

Program Report for the Preparation of Secondary Mathematics Teachers National Council of Teachers of Mathematics (NCTM) 2012 Standards - Option A

NCATE approved the 2012 NCTM Standards in 2012. Beginning in Spring 2015, programs submitting reports must use the 2012 Standards.

COVER SHEET

1. Institution Name

Kutztown University of Pennsylvania

2. State

PA

3. Date submitted

MM DD YYYY

03 / 15 / 2018

4. Report Preparer's Information:

Name of Preparer:

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6. Name of institution's program

Secondary Education Mathematics

7. CAEP Category

Mathematics Education

8. Grade levels⁽¹⁾ for which candidates are being prepared

7-12

(1) e.g. 7-12, 9-12

9. Program Type

First teaching license

10. Degree or award level

Baccalaureate

Post Baccalaureate

Master's

11. Is this program offered at more than one site?

Yes

No

12. If your answer is "yes" to above question, list the sites at which the program is offered

13. Title of the state license for which candidates are prepared

Mathematics 7-12

14. Program report status:

Initial Review

Response to One of the Following Decisions: Further Development Required or Recognition with Probation

Response to National Recognition with Conditions

15. Is your Educator Preparation provider (EPP) seeking

CAEP accreditation for the first time (initial accreditation)

Continuing CAEP accreditation

16. State Licensure data requirement on program completers disaggregated by specialty area with sub-area scores:

CAEP requires programs to provide completer performance data on state licensure examinations for completers who take the examination for the content field, if the state has a licensure testing requirement. Test information and data must be reported in Section IV. Does your state require such a test?

Yes

No

SECTION I - CONTEXT

1. Description of any state or institutional policies that may influence the application of NCTM standards. (Response limited to 4,000 characters INCLUDING SPACES)

NO CHANGES MADE TO THIS SECTION:

The Department of Secondary Education and the College of Education house the Secondary Education Mathematics program at Kutztown University of Pennsylvania. A local Board of Trustees governs Kutztown University as it is one of the fourteen institutions in the State System of Higher Education and, at the state level, the State System's Board of Governors also governs the University.

The Pennsylvania Department of Education (PDE) certifies candidates to teach in Pennsylvania. Title 22, Chapters 49.2 and 354 of the Pennsylvania code grant statutory authority to the State Board of Education to govern professional educator programs. PDE's authority to promulgate the regulations is granted from the state board. Chapter 354 is the regulatory document for the design and structure of the professional educator preparation programs while Chapter 49 provides certification requirements.

All teacher candidates in the Commonwealth of Pennsylvania must achieve a cumulative 3.0 GPS, a C or better in three hours of English composition, 3 hours of English Literature, and six hours of mathematics. All teacher candidates must pass one of the Basic Skills Assessment Test Options (see attached), maintain a 3.0 GPS in the major and overall, complete all courses in the major with a minimum of "C," complete 190 hours of field observations prior to students teaching, and take and pass the Praxis II 5161 examination. The clinical experience requirement is a minimum of 12 weeks. Teacher candidates submit criminal clearances, which include Act 34 Criminal History Report, the Act 151 Child Abuse History Report, Act 114 FBI Federal Criminal History Record (Fingerprinting), Act 24 Arrest and Conviction, Act 126 Mandated Child Abuse Reporter Training and the TB testing result when the teacher candidate enters the College of Education and again prior to the final clinical experience.

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. (Response limited to 8,000 characters INCLUDING SPACES)

CHANGES:

This section has been revised to include new statements that specifically address NCTM Standard 7. They are found below where appropriate, but I have quoted them at the start here as well:

Description of SEU 313 placement: "The professor teaching the course works with an urban principal to place the students appropriately. For secondary education mathematics students, building principals select highly qualified middle school mathematics teachers, as evidenced by a 7-12 Secondary Math PA license, minimum 3 years teaching experience, and their annual performance review completed by the principal."

Description of the SEU 343 placement: "The professor teaching the course

works with a suburban or rural principal to place the candidates appropriately. For secondary education mathematics students, building principals select highly qualified high school mathematics teachers, as evidenced by a 7-12 Secondary Math PA license, minimum 3 years teaching experience, their annual performance review completed by the principal."

Description of the SEU 323 and 390/1 (student teaching) placement: "A single placement is used for SEU 323 and SEU 390/1. In SEU 323, the teacher candidates are required to complete 20 service hours with middle or high school students. This is followed by a full 16 week student teaching semester for SEU 390/1. This placement will be completed with their pre-approved cooperating teacher for their student teaching placement in the coming semester. These placements are made by the mathematics methods (SEU 323) instructor who coordinates with building principals to select highly qualified teachers to serve as mentors. Building principals and/or district administrators select highly qualified secondary mathematics teachers as evidenced by the PA 7-12 secondary mathematics teaching certificate, minimum 3 years successful secondary math teaching experience, and successful performance evaluations by district administration. The placement includes 20 hours fieldwork component during the methods semester and a 16 week placement for student teaching."

Stage 1

Each candidate participates in an Education Exploration requiring 40 hours of field experience. The candidates receive information about the Exploration in the first course that they take at the University. The experiences vary in terms of grade level, types of schools, and attention to diversity. By the time education majors have reached 48 credit hours, they must have documentation of completed field hours with reflection, as well as meeting Pennsylvania requirements of GPA, required courses, Praxis I, and criminal clearances to qualify as a teacher candidate thus being eligible for more intense clinical experiences and upper level education courses. The Department of Secondary Education has adopted an electronic submission format.

