisions allowed to attain this level</p>
<p>4c) Design and demonstrate activities in a P-12 classroom that demonstrate ethical decision-making with respect to the treatment of all living organisms in</p>	<p>A safety quiz will ensure student teachers are familiar with ethical and humane decision-making with respect to treatment of living organisms: Part 1, Section 2</p>	<p>A passing score of 80% will be required</p>

<p>and out of the classroom. They emphasize safe, humane, and ethical treatment of animals and comply with the legal restrictions on the collection, keeping, and use of living organisms.</p>	<p>Student teachers will develop a class pet assignment that will emphasize safe, humane and ethical treatment of animals as well as comply with state and national laws: Part 6.</p>	<p>Proficiency will be demonstrated by scoring at least 20 on the evaluation rubric, with all scores at least proficient</p>
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**3. Description of Assignment**

This assessment consists of seven parts. Each of these is designed to assess specific components of the Standards.

**Part 1: Safety Quiz; NSTA Standards 4a and 4c**

Three versions of the quiz will be available to allow for retakes and cycling over the years. Each quiz will address three areas and will be necessarily course dependent. The quiz will contain at least thirty questions with coverage that will include 1) legal, ethical and laboratory procedures (Standard 4c), 2) care and use of living organisms (Standard 4c), and 3) chemical use and storage (Standard 4a). A passing score of at least 80% will required or students will retake a different version of the quiz until a passing score is reached.

**Part 2: Laboratory Safety Inspection Checklist; NSTA Standard 4a**

The following checklist will be provided to student teachers for a laboratory inspection. Each item will be evaluated using the check lines adjacent to the item numbers. Students will provide results of this inspection in a letter written to the principal, including number of insufficiencies. This assignment will be graded on a completion basis. All areas must be included in the inspection and should be accurate. The letter should accurately reflect the inspection.

- \_\_\_1) Science laboratories shall have an inventory of chemicals on hand with MSDS sheets for each chemical.
- \_\_\_2) Science laboratories shall have a written Chemical Hygiene Plan.
- \_\_\_3) Eyewash stations shall be located within 50 feet; or ten seconds walking distance from all lab science work stations.
- \_\_\_4) Safety showers shall be located within 50 feet or ten seconds of all laboratory work stations. A deluge shower is required in chemical areas.
- \_\_\_5) Eyewash stations and emergency showers shall be handicap accessible and operable "hands-free" so that the user can hold both eyes open. Hand-held showers and eyewash equipment do not meet current OSHA rules (except as auxiliary or extra protection)
- \_\_\_6) Eye wash stations shall provide 2.5gpm for at least 15 minutes at 25 PSI or less. In some areas with high water pressure, flow regulators may be required on the eye wash stations.
- \_\_\_7) Emergency showers and eye wash units shall be tested for proper operation quarterly. Written documentation of tests shall be maintained on site.
- \_\_\_8) Normal room ventilation does not provide an adequate number of air changes for chemical laboratories, chemical storage rooms, and photography darkrooms. Adequate ventilation must be provided. In new construction, UBC and WISHA require 8-12 air changes per hour.
- \_\_\_9) There shall be an on-demand, mechanical ventilation system providing additional air exchange as required by OSHA for chemical areas such as photo darkrooms, storerooms and chemistry labs (this is in addition to the building HVAC system),
- \_\_\_10) Make-up air must be provided to laboratories in amounts equal to exhaust air when the ventilation rate is increased.
- \_\_\_11) All lab and chemical storeroom air exhausts shall be on a separate system from other areas of the school and vent directly to the outside in a manner which prevents exhaust from re-entering the building (away from occupied areas and air intakes)

