1. Description of state or institutional policies that may influence application of 2003 NSTA standards

For the purposes of this report, "program completers" are defined as those who have obtained either a B.S. or a B.A. in their content major and have taken the required education courses (see attachment C, Names of Programs). These courses meet certification requirements in the State of New Hampshire. We are only one of two states in the country that does not have their State licensure test aligned with NCATE. Two years ago we went through the NH state accreditation process for our five areas of science certification (Biology, Chemistry, Earth/Space General Science, and Physical Science) and received approval for all five.

The state does require the Praxis II exam for certification. However, at Keene State College that is not a requirement for our students to graduate. Many of our science education graduates obtain teaching positions in states that do not require the Praxis II (such as Massachusetts and New York). Praxis II scores are given for the past three years for each of the five areas of licensure and subscores for the past academic year (2005-2006). Assessments 2-8 have data for the past academic year only (2005-2006).

As noted above, Keene State College offers science certification in five areas: *Biology, Chemistry, Physical Science*, *Earth/Space*, and *General Science* (see attachment C, Program of Study). All of the science candidates must major in their content areas and obtain either a B.A. (Chemistry and General Science) or a B.S (Biology, Chemistry-Physics (Physical Science), and Geology (Earth/Space)). In addition they take education courses to fulfill the certification requirements for NH. All of the content faculty at Keene State is committed to and involved with the secondary science education program, and all have taught at KSC for at least eight years, many have had children in local K-12 schools. We work closely together to monitor the candidates in secondary science education.

The Science Center was renovated with a new addition and officially opened Fall 2004. All of the Natural Sciences are housed in the same building, providing opportunity for frequent informal meetings between the faculty. At KSC, there is an interdepartmental responsibility for science education candidates. Principle responsibility for content coursework lies with the content department (*Earth/Space* is overseen by the Geology department) and principle responsibility for pedagogy coursework lies with the Department of Professional Studies. Consequently, advising is a dual department affair: science-related advising is handled by someone in the content department while education-related advising is handled by someone in the professional and secondary education department. All candidates work with advisors from both departments during their studies. All students are reviewed by both content and education departments at four decision points during their course of study to insure that all requirements for both the degree and certification are being met. In addition, the methods course and student teaching are both listed as an education courses (ESEC) yet are taught by a science content faculty member. The professor is a member of the chemistry department and, as such, the remainder of her teaching assignments is in chemistry and general science. She meets routinely with the other content and pedagogy methods instructors to ensure that the curriculum pieces form a cohesive whole. This structure tends to keep the avenues of communication open between the two groups and develop one vision rather than two separate agendas.

2. Description of field and clinical experiences required for the program, including the number of hours for early field experiences and the number of hours/weeks for student teaching or internships

At Keene State College, candidates are required to complete ten pedagogy courses, seven of which have a field component.

Number	Title	Description of Field Experiences	Notes
ESEC 100	*Orientation* Introduction to Teaching	No field experience.	Must be taken at KSC
ESEC 150* ESEC 250	*Learners* Development, Exceptionality, and Learning I* Development, Exceptionality, and Learning II	***Classroom observation**: Candidates are required to make four observations over the course of the semester and use the KSC Clinical Assessment Observation Form, based on Charlotte Danielson's model **Tutoring**: Candidates spend the semester with one to two students tutoring. Tutoring sessions occur once a week for 45 minutes	Can be met by courses taken elsewhere with a C or better
ESEC 282	*Fundamentals* Literacy in Content Areas*	***Practice Teaching:** candidates design a unit in their content area with an emphasis on reading, writing, speaking, and listening and spend a minimum of 20 hours in the schools teaching parts of the unit to one class	Must be taken at KSC
ESEC 320	*Settings* Education Environments/ Practices	No field experience.	Must be taken at KSC
ESEC 384/385 ESEC 386*	*Methodology* Methods: Secondary Methods: Field Experience*	***Field Experience:** candidates work with a cooperating teacher in the school for a minimum of 4 hours/week, beginning with observations and then teaching lessons designed in the methods class. **Observation**: candidates create two lessons with the help of a mentor teacher and observe the mentor teach both lessons to two separate periods during the same day; candidates also create a pre/post-exam, administer it one week before and one week after the lessons (candidates are	Must be taken at KSC