Stage 2

The second level of clinical experience that teaching candidates participate in is a weekly assignment to a classroom in their content area. At this stage, teaching candidates take a six-credit course consisting of SEU 312: Principles of Learning and SEU 313: Principles of Learning Lab. There is a college classroom component and a lab component that takes place in a classroom in their certification area. For this 14-week placement, teaching candidates are assigned as a cohort group to an urban middle school. The professor teaching the course works with an urban principal to place the students appropriately. For secondary education mathematics students, building principals select highly qualified middle school mathematics teachers, as evidenced by a 7-12 Secondary Math PA license, minimum 3 years teaching experience, and their annual performance review completed by the principal. The teaching

candidates spend 4-6 hours each week in the assigned classroom. Since the professor and teaching candidate share a common experience, it can be related to learning theory and discussed on a weekly basis. Candidates answer focused questions about the experience in their on-line journal.

Candidates receive a minimum of 45 field hours in the urban middle level field experience. This is the middle level and urban experience. The third level of clinical experience the teaching candidates participate in is when they take SEU 342: Principles of Teaching and SEU 343: Principles of Teaching Lab. This six credit course is accompanied by a laboratory field experience in a suburban or rural high school in a classroom matching the teaching candidates' certification area. For this 14-week placement, teaching candidates are assigned as a cohort group to an urban middle school. The professor teaching the course works with a suburban or rural principal to place the candidates appropriately. For secondary education mathematics students, building principals select highly qualified high school mathematics teachers, as evidenced by a 7-12 Secondary Math PA license, minimum 3 years teaching experience, and their annual performance review completed by the principal. The teaching candidates spend 4-6 hours each week in the assigned classroom. Since the professor and teaching candidate share a common experience, it can be related to learning theory and discussed on a weekly basis. Candidates receive a minimum of 45 field hours in the suburban or rural high school field experience. The fourth level of clinical experience is when the candidates take their specific methods class, in this case SEU 323: Methods of Teaching Secondary Mathematics. In this course, the teacher candidates are required to complete 20 service hours with middle or high school students. The 20 service hours will be completed with their pre-approved cooperating teacher for their student teaching placement in the coming semester. These placements are made by the mathematics methods (SEU 323) instructor who coordinates with building principals to select highly qualified teachers to serve as cooperating teachers. Building principals and/or district administrators select highly qualified secondary mathematics teachers as evidenced by the PA 7-12 secondary mathematics teaching certificate, minimum 3 years successful secondary math teaching experience, and successful performance evaluations by district administration. The placement includes 20 hours fieldwork component during the methods semester and a 16 week placement for student teaching. This provides candidates a chance to meet the class and cooperating teachers they will be placed with during student teaching. The 20 hours with their cooperating teacher must be documented with their methods professor. Teaching candidates are also given the opportunity to reflect on their clinical experience and how it contributes to their understanding of how children learn and how to teach them by turning in a paper on their experience.

Stage 3

The capstone clinical experience at Kutztown University is the coordination of the twenty-hour Methods field placement and student teaching. Candidates return to the cooperating teacher and placement that they completed their fourth level of field experience at for 140 hours of student teaching (16-week

placement). The university employs a cooperating teacher to oversee the teaching candidate experience and a university supervisor visits six times or more during the placement to ensure that the teacher candidate is performing appropriately. The selection process for cooperating teacher detailed above in SEU 323. During the clinical experience, a candidate meets for two hours each week with the cohort group in a practicum seminar with the university supervisor. The purpose of the practicum is to allow candidates to meet with other candidates and their university supervisor to provide the practical aspects of teaching. These practicum focus on candidates' experiences. It is a time for reflection and application. In addition, guest speakers address particular timely student teaching issues and concerns. Prior to being eligible for the Penns

3. 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 and numbers. (This information may be provided as an attachment from the college catalog or as a student advisement sheet.) For post baccalaureate or master's programs include a graduate advising form or transcript analysis form showing undergraduate mathematics content course requirements aligned to NCTM Mathematics Content for Secondary.

NO CHANGES to program of study

See Attachment panel below.

4. 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
Directions: 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.

Program:		
Academic Year	# of Candidates Enrolled in the Program	# of Program Completers ⁽²⁾

(2) CAEP uses the Title II definition for program completers. Program completers are persons who have met all the requirements of a state-approved teacher preparation program. Program completers include all those who are documented as having met such requirements. Documentation may take the form of a degree, institutional certificate, program credential, transcript, or other written proof of having met the program's requirements.

6. Faculty Information
Directions: Complete the following information for each faculty member responsible for professional coursework, clinical supervision, or administration in this program.