- \_\_\_12) No unapproved heating devices are allowed in laboratories or storerooms. Portable electric stoves are not approved heating devices for laboratories and storerooms.
- \_\_\_13) Electrical receptacles shall be properly grounded. Ground fault interrupter (GFI) devices shall be provided on all electrical receptacles within six (6) feet of sinks, gas pipes, and other grounding sources. There must be sufficient number of outlets to minimize the use of extension cords.
- \_\_\_14) All electrical equipment shall be properly grounded. Portable electrical equipment shall be double insulated or provided with a UL-approved ground prong.
- \_\_\_15) Electrical extension cords shall be UL listed, and the wire size shall be appropriate for the applied use.
- \_\_\_16) There shall be at least one demonstration fume hood for each laboratory where hazardous chemicals are used.
- \_\_\_17) Fume hoods in school buildings must comply with AHERA asbestos regulations.
- \_\_\_18) Chemicals shall not be stored in fume hoods except where the hood has been specifically built with a ventilated storage area. Chemicals shall not be stored in the demonstration or working area of the hood.
- \_\_\_19) All fume hoods shall exhaust directly to the outside, away from all occupied areas and air intakes in order to prevent exhaust from re-entering the building.
- \_\_\_20) Fume hood air velocity shall be 60-125 linear feet per minute (LFM) checked quarterly with a velocity meter. Written documentation of all tests shall be maintained on site.
- \_\_\_21) The exhaust capture path shall direct contaminants away from the user. With the sash raised to 12 inches, the air flow should measure at least 60 LFM.
- \_\_\_22) Fume hood use snail tie required when using chemicals with a Threshold Limit Value (TLV) of 50 ppm or less.
- \_\_\_23) All electrical devices used in the fume hood such as a switch, lights, motors, etc., shall be explosion proof.
- \_\_\_24) The chemical hygiene officer (e.g., science department chairperson or science teacher) shall maintain a written operation and maintenance program for laboratory fume hoods and other mechanical equipment in science laboratories.
- \_\_\_25) Master shut-offs shall be provided and identified for electricity and gas in all laboratory areas. Directional signs shall be provided. A master water shutoff is recommended, but not required.
- \_\_\_26) Invisible hazards (radiation, chemical, electrical, laser, and heat) shall be posted with warning signs or symbols when present.
- \_\_\_27) No food items are permitted in chemical laboratories or storerooms (including lab refrigerators). No eating, drinking or gum chewing is permitted in labs to prevent poisoning through ingestion.
- \_\_\_28) Chemical storerooms shall be lockable, inaccessible to unsupervised students, and have self-closing doors per OSHA and state fire code requirements for chemical laboratories and chemical storerooms. Doors shall have a one-hour fire rating (or greater as required by local fire code).
- \_\_\_29) Chemical storerooms shall be large enough for adequate and proper storage of chemicals. Storage areas shall be maintained in a neat, organized, and clean manner with chemicals stored compatibly.
- \_\_\_30) Chemical storerooms shall have sturdy, well supported shelves secured to the walls.
- \_\_\_31) All shelves shall have "earthquake lips" on all shelf edges. Chemical storerooms shall have all hazardous chemicals stored at or below eye level (typically below 5'6") with heavy objects stored on lower shelves. Higher shelves may be used for other items; e.g., glassware, equipment, paper goods, etc.
- \_\_\_32) Chemical storage areas shall be kept cool (between 55 and 80 degrees F) and dry (relative humidity between 30 and 60%).
- \_\_\_33) Chemicals should be organized and stored according to a recognizable, safe system (such as Flinn, Baker, Sargent-Welch, etc.) and should have the four color NFPA diamond on the container for emergency responders. Labels should clearly denote the contents of each container and the date received.
- \_\_\_34) Chemicals marked only with teacher codes (e.g. A, B, C, O), for student testing/analysis should not be allowed in permanent storage. Mix only enough for one day's classes and then restock or dispose. All left over unmarked chemicals should be disposed of in accordance with WAC requirements. Daily disposal is recommended.
- \_\_\_35) All flammables shall be stored in approved flammable storage cabinets with self-closing doors. Flammables (red labels) and acids and bases (white labels), shall be stored separately.
- \_\_\_36) Chemicals shall be used within one or two years of purchase. Old chemicals shall be disposed of in accordance with OSHA regulations. An inventory of all chemicals shall be maintained and kept up to date. All chemicals shall be dated upon receipt into the lab or storage area.

