

Section I

Contextual Information

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

Programs at Keene State College such as the teacher education program are subject to periodic external evaluation by state agencies to maintain accreditation. Two of these agencies, the New Hampshire Council for Teacher Education (NHCTE) that reports to the New Hampshire State Board of Education require institutions of higher education within the state to apply mathematics standards to its programs that are modeled after the NCTM Standards.

A requirement for secondary mathematics teacher credentials in New Hampshire is a passing score on Praxis II Mathematics: Content Knowledge (10061) and Praxis II Mathematics: Proofs, Models, and Problems - Part I (20063). This examination is also aligned with many of the NCTM Standards.

2. Description of the 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.

All candidates participate in a series of field experiences. The first of these field experiences begin as early as the first year. Teacher candidates are expected to participate in one to three hours per week of field experience, outside the scheduled classroom times, for ESEC 150 (Development, Exceptionality, and Learning I) and ESEC 281/282 (Emerging/Evolving Literacy/ Literacy in the Content Area). Other courses prior to the Secondary Methods Course (ESEC 385) and Teacher candidate Teaching (ESEC 460) require some time, but not a specified amount per week.

Secondary Methods Course (ESEC 385, 3 credits) and Field Experience Methods Course (ESEC 386, 3 credits) – School-based clinical practice expectations are designed into these methods courses. These experiences occur for four hours each week in local schools. The teacher candidate observes and helps a secondary mathematics teacher with lessons and other duties. The teacher candidate completes a field experience portfolio and both the cooperating teacher and the college supervisor reflect on the teacher candidate's achievement as a preservice teacher.

Student Teaching (ESEC 460, 12 credits) – The student teaching experience typically occurs during the teacher candidate's last semester. During the 13-week duration of the student teaching experience, the teacher candidate works with both a cooperating teacher and a college supervisor. Each candidate is paired with a local secondary mathematics teacher who serves as the cooperating teacher and a mathematics education instructor from Keene State College serves as the college supervisor. The teacher candidate begins working with the cooperating teacher by helping with supervision and lesson planning. Soon the teacher candidate takes on the role of autonomous teacher and develops, plans, and presents the lessons. This experience provides the teacher candidate the opportunity to practice and refine specific teaching skills and begin to develop professional dispositions with the guidance and feedback of the cooperating classroom teacher and the college supervisor. Both the cooperating teacher and the college supervisor

complete formative and summative assessments that become part of one of a required portfolio of the teacher candidates.

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.

Requirements for Admission to Teacher Education: Students who wish to be admitted to the teacher education program are required to meet the following requirements:

- Completion of the first three education courses (ESEC 100, Introduction to Teaching; ESEC 150, Development, Exceptionality, and Learning I; ESEC 250, Development, Exceptionality, and Learning II) with a grade of C or better
- Reference letter from a course instructor
- Passing scores (as determined by the State of New Hampshire Department of Education) on the Pre-Professional Skills Test (PRAXIS I)
- Completion of 36 credits (12 of which must be from Keene State College) with a Grade Point Average (GPA) of 2.5 or higher on a 4.0 scale
- Evidence of meeting specified standards in order to pursue certification programs

Requirements for Continuance in the Program: Students must maintain a cumulative Grade Point Average of 2.5 in all mathematics and teacher education courses to be considered in good academic standing.