Faculty Member Name	Mark Wolfmeyer
Highest Degree, Field, & University ⁽³⁾	PhD, Urban Education, City University of New York, Graduate Center
Assignment: Indicate the role of the faculty member	Faculty, Secondary Education Department, Clinical Supervision (SEU 343), Mathematics Methods Instructor (SEU 323), Mathematics Teacher candidates

(4)	student teaching supervisor (SEU 390)
Faculty Rank ⁽⁵⁾	Assistant Professor
Tenure Track	<input checked="" type="checkbox"/> YES
Scholarship ⁽⁶⁾ , Leadership in Professional Associations, and Service ⁽⁷⁾ : List up to 3 major contributions in the past 3 years ⁽⁸⁾	Book: Mathematics Education: A Critical Introduction (Routledge, 2017); Book: Philosophy of STEM Education: A Critical Investigation (Palgrave Macmillan, 2015); Reviewer: American Educational Research Association (AERA); Division K (Teacher Education) Paper Presentations Conference Reviewer; Kutztown University Service (e.g. Space Allocation Committee, KU Foundation Committee); KU College of Education Service (e.g. COE Assessment Committee); Professional Organization Service (e.g. Eastern Pennsylvania Council of Teachers of Mathematics Program Committee Member)
Teaching or other professional experience in P-12 schools ⁽⁹⁾	Clinical supervision of secondary mathematics education student teachers Clinical supervision of fieldwork placement in SEU 343: Principles of Teaching 10 years experience secondary Mathematics Teacher, public schools 7-12 Secondary Mathematics Certificate: NJ, California

Faculty Member Name	Theresa Stahler
Highest Degree, Field, & University ⁽³⁾	PhD, Teacher Education, Ohio State University
Assignment: Indicate the role of the faculty member (4)	Department Chair, Faculty, Secondary Education Department, Clinical Supervision (SEU 313) prior to student teaching
Faculty Rank ⁽⁵⁾	Professor
Tenure Track	<input checked="" type="checkbox"/> YES
Scholarship ⁽⁶⁾ , Leadership in Professional Associations, and Service ⁽⁷⁾ : List up to 3 major contributions in the past 3 years ⁽⁸⁾	Co-author of Doctoral Program in Transformational Teaching and Learning. Departmental representative on the university senate. Member of the College of Education Executive Committee and the Provost's Advisory Council
Teaching or other professional experience in P-12 schools ⁽⁹⁾	English Education Middle School Teaching Certificates in English 7-12, Middle Level Language Arts 6-8 and School Counseling K-12 Supervisor of student clinical experiences prior to student teaching

Faculty Member Name	Patricia Walsh Coates
Highest Degree, Field, & University ⁽³⁾	PhD, History, Lehigh University
Assignment: Indicate the role of the faculty member (4)	Faculty, Secondary Education Department, Director of Doctoral and Secondary Graduate Programs, Clinical supervision (SEU 343) prior to student teaching
Faculty Rank ⁽⁵⁾	Professor
Tenure Track	<input checked="" type="checkbox"/> YES
Scholarship ⁽⁶⁾ , Leadership in Professional Associations, and Service ⁽⁷⁾ : List up to 3 major contributions in the past 3 years ⁽⁸⁾	Publication: Walsh Coates, P. with Sirrakos, G. (2016). "Rethinking the EDD to Transform Classroom Teaching." in Ellis, A. L. (Ed.). Ed.D. programs as incubators for social justice leadership. Rotterdam: Sense Publishing. Leadership: National Council for the Accreditation of Teacher Education NCSS SPA Reviewer Service: Director of the Education doctorate in Transformational Teaching and Learning program

Teaching or other professional experience in P-12 schools ⁽⁹⁾	Clinical supervision of fieldwork placement in SEU 343: Principles of Teaching, High School History and Government Teacher 12 years of service Secondary Education PA Certification: Social Studies
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Faculty Member Name	George Sirrakos
Highest Degree, Field, & University ⁽³⁾	PhD, Education, Curtin University of Technology
Assignment: Indicate the role of the faculty member ⁽⁴⁾	Faculty, Secondary Education Department, Clinical supervision (SEU 313) prior to student teaching
Faculty Rank ⁽⁵⁾	Assistant Professor
Tenure Track	<input checked="" type="checkbox"/> YES
Scholarship ⁽⁶⁾ , Leadership in Professional Associations, and Service ⁽⁷⁾ : List up to 3 major contributions in the past 3 years ⁽⁸⁾	Published articles in Learning Environments: An International Journal and The Journal of Culture and Education. Awarded a grant to explore the use of student produced audio-narratives to improve student attitudes toward science. Major program reviewer for the Pennsylvania Department of Education. Developed an academic minor in Integrative STEM Education at Kutztown University.
Teaching or other professional experience in P-12 schools ⁽⁹⁾	New York State Teacher Certification: Biology/General Science (7-12). High school science teacher for 7 years. Clinical supervisor for undergraduate student teachers seeking initial certification in science. Clinical supervision of fieldwork placement in SEU 313: Principles of Learning.

Faculty Member Name	Dr. Paul Ache
Highest Degree, Field, & University ⁽³⁾	PhD, Curriculum and Instruction (emphasis in mathematics education), Texas A&M University
Assignment: Indicate the role of the faculty member ⁽⁴⁾	Faculty, Department Chair, Mathematics Department
Faculty Rank ⁽⁵⁾	Professor
Tenure Track	<input checked="" type="checkbox"/> YES
Scholarship ⁽⁶⁾ , Leadership in Professional Associations, and Service ⁽⁷⁾ : List up to 3 major contributions in the past 3 years ⁽⁸⁾	Chair of Mathematics Department, College of Liberal Arts and Sciences, Kutztown University PARCC assessment team. Worked with Pearson on the PARCC assessment to analyze the items for the exam. Chair of the Strategic Planning and Resource Committee at Kutztown University. Research interests include Item Analysis for large scale assessment, focusing on alignment between stated objectives and particular items.
Teaching or other professional experience in P-12 schools ⁽⁹⁾	Taught middle school mathematics and science from 1981 through 1985 and high school mathematics from 1986 through 1990. 7-12 Secondary Mathematics and Science Certificates, TX

(3) For example, PhD in Curriculum & Instruction, University of Nebraska.