\_\_\_37) There shall be a separate storage shelf, cabinet or area for reactants such as sodium metal, potassium metal, and metabolic peroxides.

\_\_\_38) All acids shall be stored in approved acid cabinets. Non-compatible acids shall be stored separately (e.g., nitric acid).

\_\_\_39) Chemicals are stored according to their properties, not alphabetically (i.e., flammables, health hazard, reactive, oxidizer, radioactive, etc.).

\_\_\_40) Only explosion proof refrigerators shall be used to store volatile chemicals. Non-explosion-proof refrigerators or other electrical devices shall not be located in areas with vaporous or flammable chemicals.

\_\_\_41) Instructors shall wear personal protective equipment (PPE) when using corrosive, toxic, reactive, or irritating chemicals and during hazardous activities. Eye protection, safety glasses, and face shields shall meet requirements of the American National Standards Institute. Students should wear personal protective equipment (PPE) when using corrosive, toxic, reactive, or irritating chemicals and during hazardous activities.

\_\_\_42) A written policy notifying wearers of contact lenses should be developed to address the potential for eye irritation or injury if chemicals, gases or fumes adversely react with contact lens.

\_\_\_43) A non-asbestos fire blanket shall be provided, identified, readily available, and visible to students and staff.

\_\_\_44) Required (Note: Originally the fire blanket was intended to extinguish people on fire. But it is now believed it better for a person on fire to IMMEDIATELY drop and roll. A person with clothing on fire should never run to obtain a blanket. Subsequently fire blankets were recommended for keeping such as a blanket where additional damage may be caused upon removal. Recently it has been proposed the fire blanket could be used to provide privacy for someone removing clothing as recommended while using an emergency shower. But a shower curtain would be more appropriate)

\_\_\_45) Safety shields on the demonstration table shall be used for demonstrations wherever the possibility of explosion exists.

\_\_\_46) Jewelry shall not be worn if personal safety would be jeopardized.

\_\_\_47) Loose hair shall be restrained so that personal safety is not jeopardized.

\_\_\_48) All laboratories shall have a written cleanup plan for spills. All laboratories shall have a spill cleanup kit or materials for absorbing spills identified and readily available to students and staff.

\_\_\_49) Waste disposal shall adhere to OSHA regulations.

\_\_\_50) A written and documented lab safety orientation shall be provided for all staff and students.

\_\_\_51) A telephone (or intercom) for reporting emergencies shall be located in or near the laboratory. Emergency telephone numbers shall be readily accessible. Staff shall be trained in emergency procedures.

\_\_\_52) Lab floor plan shall be available the school office. A listing of exits, chemicals, and storage place of chemicals shall be included for use by emergency responders.

\_\_\_53) Fire extinguishers shall be provided (ABC type). Fire extinguishers shall be identified and readily accessible to staff and students. Demonstration or hands-on training shall be provided during safety orientation.

\_\_\_54) A fire alarm system shall be provided. Alarm pull stations shall be identified and readily accessible to staff and students.

\_\_\_55) Fire retardant lab coats shall be used as required for a current project or demonstration.

\_\_\_56) Formaldehyde is not allowed in K-12 schools. Biology specimens stored in formaldehyde shall be decanted and preserved in a solution of 70 percent isopropyl alcohol or other equivalent solution. Formaldehyde disposal shall adhere to DOE regulations.

\_\_\_57) Biology specimens shall be stored in sealed containers to prevent evaporation of liquid contents and resulting IAQ issues. Specimens preserved in hazardous or dangerous chemicals (alcohol, formalin, etc.) shall be stored in locked cabinets.