Requirements for Admission to Student Teaching: Students are required to submit a letter of intent to student teach following completion of courses leading up to and including 300 level methods and practicum courses in the specific certification program. Criteria relating to the future teacher's knowledge, skills, and dispositions will be evaluated. The following criteria will be used:

- Completion of a minimum of 90 credits
- Completion of the core courses from ESEC 100 (Introduction to Teaching) through ESEC 385(Secondary Methods) with a grade of C or better and a GPA of 2.5 or higher on a 4.0 scale
- Completion of content major or second major requirements with GPA of 2.5 or higher
- Cumulative GPA equaling 2.5 or higher

Requirements for Program Completion:

- Successful completion of 120 credits including all required mathematics and education courses.
- Successful student teaching experience as evidenced by positive evaluations by the college supervisor and cooperative teacher.
- A minimum evaluation score of proficient by the Mathematics Department pertaining to the teacher candidates' three required portfolios: content knowledge portfolio, pedagogical knowledge and field experience portfolio, and unit plan portfolio.
- Successful completion of a professional portfolio. Students are encouraged to document professional growth, experiences, and reflections through the thoughtful development of a professional portfolio. Suggested guidelines and course assignments will help support the prospective teacher in the development of a portfolio, starting in the first year and culminating during student teaching.
- After completion of the above requirements, students are recommended for licensure to the state.

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

Keene State College Motto

In 1909 Keene Normal School was created with a student enrollment of 27 students. The New Hampshire Legislature in 1926 granted the school authority to award the bachelor of education degree. By 1939 the curricula had expanded into four-year programs and the school was renamed Keene Teachers College. In 1963, the College was named Keene State College and became an affiliate of the University System of New Hampshire. Throughout the years Keene State College maintained its strong and rich tradition of preparing teachers while exemplifying its motto, *Enter to Learn, Go Forth to Serve*. This motto summarizes and highlights the program's strengths and goals in preparing teachers for the nation's diverse classrooms.

The KSC Teacher Education Program's Mission and Vision

Building on the historical legacy of teacher preparation at Keene State College, the education program mission is to prepare competent, reflective classroom teachers, and other professional school personnel, who utilize effective teaching practices and who create developmentally appropriate educational environments for diverse learners. Keene State College integrates liberal arts knowledge and professional preparation for each program it offers while incorporating state and national standards for each specialty area.

Keene State College teacher Education faculty and programs meet this mission by:

- preparing teacher candidates to meet New Hampshire's initial certification requirement for P-12 educational settings,
- providing advanced programs in School Counseling, Educational Leadership, Special Education, and Curriculum and Instruction, and
- providing in-service and professional development opportunities for area teachers and other professional school personnel.

Keene State College's vision is the inspiration of what we hope to become: Our vision is to graduate professionals in the field of education who will be advocates for social justice and equity, who possess intellectual and personal integrity, and who are responsive to the needs of students in a changing, multicultural world.

Thus, in keeping with our vision and mission, Keene State College Teacher Education faculty, in conjunction with our professional contacts in the field, has generated four themes that identify Keene State College and that weave through our curriculum for beginning teachers and advanced-level professionals at the undergraduate level. KSC education programs strive to prepare education professionals who:

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

In addition, we have identified the Charlotte Danielson framework, *Enhancing Professional Practice*, as a key component for assessing teacher candidates working toward initial certification in the range of certifications we offer.

Mathematics Department Program Outcomes and Commitments

The mathematics program is well integrated within Keene State College's outcomes. In particular, the mathematics program supports the following outcomes:

- Content Knowledge – faculty help students acquire a wide range of mathematical concepts and skills that serve as a solid foundation for their teaching of mathematics
- Use of Technology - faculty demonstrate and require student use of information technologies appropriate for mathematics education, i.e., graphing calculators, computer algebra systems, electronic spreadsheets, dynamic geometry systems, and other specialized mathematical software.
- Communication and Collaboration – faculty provide ample opportunities for students to express mathematical ideas in both written and oral formats using a multitude of symbolic notation.

5. Indication of whether the program has a unique set of program assessments and their relationship of the program's assessments to the unit's assessment system.

Mathematics Department Assessments

The Mathematics Department requires each teacher candidate to submit portfolios for assessment throughout the program. Two years ago the Mathematics Department instituted a Mathematics Department Portfolio procedure for all mathematics majors including those intending to become K-12 mathematics teachers. The process involves three portfolios pertaining to the teacher candidates' knowledge of mathematics and mathematics education. The teacher candidates are required to submit a content knowledge portfolio (twice during the program) as well as a pedagogical knowledge and field experience portfolio and a unit plan portfolio (at the completion of the student teaching experience). These multiple assessments at different transition points within the program serve as important times for reflection and assessment.