(4) For example, faculty, clinical supervisor, department chair, administrator

(5) For example, professor, associate professor, assistant professor, adjunct professor, instructor

(6) Scholarship is defined by CAEP as a systematic inquiry into the areas related to teaching, learning, and the education of teachers and other school personnel.

Scholarship includes traditional research and publication as well as the rigorous and systematic study of pedagogy, and the application of current research findings in new settings. Scholarship further presupposes submission of one's work for professional review and evaluation.

(7) Service includes faculty contributions to college or university activities, schools, communities, and professional associations in ways that are consistent with the institution and unit's mission.

(8) For example, officer of a state or national association, article published in a specific journal, and an evaluation of a local school program.

(9) Briefly describe the nature of recent experience in P-12 schools (e.g. clinical supervision, in-service training, teaching in a PDS) indicating the discipline and grade level of the assignment(s). List current P-12 licensure or certification (s) held, if any.

SECTION II - LIST OF ASSESSMENTS

In this section, list the 6-8 assessments that are being submitted as evidence for meeting the NCTM standards. All programs must provide a minimum of 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.

1. Please provide following assessment information (Response limited to 250 characters each field)

Type and Number of Assessment	Name of Assessment (10)	Type or Form of Assessment (11)	When the Assessment Is Administered (12)
Assessment #1: Licensure assessment, or other content-based assessment aligned to <i>NCTM Mathematics Content for Secondary</i> (required)	Praxis Mathematics: Content Knowledge (5161)	State Licensure Test	First attempt prior to student teaching semester; must pass test for state certification
Assessment #2: Content knowledge in secondary mathematics aligned to <i>NCTM Mathematics Content for Secondary</i> (required)	Course Grades	Course Grades	Candidates complete mathematics content courses in the first semester and prior to the student teaching semester
Assessment #3: Candidate ability to plan instruction (required)	Unit Plan	Project	SEU 323: Methods of Teaching Secondary Mathematics, the course typically taken the semester just prior to student teaching semester
Assessment #4: Student teaching (required)	NCTM Student Teaching Evaluation	Performance Evaluation	SEU 390: Student Teaching (Clinical Experience)
Assessment #5: Candidate effect on student learning (required)	Teacher Work Sample	Project	SEU 390: Student Teaching (Clinical Experience)
Assessment #6: Content knowledge in secondary mathematics aligned to <i>NCTM Mathematics Content for Secondary</i> (required)	Content Competency Examination	Examination	SEU 323: Methods of Teaching Secondary Mathematics

Assessment #7: Additional assessment that addresses NCTM standards (optional)			
Assessment #8: Additional assessment that addresses NCTM standards (optional)			

(11) Identify assessment by title used in the program; refer to Section IV for further information on appropriate assessment to include.

(12) Identify the type of assessment (e.g., essay, case study, project, comprehensive exam, reflection, state licensure test, portfolio).

(13) Indicate the point in the program when the assessment is administered (e.g., admission to the program, admission to student teaching/internship, required courses [specify course title and numbers], or completion of the program).

SECTION III - RELATIONSHIP OF ASSESSMENT TO STANDARDS

1. Standard 1: Content Knowledge

Effective teachers of secondary mathematics demonstrate and apply knowledge of major mathematics concepts, algorithms, procedures, connections, and applications within and among mathematical content domains.

Preservice teacher candidates:

1a) Demonstrate and apply knowledge of major mathematics concepts, algorithms, procedures, applications in varied contexts, and connections within and among mathematical domains (Number, Algebra, Geometry, Trigonometry, Statistics, Probability, Calculus, and Discrete Mathematics) as outlined in the NCTM Mathematics Content for Secondary.

#1 #2 #3 #4 #5 #6 #7 #8

#1	#2	#3	#4	#5	#6	#7	#8
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

2. Standard 2: Mathematical Practices

Effective teachers of secondary mathematics solve problems, represent mathematical ideas, reason, prove, use mathematical models, attend to precision, identify elements of structure, generalize, engage in mathematical communication, and make connections as essential mathematical practices. They understand that these practices intersect with mathematical content and that understanding relies on the ability to demonstrate these practices within and among mathematical domains and in their teaching.

Preservice teacher candidates:

2a) Use problem solving to develop conceptual understanding, make sense of a wide variety of problems and persevere in solving them, apply and adapt a variety of strategies in solving problems confronted within the field of mathematics and other contexts, and formulate and test conjectures in order to frame generalizations.

2b) Reason abstractly, reflectively, and quantitatively with attention to units, constructing viable arguments and proofs, and critiquing the

#1 #2 #3 #4 #5 #6 #7 #8

#1	#2	#3	#4	#5	#6	#7	#8
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reasoning of others; represent and model generalizations using mathematics; recognize structure and express regularity in patterns of mathematical reasoning; use multiple representations to model and describe mathematics; and utilize appropriate mathematical vocabulary and symbols to communicate mathematical ideas to others.

2c) Formulate, represent, analyze, and interpret mathematical models derived from real-world contexts or mathematical problems.

2d) Organize mathematical thinking and use the language of mathematics to express ideas precisely, both orally and in writing to multiple audiences.

2e) Demonstrate the interconnectedness of mathematical ideas and how they build on one another and recognize and apply mathematical connections among mathematical ideas and across various content areas and real-world contexts.