\_\_\_\_\_ **Number of problems identified**

### **Letter**

Using the results of your inspection, write a letter to the principal noting areas addressed and identifying areas of weakness. You do not need to give this letter to the principle. This assignment will prepare you for the annual inspection of your own science classroom and the need to inform administrators of the results of this inspection.

Adequate proficiency will be demonstrated by satisfactory completion of the assignment.

**Part 3. Safety Practicum; NSTA Standard 3d and 4b**

In this practicum, preservice teachers demonstrate all areas listed in a practicum format: put out a fire using a fire extinguisher, dispose of a chemical, demonstrate how to safely collect a soil sample demonstrate how to use an eyewash, show how to use a safety shower, demonstrate ability to acquire and use a Safety Data Sheet (Standard 4b), and explain how to deal with a living creature that a child brings to class (Standard 3d).

Name \_\_\_\_\_ score \_\_\_\_\_

In this practicum, you will demonstrate the knowledge and skills in the following areas:

<b>Safety Practicum (NSTA Standard 3d and 4b)</b>	
<b>Levels of Competency, 2-0</b>	<b>Item</b>
	Appropriate use of a fire extinguisher (Stnd 4b)
	Correct disposal of a chemical (Stnd 4b)
	Safely collect a soil sample (Stnd 4b)
	Living creature case study ((Stnd 3d; also see Part 5)
	How to use an eyewash (Stnd 4b)
	How to use a safety shower (Stnd 4b)
	How to interpret an SDS Sheet (Stnd 4b)
	Make a diluted solution from a concentrated solution (Stnd 4b)
	<b>Total Points</b>

Student teachers will be graded on proficiency, based on a two-point scale: 2 indicating proficient, 1 indicating adequate but with some component needing improvement, and 0 showing lack of mastery. A passing score of 13 (80%) is required with a score of at least one in all items.

**Part 4. Safety Plan; NSTA Standards 1b, 3d, 4a-c**

Your assignment is to develop an acceptable safety plan for your own classroom that clearly demonstrates your knowledge and plans for maintaining a safe classroom. This will include an age and subject appropriate safety contract for use in the classroom. The plan must include each of the areas of safety: legal and ethical (Standard 4c); chemical use and storage (Standard 4a); safety procedures (Standard 4b); and animal care and use (Standard 3d).

Safety Contract: Prepare a safety contract relevant to a class that you might teach (e.g. 9th grade earth and space science, 10<sup>th</sup> grade biology, 11<sup>th</sup> grade chemistry or 12<sup>th</sup> grade physics) as determined by your instructor.

1. List no more than 12 items (those you think most important)
2. Make sure 4 of the items are specifically relevant to the content you have identified.
3. You may modify safety contracts that are published or online
4. Be sure to credit your source with a footnote
5. Include signature spaces that you think are needed.

The assignment may be revised to meet the required Proficient level for the components of the contract.  
Safety contract resources: Chemistry -  
<http://www.learningcommunity202.org/PSHS/depts/science/Flynn.pdf>