Content Knowledge Portfolio

The procedure for the content knowledge portfolios involves a multi-step process. First, mathematics courses are identified in which teacher candidates are required to complete and submit certain items (projects, homework questions, tests, etc.) into their portfolios. The specific items are decided upon and created by the Mathematics Department faculty during a three-day summer workshop prior to the beginning of the academic year. Each item is designed to assess a students' content knowledge pertaining to the objectives of the specific course and each is aligned with the NCATE/NCTM Standards and/or the New Hampshire Council of Teacher Education (NHCTE) Standards.

Prior to the beginning of each academic year faculty are given the list of required portfolio items to be assigned and collected within each designated course. The items are assigned as homework problems, projects, reflection essays, or given as test questions. They are collected by the instructor and stored in each student's mathematics file in a central location in the Mathematics Building.

The content portfolios are compiled and assessed twice during each teacher candidate's program. During Math 225 (Introduction to Abstract Mathematics) teacher candidates are given all the materials in their mathematics file to compile into a portfolio. Since teacher candidates typically take this course during their second year, it contains items and materials from the teacher candidates' first two years in the program. At the completion of the academic year, the

Mathematics Department members assess each portfolio. Two faculty members are randomly assigned to read and assess each portfolio with a common rubric. After all portfolios have been evaluated, the scores are recorded. If there are any discrepancies in the scoring or if there are teacher candidates who do not receive an exemplary or proficient grade, a third faculty member evaluates the portfolio. To date all teacher candidates have received a grade of at least proficient on their portfolio assessments. However, in the event that a teacher candidate falls short of achieving a proficient grade on the portfolio, the plan is for the teacher candidate's Mathematics Department advisor to arrange meetings with the teacher candidate to discuss those areas in which additional improvements are needed. The advisor will encourage the teacher candidate to reflect on ways in which the work can be improved and will work with the teacher candidate to resubmit the portfolio.

After the teacher candidate has submitted the content knowledge portfolio for its first evaluation, this same procedure of assigning work, collecting items, and storing the materials continues for two more years. Math 475 (Issues and Trends in Mathematics Education) occurs during the fall semester of the teacher candidates' senior year and prior to their student teaching experience. Teacher candidates submit their content knowledge portfolios for a second time at the completion of this course. This portfolio contains content knowledge materials from upper level mathematics courses as well as from their senior-level mathematics education seminar and their teaching methods course.

Pedagogical Knowledge and Field Experience Portfolio and Unit Plan Portfolio

During the teacher candidates' methods course, they are required to maintain two pedagogical-based portfolios. The first is a pedagogical knowledge and field experience portfolio and the second is a unit plan portfolio. At the completion of the student teaching experience, the mathematics faculty members assess each teacher candidates' portfolios rubrics in the same manner as the content knowledge portfolio.

The number of candidates and program completers can be found in Attachment A.
The program faculty expertise and experience chart can be found in Attachment B.
The Keene State College Program of Study can be found in Attachment K.

The rubrics used for the assessments can be found as the following attachments:

- Attachment C: Content Knowledge Portfolio rubric (part I)
(first content knowledge assessment at the completion of two years of study)
- Attachment D: Content Knowledge Portfolio rubric (part II)
(second content knowledge assessment at the completion of four years of study)
- Attachment E: Pedagogical Knowledge and Field Experience Portfolio rubric
(pedagogical knowledge assessment at the completion of four years of study)
- Attachment I: Unit Plan Portfolio rubric
(unit plan assessment at the completion of four years of study)
- Attachment J: Mathematical Proof rubric
(proof assessment used within mathematics courses)