2f) Model how the development of mathematical understanding within and among mathematical domains intersects with the mathematical practices of problem solving, reasoning, communicating, connecting, and representing.

3. Standard 3: Content Pedagogy

#1 #2 #3 #4 #5 #6 #7 #8

Effective teachers of secondary mathematics apply knowledge of curriculum standards for mathematics and their relationship to student learning within and across mathematical domains. They incorporate research-based mathematical experiences and include multiple instructional strategies and mathematics-specific technological tools in their teaching to develop all students' mathematical understanding and proficiency. They provide students with opportunities to do mathematics – talking about it and connecting it to both theoretical and real-world contexts. They plan, select, implement, interpret, and use formative and summative assessments for monitoring student learning, measuring student mathematical understanding, and informing practice.

Preservice teacher candidates:

treatment of and high expectations for all students. They use instructional tools such as manipulatives, digital tools, and virtual resources to enhance learning while recognizing the possible limitations of such tools.

Preservice teacher candidates:

4a) Exhibit knowledge of adolescent learning, development, and behavior and demonstrate a positive disposition toward mathematical processes and learning.

4b) Plan and create developmentally appropriate, sequential, and challenging learning opportunities grounded in mathematics education research in which students are actively engaged in building new knowledge from prior knowledge and experiences.

4c) Incorporate knowledge of individual differences and the cultural and language diversity that exists within classrooms and include culturally relevant perspectives as a means to motivate and engage students.

4d) Demonstrate equitable and ethical treatment of and high expectations for all students.

4e) Apply mathematical content and pedagogical knowledge to select and use instructional tools such as manipulatives and physical models, drawings, virtual environments, spreadsheets, presentation tools, and mathematics-specific technologies (e.g., graphing tools, interactive geometry software, computer algebra systems, and statistical packages); and make sound decisions about when such tools enhance teaching and learning, recognizing both the insights to be gained and possible limitations of such tools.

		✓	✓	✓			

5. Standard 5: Impact on Student Learning

#1 #2 #3 #4 #5 #6 #7 #8

Effective teachers of secondary mathematics provide evidence demonstrating that as a result of their instruction, secondary students' conceptual understanding, procedural fluency, strategic competence, adaptive reasoning, and application of major mathematics concepts in varied contexts have increased. These teachers support the continual development of a productive disposition toward mathematics.

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They show that new student mathematical knowledge has been created as a consequence of their ability to engage students in mathematical experiences that are developmentally appropriate, require active engagement, and include mathematics-specific technology in building new knowledge.

Preservice teacher candidates:

5a) Verify that secondary students demonstrate conceptual understanding; procedural fluency; the ability to formulate, represent, and solve problems; logical reasoning and continuous reflection on that reasoning; productive disposition toward mathematics; and the application of mathematics in a variety of contexts within major mathematical domains.

5b) Engage students in developmentally appropriate mathematical activities and investigations that require active engagement and include mathematics-specific technology in building new knowledge.

5c) Collect, organize, analyze, and reflect on diagnostic, formative, and summative assessment evidence and determine the extent to which students' mathematical proficiencies have increased as a result of their instruction.

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6. Standard 6: Professional Knowledge and Skills

#1 #2 #3 #4 #5 #6 #7 #8

Effective teachers of secondary mathematics are lifelong learners and recognize that learning is often collaborative. They participate in professional development experiences specific to mathematics and mathematics education, draw upon mathematics education research to inform practice, continuously reflect on their practice, and utilize resources from professional mathematics organizations.

Preservice teacher candidates:

6a) Take an active role in their professional growth by participating in professional development experiences that directly relate to the learning and teaching of mathematics.

6b) Engage in continuous and collaborative learning

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that draws upon research in mathematics education to inform practice; enhance learning opportunities for all students' mathematical knowledge development; involve colleagues, other school professionals, families, and various stakeholders; and advance their development as a reflective practitioner.

6c) Utilize resources from professional mathematics education organizations such as print, digital, and virtual resources/collections.

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7. Standard 7: Secondary Mathematics Field Experiences and Clinical Practice

#1 #2 #3 #4 #5 #6 #7 #8

Effective teachers of secondary mathematics engage in a planned sequence of field experiences and clinical practice under the supervision of experienced and highly qualified mathematics teachers. They develop a broad experiential base of knowledge, skills, effective approaches to mathematics teaching and learning, and professional behaviors across both middle and high school settings that involve a diverse range and varied groupings of students. Candidates experience a full-time student teaching/internship in secondary mathematics directed by university or college faculty with secondary mathematics teaching experience or equivalent knowledge base.

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Preservice teacher candidates:

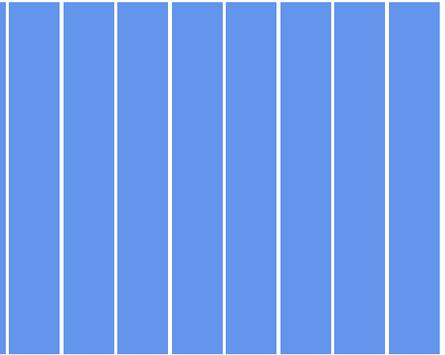
7a) Engage in a sequence of planned field experiences and clinical practice prior to a full-time student teaching/internship experience that include observing and participating in both middle and high school mathematics classrooms and working with a diverse range of students individually, in small groups, and in large class settings under the supervision of experienced and highly qualified mathematics teachers in varied settings that reflect cultural, ethnic, linguistic, gender, and learning differences.