**Safety Contract as part of the Safety Plan**

	<b>Levels</b>	<b>Exemplary (4 to 5 pts)</b>	<b>Proficient (2 to 3 pts)</b>	<b>Emerging (0 to 1 pts)</b>
<b>NSTA Standard 3d</b>	Contract <b>Revise?</b> ____ <b>No</b> ____ <b>Yes</b>	Includes the most essential elements for the content area and target age.	Includes some essential elements for the content area and target age.	Has not demonstrated an ability to prioritize safety elements.
<b>NSTA Standard 1b</b>	Citing Sources for 3d	Correctly cites all sources used in the safety contract.	Cites sources used in the safety contract.	Does not cite sources used in the safety contract.
<b>NSTA Standard 4a</b>	Contract <b>Revise?</b> ____ <b>No</b> ____ <b>Yes</b>	Includes the most essential elements for the content area and target age.	Includes some essential elements for the content area and target age.	Has not demonstrated an ability to prioritize safety elements.
<b>NSTA Standard 1b</b>	Citing Sources for 4a	Correctly cites all sources used in the safety contract.	Cites sources used in the safety contract.	Does not cite sources used in the safety contract.
<b>NSTA Standard 4b</b>	Contract <b>Revise?</b> ____ <b>No</b> ____ <b>Yes</b>	Includes the most essential elements for the content area and target age.	Includes some essential elements for the content area and target age.	Has not demonstrated an ability to prioritize safety elements.
<b>NSTA Standard 1b</b>	Citing Sources for 4b	Correctly cites all sources used in the safety contract.	Cites sources used in the safety contract.	Does not cite sources used in the safety contract.
<b>NSTA Standard 4c</b>	Contract <b>Revise?</b> ____ <b>No</b> ____ <b>Yes</b>	Includes the most essential elements for the content area and target age.	Includes some essential elements for the content area and target age.	Has not demonstrated an ability to prioritize safety elements.
<b>NSTA Standard 1b</b>	Citing Sources for 4c	Correctly cites all sources used in the safety contract.	Cites sources used in the safety contract.	Does not cite sources used in the safety contract.

Safety Contract may be revised until found to include all five items in satisfactory depth and breadth.

**Safety Plan:**

Be sure to include items that will answer the following questions:

- How will safety, animal care, and legal issues be presented?
- What should be included in a first aid kit?
- What should be done in the case of various emergencies?
- What will be the consequences for safety infractions (e.g., not wearing safety goggles, not following pouring guidelines, etc.)?
- How are hazardous wastes or biological hazards to be disposed?
- How will you assess your students' knowledge and skills in safety?

**Evaluation of Safety Plan:**

Safety Plan: will address each of the bullet points above with proper connection to relevant documents (NSTA position statements, safety book, etc.). Each bullet will be evaluated using the following guidelines. The assignment may be revised to meet the required Proficient level.

<b>Levels</b>	<b>Item; NSTA Standard</b>	<b>Exemplary (4 to 5 pts)</b>	<b>Proficient (2 to 3 pts)</b>	<b>Emerging (0 to 1 pts)</b>
Plan Score _____ <b>Revise?</b> ____ No ____ Yes	How will safety, animal care, and legal issues be presented? STND 4c	Student answered question completely. Adequate breadth and depth was provided. Answer was connected to official resources.	Student answered question but paid little attention to either details or use of official sources for information	Student is unaware of important safety issues as evidence by answer to question.
Plan Score _____ <b>Revise?</b> ____ No ____ Yes	What should be included in a first aid kit? STND 4b	Student answered question completely. Adequate breadth and depth was provided. Answer was connected to official resources.	Student answered question but paid little attention to either details or use of official sources for information	Student is unaware of important safety issues as evidence by answer to question.
Plan Score _____ <b>Revise?</b> ____ No ____ Yes	What should be done in the case of various emergencies? STND 4b	Student answered question completely. Adequate breadth and depth was provided. Answer was connected to official resources.	Student answered question but paid little attention to either details or use of official sources for information	Student is unaware of important safety issues as evidence by answer to question.
Plan Score _____ <b>Revise?</b> ____ No ____ Yes	What will be the consequences for safety infractions (e.g., not wearing safety goggles, not following pouring guidelines, etc.)? STND 4a	Student answered question completely. Adequate breadth and depth was provided. Answer was connected to official resources.	Student answered question but paid little attention to either details or use of official sources for information	Student is unaware of important safety issues as evidence by answer to question.

Plan Score ____ <b>Revise?</b> ____ <b>No</b> ____ <b>Yes</b>	How are hazardous wastes or biological hazards to be disposed? STND 4a	Student answered question completely. Adequate breadth and depth was provided. Answer was connected to official resources.	Student answered question but paid little attention to either details or use of official sources for information	Student is unaware of important safety issues as evidence by answer to question.
Plan Score ____ <b>Revise?</b> ____ <b>No</b> ____ <b>Yes</b>	How will you assess your students' knowledge and skills in safety? STND 4b	Student answered question completely. Adequate breadth and depth was provided. Answer was connected to official resources.	Student answered question but paid little attention to either details or use of official sources for information	Student is unaware of important safety issues as evidence by answer to question.