Number	Title	Description of Field Experiences	Notes
		expected to observe the classes over several days before creating the two lessons). (about 20 h) **Teaching:** 5 full (or 10 half) days in a middle or high school setting under the mentorship of an experienced teacher from the candidate's academic area. The candidates complete activities in planning, instruction, assessment, and professionalism. (45 h)	
ESEC 387*	*Pedagogy* Creating Social Contexts for Learning*	*Thirty to 40 hours in a middle or high school setting that houses a diverse population. With a mentor teacher from the academic area, the candidate focuses on inclusion, technology, management and diversity. (30-40 h)	Must be taken at KSC
ESEC 450	*Systems* Seminar: Educational Principles	No field experience.	Must be taken at KSC
ESEC 460*	*Practice* Student Teaching	***Student Teaching**: Candidates student teach for fourteen weeks. Candidates progress through carefully monitored phases during each quarter: gaining confidence, planning for maximum learning, and refining teaching skills. (535 h)	Must be taken at KSC

* Courses that require field experience in the schools

3. Description of the criteria for admission, retention and exit from the program, including required GPAs and minimum grade requirements for the content courses accepted by the program.

Criteria for Admission, Retention, and Exit from Teacher Education Programs

Admission to Teacher Education Program	**Retention in TEP**	**Admission to Student Teaching**	**Exit/Certification**
1. Complete faculty interviews; 2. Passing scores (as determined by the State of New Hampshire Department of Education) on the Pre-Professional Skills Test (PRAXIS I: reading, writing, and mathematics) 3. Completion of 36 credits with a GPA of 2.5 4. Completion of the first three ESEC courses (ESEC 100, ESEC 150, ESEC 250) 5. Written recommendation by a content faculty member or by an unrelated party that is familiar with the candidate	1. Candidate's progress and mastery of competencies monitored by advisor. 2. Maintain a cumulative average of 2.50 3. Receive a C or better in all required teacher education courses	1. Completion of a minimum of 90 credits. 2. Completion of the **prerequisite education courses** (from ESEC 100 through ESEC 380s/those methods courses which apply to certification option being purse). 3. GPA average of 2.5 in three areas: overall, education classes, and content area classes. 4. Complete a self-evaluation and a faculty evaluation using the Disposition Assessment that demonstrate health, personal characteristics, and professional attitudes considered essential for successful teaching. 5. Completion of science content major 6. Fingerprinting for state and federal background search	1. Pass student teaching 2. Receive a positive rating on the Disposition Assessment 3. Provide passing scores on the Praxis II assessments. 4. Satisfy all program requirements for the degree and teacher certification, including a 2.50 GPA. 5. Be endorsed by the faculty adviser, the department, and the Dean / Certifying Officer.

To ensure that all students meet the same content requirements, all candidates must go through two approvals by the appropriate science department. The first is prior to student teaching. The second is prior to certification. In addition, all transfers are instructed to meet with the appropriate content person (Biology, Chemistry, Chemistry/Physics, General Science, or Geology) and with Dr. Jean (Science education) before enrolling. For approval, the student's transcript is compared to the course requirements (see attachment C). Typically, waivers are made for similar coursework completed at another college if it is felt that students have demonstrated mastery of similar content matter. Waivers must be approved by the department chair as well as the contact person.

4. Description of the relationship of the program to the unit's conceptual framework.

The goal of the secondary science education programs at KSC is to produce science teachers who have the necessary skills and knowledge to educate their students. This requires not only a firm grounding in the content they will be expected to teach but also competency in scientific problem solving skills and a familiarity with the tasks and issues associated with successful science teaching. This goal is reflected in KSC's conceptual framework (See attachments). While we would like all our graduates to be perfect teachers, we recognize that each has weaknesses. As such, a secondary goal is to produce science teachers who have the ability to continually improve their teaching throughout their career and who likewise instill a capability for life-long learning in their students. This goal is reflected in both the National Science Education Standards (National Research Council, 1996) and in KSC's conceptual framework. Knowledge is applied and tested via performance tasks that, through self-reflection, identify weaknesses in the knowledge base and provide for continued improvement. In other words, the competencies obtained at KSC form only the seed for continued growth. With this in mind, the framework is the foundation for working with the pre-service teachers as they address their strengths and weaknesses, with the help and guidance of the faculty, while providing each of them with the skills and knowledge deemed necessary to become competent teachers. We are fortunate in that being a small school we can offer individualized attention to our candidates. Please refer to the chart on Page 6 for the alignment of the KSC Conceptual Framework with INTASC standards and the Clinical Observation form (Assessment 4).