7b) Experience full-time student teaching/internship in secondary mathematics that is supervised by a highly qualified mathematics teacher and a university or college supervisor with secondary mathematics teaching experience or equivalent

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knowledge base.

7c) Develop knowledge, skills, and professional behaviors across both middle and high school settings; examine the nature of mathematics, how mathematics should be taught, and how students learn mathematics; and observe and analyze a range of approaches to mathematics teaching and learning, focusing on tasks, discourse, environment, and assessment.



SECTION IV - EVIDENCE FOR MEETING STANDARDS

DIRECTIONS: The 6-8 key assessments listed in Section II must be documented and discussed in Section IV. Taken as a whole, the assessments must demonstrate candidate mastery of the SPA standards. The key assessments should be required of all candidates. Assessments, scoring guides/rubrics and data charts should be aligned with the SPA standards. This means that the concepts in the SPA standards should be apparent in the assessments and in the scoring guides/rubrics to the same depth, breadth, and specificity as in the SPA standards. Data tables should also be aligned with the SPA standards. The data should be presented, in general, at the same level it is collected. For example, if a rubric collects data on 10 elements [each relating to specific SPA standard(s)], then the data chart should report the data on each of the elements rather than reporting a cumulative score.

In the description of each assessment below, the SPA has identified potential assessments that would be appropriate. Assessments have been organized into the following three areas to be aligned with the elements in CAEP Standard 1:

- Content knowledge (Assessments 1, 2 and 6)
- Pedagogical and professional knowledge, skills and dispositions (Assessments 3 and 4)
- Focus on student learning (Assessment 5)

Note that in some disciplines, content knowledge may include or be inextricable from professional knowledge. If this is the case, assessments that combine content and professional knowledge may be considered "content knowledge" assessments for the purpose of this report.

For each assessment, the compiler should prepare one document that includes the following items:

(1) A two-page narrative that includes the following:

- a. A brief description of the assessment and its use in the program (one sentence may be sufficient);
 - b. A description of how this assessment specifically aligns with the standards it is cited for in Section III. Cite SPA standards by number, title, and/or standard wording.
 - c. A brief analysis of the data findings;
 - d. An interpretation of how that data provide evidence for meeting standards, indicating the specific SPA standards by number, title, and/or standard wording;
- and

(2) Assessment Documentation

- e. The assessment tool itself or a rich description of the assessment (often the directions given to candidates);
- f. The scoring guide/rubric for the assessment; and
- g. Charts that provide candidate data derived from the assessment.

The responses for e, f, and g (above) should be limited to the equivalent of five text pages each, however in some cases assessment instruments or scoring guides/rubrics may go beyond five pages.

Note: As much as possible, combine all of the files for one assessment into a single file. That is, create one file for Assessment #4 that includes the two-page narrative (items a – d above), the assessment itself (item e above), the scoring guide (item f above), and the data chart (item g

above). Each attachment should be no larger than 2 mb. Do not include candidate work or syllabi. There is a limit of 20 attachments for the entire report so it is crucial that you combine files as much as possible.

1. State licensure test(s) or professional examinations of content knowledge. NCTM standards addressed in this entry could include Standards 1-2. If your state does not require licensure tests or professional examinations in the content area, data from another assessment aligned to NCTM Mathematics Content for Secondary must be presented to document candidate attainment of content knowledge. (Assessment Required)

Provide assessment information as outlined in the directions for Section IV

2. Assessment of content knowledge in mathematics. NCTM standards addressed in this assessment that is aligned to NCTM Mathematics Content for Secondary could include but are not limited to Standards 1-2. Examples of assessments include comprehensive examinations, GPAs or grades, and portfolio tasks⁽¹³⁾. For post-baccalaureate teacher preparation, include an assessment used to determine that candidates have adequate content background in the subject to be taught. (Assessment Required)

Provide assessment information as outlined in the directions for Section IV

(14) For program review purposes, there are two ways to list a portfolio as an assessment. In some programs a portfolio is considered a single assessment and scoring criteria (usually rubrics) have been developed for the contents of the portfolio as a whole. In this instance, the portfolio would be considered a single assessment. However, in many programs a portfolio is a collection of candidate work—and the artifacts included.

3. Assessment that demonstrates candidates can effectively plan classroom-based instruction. NCTM standards that could be addressed in this assessment include but are not limited to Standard 3. Examples of assessments include the evaluation of candidates' abilities to develop lesson or unit plans, individualized educational plans, needs assessments, or intervention plans. (Assessment Required)

Provide assessment information as outlined in the directions for Section IV

REVISED Assessment 3 Unit Plan

See Attachment panel below.

4. Assessment that demonstrates candidates' knowledge, skills, and dispositions are applied effectively in practice. NCTM standards that could be addressed in this assessment include but are not limited to Standards 3, 4, 6, and 7. An assessment instrument used in student teaching or an internship should be submitted. (Assessment Required)

Provide assessment information as outlined in the directions for Section IV

REVISED Assessment 4 Student Teaching

See Attachment panel below.

5. Assessment that demonstrates candidate effect on student learning. NCTM standards that could be addressed in this assessment include but are not limited to Standard 5. Examples of assessments include those based on student work samples, portfolio tasks, case studies, follow-up studies, and employer surveys. (Assessment Required)

Provide assessment information as outlined in the directions for Section IV

REVISED Assessment 5 Teacher Work Sample

See Attachment panel below.