Student teachers must attain scores of at least two on each of the Items; revision is permitted until satisfactory levels are attained.

**Part 5. Field Trip Plan; NSTA Standard 4b**

This assignment is intended to emphasize the importance of pre-planning for outings. Students will be given a destination and time for a field trip and they will develop a plan that takes into account the various safety concerns related to the outing.

<b>Levels</b>	<b>Item; NSTA Standard 4b</b>	<b>Exemplary (4 to 5 pts)</b>	<b>Proficient (2 to 3 pts)</b>	<b>Emerging (0 to 1 pts)</b>
Plan Score ____ <b>Revise?</b> ____ <b>No</b> ____ <b>Yes</b>	How will transport loading and unloading of students be handled?	Student answered question completely. Adequate breadth and depth was provided. Answer was connected to official resources.	Student answered question but paid little attention to either details or use of official sources for information	Student is unaware of important safety issues as evidence by answer to question.
Plan Score ____ <b>Revise?</b> ____ <b>No</b> ____ <b>Yes</b>	What will be the numbers and responsibilities of accompanying adults?	Student answered question completely. Adequate breadth and depth was provided. Answer was connected to official resources.	Student answered question but paid little attention to either details or use of official sources for information	Student is unaware of important safety issues as evidence by answer to question.
Plan Score ____ <b>Revise?</b> ____ <b>No</b> ____ <b>Yes</b>	What unique hazards may be encountered during this outing?	Student answered question completely. Adequate breadth and depth was provided. Answer was connected to official resources.	Student answered question but paid little attention to either details or use of official sources for information	Student is unaware of important safety issues as evidence by answer to question.

Plan Score ____ <b>Revise?</b> ____ <b>No</b> ____ <b>Yes</b>	How will misbehavior be handled?	Student answered question completely. Adequate breadth and depth was provided. Answer was connected to official resources.	Student answered question but paid little attention to either detains or use of official sources for information	Student is unaware of important safety issues as evidence by answer to question.
Plan Score ____ <b>Revise?</b> ____ <b>No</b> ____ <b>Yes</b>	How will accidents be handled?	Student answered question completely. Adequate breadth and depth was provided. Answer was connected to official resources.	Student answered question but paid little attention to either detains or use of official sources for information	Student is unaware of important safety issues as evidence by answer to question.

Student teachers must attain scores of at least two on each of the Items; revision is permitted until satisfactory levels are attained.

#### Part 6. Class Pet Assignment; NSTA Standard 4c

In this assignment you will select an animal as a class pet. You will need to conduct research on needs of this animal (habitat, food, exercise, daily care, social interactions, handling procedures, safety issues and procedures, and common diseases for that animal). You will develop a Plan to integrate the animal into the classroom. You may revise the assignment to meet the required areas.

Components: 1) *Class Pet Manual* in the form of a flyer, poster or handout, 2) plan to make the animal part of the overall learning in the classroom.

Publishing software may be used. For example [www.discovery.org](http://www.discovery.org) The entire website does not need to be written (only to the .org or .com or .edu). NOTE: Google images is not the place to give credit. Please give credit to the original website.