5. Unique set of program assessments and their relationship of the program's assessments to the unit's assessment system.

All of the program assessments utilized in this report are unique to the Science Education program due to the science-specific requirements within the assessments, while still adhering to state (Praxis II) and unit assessment requirements. Because the unit-based Student Teacher Evaluation form is based on the domains identified by Charlotte Danielson in *Enhancing Professional Practice: A Framework for Teaching* (1996), the evidence presented in Assessment #4 is shown in alignment to the NSTA standards.

The assessment for student teaching (Assessment #4) is a unit assessment, with slight modification to make it meet the NCATE/NSTA/NH standards for science teacher candidates.

INTASC Standards Alignment Chart for Student Proficiencies to KSC Frameworks

INTASC/ED 610 standard (New Hampshire State standards)	KSC Conceptual Framework†	Clinical Observation Assessment #4
Standard 1: Subject Matter: The candidate demonstrates an understanding of the central concepts, tools of inquiry, and structures of the discipline(s) he/she teaches and can create learning experiences that make these aspects of subject matter meaningful for students.	Themes 1, 2, 4	1.2, 3.3
Standard 7: Planning & Preparation: The candidate plans and manages instruction based upon knowledge of subject matter, students, the community, and curriculum goals.	Themes 2, 3	1.1, 1.2, 1.3
Standard 2: Student Learning: The candidate demonstrates and understanding of how children and youth learn and develop and can provide learning opportunities that support their intellectual, social and personal development	Themes 1, 2, 3, 4	1.1, 1.2, 2.3
Standard 3: Diverse Learners: The candidate demonstrates an understanding of how learners differ in their approaches to learning and creates instructional opportunities that are adapted to learners from diverse cultural backgrounds and with exceptionalities.	Themes 1, 2, 3, 4	1.1, 1.2, 1.3, 3.1, 3.2, 3.3
Standard 4: Instructional Strategies: The candidate demonstrates an understanding of and uses a variety of instructional strategies to encourage the students' development of critical thinking, problem solving, and performance skills.	Themes 1(?), 2	1.1, 1.2, 1.3, 3.1, 3.2, 3.3, 4.4
Standard 5: Learning Environment: The candidate demonstrates an understanding of the individual and group motivation and behavior to create a learning environment that (1) Is sensitive to the full range of student diversity; (2) Encourages openness, tolerance, respect, caring, collaboration, and self-motivation; (3) Emphasizes both individual and collective responsibility; (4) Fosters a concern for social justice; (5) Encourages active engagement in learning.	Themes 1, 2, 3, 4	1.1, 1.2, 1.3, 2.1, 2.2, 2.3, 3.1, 3.2, 3.3, 3.4
Standard 6: Communication: The candidate demonstrates an understanding of effective verbal, non-verbal, and media communication techniques to foster active inquiry, collaboration, and supportive interaction in the classroom.	Themes 1, 2, 3, 4	2.3, 3.1, 3.2, 3.3, 3.4, 4.1, 4.3
Standard 8: Assessment: The candidate demonstrates an understanding of and uses formal and informal assessment strategies to evaluate and ensure the continuous intellectual, social, and physical development of his/her learners.	Theme 2	1.3, 3.2, 3.3, 4.4
Standard 9: Reflection & Professional Development: The candidate is a reflective practitioner who continually evaluates the effects of her/her choices and actions on others (students, parents, and other professionals in the learning community) and who actively seeks out opportunities to grow professionally.	Theme 3	1.2, 4.2, 4.3, 4.4
Standard 10: Collaboration, Ethics & Relationships: The candidate demonstrates an understanding of the importance of communication and interaction with parents/guardians, families, school colleagues and the community to support the students' learning and well being and develops strategies to foster communication.	Theme 3	1.1 2.1,2.3, 4.1, 4.2, 4.4

†Conceptual Framework Themes:

1. Understand the world from multiple perspectives
2. Explore the dynamic nature of the teaching and learning process
3. Demonstrate professional and ethical behaviors that meet high expectations and standards
4. Contribute to a just and equitable world.