6. Assessment of content knowledge in mathematics. NCTM standards addressed in this assessment that is aligned to NCTM CAEP Mathematics Content for Secondary could include but are not limited to Standards 1-2. Examples of assessments include comprehensive examinations, GPAs or grades, and portfolio tasks.

Provide assessment information as outlined in the directions for Section IV

REVISED Assessment 6 Content Competency Examination

See Attachment panel below.

7. Additional assessment that addresses NCTM standards. Examples of assessments include evaluations of field experiences, case studies, portfolio tasks, licensure tests not reported in #1, and follow-up studies. (Optional)

Provide assessment information as outlined in the directions for Section IV

8. Additional assessment that addresses NCTM standards. Examples of assessments include evaluations of field experiences, case studies, portfolio tasks, licensure tests not reported in #1, and follow-up studies. (Optional)

Provide assessment information as outlined in the directions for Section IV

SECTION V - USE OF ASSESSMENT RESULTS TO IMPROVE PROGRAM

1. Evidence must be presented in this section that assessment results have been analyzed and have been or will be used to improve candidate performance and strengthen the program. This description should not link improvements to individual assessments but, rather, it should summarize principal findings from the evidence, the faculty's interpretation of those findings, and changes made in (or planned for) the program as a result. Describe the steps program faculty have taken to use information from assessments for improvement of both candidate performance and the program. This information should be organized around (1) content knowledge, (2) professional and pedagogical knowledge, skill, and dispositions, and (3) student learning.

(Response limited to 12,000 characters INCLUDING SPACES)

I. CONTENT KNOWLEDGE:

This summary reflects evidence from NCTM SPA program assessments, especially numbers 1, 2 and 6 as provided in this report given their alignment to NCTM content knowledge standards. The description of evidence on Assessment 1 (state required content license examination - Praxis II 5161) indicates 100% of completers have content knowledge meeting the requirements for state standards and with fairly equivalent subscores on the two areas of Geometry, Probability, and Statistics and Algebra, Functions, and Calculus. Evidence from Assessment 2 (the course grades analysis) indicates that for two recent academic years we have 87.5% of completers meeting minimum expectations for each of the nine courses included that are expressly linked to NCTM Standard 1. Specifically, one completer from AY 2014-2015 did not satisfy the expectation for Calculus III; one completer from AY 2014-2015 did not satisfy the expectation for MAT 301: Probability and Statistics; and in AY 2015-2016, one completer did not satisfy the expectation for MAT 220: History of Mathematics. Finally, evidence from Assessment 6 (content competency exam) indicates that in the Fall 2017 100% of candidates satisfied the requirements for our examination and demonstrated competence on Standards A.1: Number and Quantity, A.2 Algebra, A.3 Geometry and Trigonometry, A.4 Statistics and Probability, A.5 Calculus, and A.6 Discrete Mathematics.

Evidence from these assessments is discussed and analyzed on a routine basis by mathematics education faculty in the College of Education and mathematics faculty in the College of Liberal Arts and Sciences. First, this has prompted some actions and potential actions regarding program and policy changes. We are currently in the midst of discussing new programs of study due to changes to the general education program at Kutztown University. In addition to this motivation, the CAEP NCTM assessments we use in our program have sparked conversations regarding the content program of study. This most recent application of Assessment 6 indicates a weakness in Geometry. Also noted, our teacher candidates find the need to prepare significantly for the Praxis II exam. They do well on the exam but have provided feedback that they need more coursework to teach them secondary mathematics content at the conceptual level. We are currently investigating the possibility of a new "suite" of secondary mathematics education content courses, housed in the mathematics department, that address such a need.

II. PROFESSIONAL AND PEDAGOGICAL KNOWLEDGE, SKILL, AND DISPOSITIONS:

This summary reflects evidence from NCTM SPA program assessments, especially numbers 3, 4, and 5 as provided in this report due to their alignment to NCTM professional and pedagogical knowledge, skill, and disposition standards.

The revised report includes one application of Assessment 3 that 100% of teacher candidates assessed met all but two of the subelements from the standards. In looking more at the data, we see important patterns. For example, standard 6c emphasizes candidate ability to use research in mathematics education and all but one in the data met this level. However, only two scored at the target level with the remaining candidates scoring acceptable. Other subelements have acceptable levels at the target level that emphasize the ability to use mathematics education research, such as 6b-1, 4e-1, and 4e-2. In the data table, we notice that no candidates scored at the target level here. Taken together, we notice that there are consistent patterns relating to candidate use of research on mathematics teaching and learning. This will necessitate instruction in how to relate mathematics education research into unit plans more specifically.

The revised report includes one application of Assessment 4 that on the whole teacher candidates demonstrated competence on NCTM standards. However, in further examination of the data we have determined program strengths and weaknesses and continually refine our approach in light of this data. On this assessment, we find the particular weakness on Standard 3 and Standard 4 relate to student diversity and cultural awareness and in particular how to differentiate for diverse student needs. A new instructional unit has been now offered in SEU 323 for students in future secondary mathematics placements that addresses the weakness perceived in this data.

The revised report includes one application of Assessment 5 that on the whole teacher candidates demonstrated competence on NCTM standards. However, in further examination of the data we have determined program strengths and weaknesses and continually refine our approach in light of this data.

Candidates need more support and instruction in how to encourage active student participation for all mathematical processes and also in integrating mathematics education research into their lesson plans and analysis sections of the project. These patterns in the data will inform new interventions in both SEU 323 (math methods) and SEU 390/1 (student teaching).