#### ANIMAL USE PLAN; NSTA STANDARD 4c

Item	<i>Exemplary (4 to 5 pts)</i>	<i>Proficient (2 to 3 pts)</i>	<i>Emerging (0 to 1 pts)</i>	Points
<b>Pedagogy</b>	Multiple lessons to integrate the targeted animal to the learning in the classroom. Learning is improved through the inclusion of the animal.	One lesson that makes use of the targeted animal.	Lesson(s) that could be performed w/o the use of the animal (animal not required).	
<b>*Use of technology</b> <b>Revise?</b> <input type="checkbox"/> <b>No</b> <input type="checkbox"/> <b>Yes</b>	Publishing software is used to effectively describe both the care and use of the animal.	Publishing software is used and completely includes the care and use of the animal.	Publishing software may or may not have been used. The care and use of the animal is not complete.	
<b>Visual appeal</b>	Visual appeal: The <i>Class Pet Manual</i> has a balance of visual appeal and appropriate white	Color is appropriate and enhances the message.	The animal use manual uses images and color.	

	space. Use of images improves the message.	The animal use manual is visually appealing. Use of images is appropriate and does not detract. Color is not distracting.		
<b>Developmentally appropriate</b>	Words on visual are age-appropriate. Any vocabulary words are explained. The number of steps and items to remember is appropriate for the target age group.	Words on visual are mostly age appropriate. Vocabulary words may be explained.	Words on visual are above or below target age. Vocabulary words are not explained.	
<b>Safety in the manual</b> <input type="checkbox"/> No <input type="checkbox"/> Yes	Safety procedures are complete, clear, and concise. Animal care and use is included and developmentally appropriate.	Safety procedures are included for the care and feeding of the animal. Information is developmentally appropriate.	Safety procedures are absent or incomplete.	
<b>*Safety: Animal care and use Revise?</b> <input type="checkbox"/> No <input type="checkbox"/> Yes	Safe and ethical care and use of the animal are included and information is complete, developmentally appropriate. Includes species, class, and diet. They are easy to understand.	Safe and ethical care and use of the animal are included and most are accurate. Information is developmentally appropriate. May include species, class, and diet.	Vague, general statements	
<b>Grammar, style and usage</b>	Few errors, nothing that stops the reader from understanding the manual and/or lesson.	Some errors, nothing that stops the reader from understanding the manual and/or lesson	Many errors, interferes with understanding the manual and/or lesson	
<b>Credit for work</b>	Images, ideas and words directly used from others are cited properly. For example <a href="http://www.discovery.org">www.discovery.org</a> The entire website does not need to be written (only to the .org or .com or .edu) NOTE: Google images is not the place to give credit. Please give credit to the original website	Some images, ideas or words are given credit.	Images, ideas and words are not cited.	
<b>TOTALS</b>				

All scores must be at least 2 and the total score to demonstrate proficiency is 20.

**Part 7. Safety Foldable using the following categories:**

Make a foldable that summarizes the major areas of safety. Each part on the foldable should be a summary of the topic using the required resources (and others as appropriate).

- Legal Responsibilities
- General Science Safety Checklist
- Chemicals: Labeling and storing of chemicals
- Chemicals: Purchasing and disposing of chemicals
- Accidents
- Animals
- Plants
- Safety in the physics classroom
- Safety in the chemistry classroom
- Safety in the earth/space classroom
- Safety in the life sciences classroom

Each of the bullet points above will be evaluated using the following rubric:

<b>Item; NSTA Standard</b>	<b>Exemplary (4 to 5 pts)</b>	<b>Proficient (2 to 3 pts)</b>	<b>Emerging (0 to 1 pt)</b>	<b>Points</b>
Legal Responsibilities; Stnd 4c	Foldable contains all major areas. Essential elements for each area are included. Details from each resource are included.	Foldable contains all major areas. Overall essential elements for each area are included.	One or more of the major areas is missing. Essential elements are incomplete, incorrect, or not appropriately addressed	
General Science Safety Checklist; Stnd 4a	Foldable contains all major areas. Essential elements for each area are included. Details from each resource are included.	Foldable contains all major areas. Overall essential elements for each area are included.	One or more of the major areas is missing. Essential elements are incomplete, incorrect, or not appropriately addressed	
Chemicals: Labeling and storing of chemicals; Stnd 4a	Foldable contains all major areas. Essential elements for each area are included. Details from each resource are included.	Foldable contains all major areas. Overall essential elements for each area are included.	One or more of the major areas is missing. Essential elements are incomplete, incorrect, or not appropriately addressed	
Chemicals: Purchasing and disposing of chemicals; Stnd 4a	Foldable contains all major areas. Essential elements for each area are included. Details	Foldable contains all major areas. Overall essential elements for each area are included.	One or more of the major areas is missing. Essential elements are incomplete, incorrect, or not	

	from each resource are included.		appropriately addressed	
Accidents; Stnd 4b	Foldable contains all major areas. Essential elements for each area are included. Details from each resource are included.	Foldable contains all major areas. Overall essential elements for each area are included.	One or more of the major areas is missing. Essential elements are incomplete, incorrect, or not appropriately addressed	
Animals; Stnd 4c	Foldable contains all major areas. Essential elements for each area are included. Details from each resource are included.	Foldable contains all major areas. Overall essential elements for each area are included.	One or more of the major areas is missing. Essential elements are incomplete, incorrect, or not appropriately addressed	
Plants; Stnd 4c	Foldable contains all major areas. Essential elements for each area are included. Details from each resource are included.	Foldable contains all major areas. Overall essential elements for each area are included.	One or more of the major areas is missing. Essential elements are incomplete, incorrect, or not appropriately addressed	
Safety in the physics classroom; Stnd 4a	Foldable contains all major areas. Essential elements for each area are included. Details from each resource are included.	Foldable contains all major areas. Overall essential elements for each area are included.	One or more of the major areas is missing. Essential elements are incomplete, incorrect, or not appropriately addressed	
Safety in the chemistry classroom; Stnd 4a	Foldable contains all major areas. Essential elements for each area are included. Details from each resource are included.	Foldable contains all major areas. Overall essential elements for each area are included.	One or more of the major areas is missing. Essential elements are incomplete, incorrect, or not appropriately addressed	
Safety in the earth/space classroom; Stnd 4a	Foldable contains all major areas. Essential elements for each area are included. Details from each resource are included.	Foldable contains all major areas. Overall essential elements for each area are included.	One or more of the major areas is missing. Essential elements are incomplete, incorrect, or not appropriately addressed	

Safety in the life sciences classroom; Stnd 4a	Foldable contains all major areas. Essential elements for each area are included. Details from each resource are included.	Foldable contains all major areas. Overall essential elements for each area are included.	One or more of the major areas is missing. Essential elements are incomplete, incorrect, or not appropriately addressed	
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All scores must be at least 2 and the total score to demonstrate proficiency is 35.

Will the proposed program seek program-specific accreditation?

Yes

No

If yes, provide the institution's plans to seek accreditation, including the expected timeline for accreditation. (500 characters)

**Certification**

The proposed Biology program for secondary certification in Secondary Teacher Education, Biology addresses the requirements of the NSTA standards as well as the South Carolina Department of Education Standards.

**SECTION V - USE OF ASSESSMENT RESULTS TO IMPROVE PROGRAM**

Data are processed and maintained by the Assessment and LiveText Coordinators. The LiveText Department of Education (DOE) Unit Assessment Report site serves as a data portal for aggregate and disaggregate data, data reviews, committee minutes, and reports and is available to all unit faculty and committees. Program changes resulting from assessment data will be used to modify potential areas of weakness. Reviewing peer institution data as well as internal assessment data will be used. Moreover, feedback from supervising teachers and candidates will potentially play a role as well. Key areas of potential concern initially will focus on early-intervention strategies to improve student learning and performance outcomes as the program develops. The Biology Teacher Education Committee will fully engage with any appropriate units in the university to make accommodations as necessary.

Data from the Teacher Work Sample will be reviewed and appropriate program modifications will be considered as appropriate to address candidate feedback, faculty concerns, or local school input.

**SECTION VI - FOR REVISED REPORTS OR RESPONSE TO CONDITIONS REPORTS ONLY**

This section is not applicable for program consideration.