In summary, the data from Assessments 3, 4, and 5 have indicated our candidate's strengths and weaknesses with regard to Professional and Pedagogical Knowledge, Skill, and Dispositions. The three assessments have initiated conversations and further refinement in our coursework, in particular the aspects addressed in SEU 323: Methods of Teaching Secondary Mathematics and SEU 390/1: Student teaching semester. The teaching of both classes will attend more to the use of mathematics education research in lesson planning, the ability to differentiate according to diverse needs in the classroom, and teacher candidate use of activities in the class that promote

students' ability to use mathematical processes.

III. STUDENT LEARNING:

This summary reflects evidence from NCTM SPA program assessments, especially numbers 4 and 5 as provided in this report due to their alignment to NCTM impact on student learning standards.

In this revised report, the one application of Assessment 4 and Assessment 5 indicated that candidates performed appropriately on Standard 5, but we can use the data to improve our delivery of instruction with respect to this standard. In particular, we noted from both assessments that candidates can be better prepared to use mathematics education research to develop sequential and technology-based learning opportunities in which students are actively engaged (5b).

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

1. For Revised Reports: Describe what changes or additions have been made to address the standards that were not met in the original submission. Provide new responses to questions and/or new documents to verify the changes described in this section. Specific instructions for preparing a Revised Report are available on the CAEP website at <http://caepnet.org/accreditation/caep-accreditation/spa-program-review-policies-and-procedur>

For Response to Conditions Reports: Describe what changes or additions have been made to address the conditions cited in the original recognition report. Provide new responses to questions and/or new documents to verify the changes described in this section. Specific instructions for preparing a Response to Conditions Report are available on the CAEP website at <http://caepnet.org/accreditation/caep-accreditation/spa-program-review-policies-and-procedur>

(Response limited to 24,000 characters. INCLUDING SPACES)

The feedback from the initial report was very thorough and clear. It provided a wealth of information that we at Kutztown have used to make our Secondary Education program stronger. Thank you for your time thus far. We are pleased to provide you with these updates in the revised report. The specific revisions address all shortcomings in the initial report and include new additions to the Context Sections and revised assessment rubrics for assessments 3-6. Each revision to assessments includes one application of the assessment with data and a report on this data. We have also revised Section V in light of the new data from these assessments. We have attempted to make the revisions labeled clearly where they occur throughout the report.

An overview of the shortcomings in our initial report are as follows:

1. Not adequate information regarding selection and qualifications of cooperating teachers during clinical experiences
2. Not adequate information regarding the qualifications university supervisors of student teaching
3. Assessment 3 rubric: vague language on some performance indicators
4. Assessment 4 rubric: generic rubric that did not provide specific performance indicators linked to the standards
5. Assessment 5 rubric: vague language on some performance indicators
6. Assessment 6 rubric: generic rubric that did not provide specific performance indicators linked to the standards

Accordingly, certain NCTM standards were not met given the insufficient context description (Standard 7) and the poor quality of the original rubrics (Standards 3-6).

As such, you will find the following in this revised report:

1. New descriptions in Section 1 #2 and #6 to address Standard 7.
2. Assessment 3 (Unit plan): New rubric, one application of data, new interpretation of data
3. Assessment 4 (Student teaching): New rubric, one application of data, new interpretation of data
4. Assessment 5 (Teacher work sample): New rubric, one application of data, new interpretation of data

5. Assessment 6 (Content Competency Exam): New rubric, one application of data, new interpretation of data
6. Updated Section V to reflect how new data will impact program in the future
7. New Section VI that describes the contents of the revised report.

For more detail on numbers 1-5 above, we have included here some notes. All of these items are elaborated upon in the appropriate area throughout the report.

1. To address the shortcoming regarding the selection of cooperating teachers, we have clearly discussed the selection of highly qualified cooperating teachers in SEU 313, SEU 343 (prior to student teaching) and the student teaching cooperating teacher (SEU 390). These are as follows: "SEU 313: The professor teaching the course works with an urban principal to place the students appropriately. For secondary education mathematics students, building principals select highly qualified middle school mathematics teachers, as evidenced by a 7-12 Secondary Math PA license, minimum 3 years teaching experience, and their annual performance review completed by the principal. SEU 343: The professor teaching the course works with a suburban or rural principal to place the candidates appropriately. For secondary education mathematics students, building principals select highly qualified high school mathematics teachers, as evidenced by a 7-12 Secondary Math PA license, minimum 3 years teaching experience, their annual performance review completed by the principal. For SEU 323 (methods) and SEU 390/1 (student teaching): In this course, the teacher candidates are required to complete 20 service hours with middle or high school classrooms. The 20 service hours will be completed with their pre-approved cooperating teacher for their student teaching placement in the coming semester. These placements are made by the mathematics methods (SEU 323) instructor who coordinates with building principals to select highly qualified teachers to serve as mentors. Building principals and/or district administrators select highly qualified secondary mathematics teachers as evidenced by the PA 7-12 secondary mathematics teaching certificate, minimum 3 years successful secondary math teaching experience, and successful performance evaluations by district administration. The placement includes 20 hours fieldwork component during the methods semester and a 16 week placement for student teaching."

To address the shortcoming regarding the qualifications of university supervisors, the revised report now clearly indicates that the only university supervisor of secondary mathematics teacher candidates during the student teaching semester is Mark Wolfmeyer. He has a PhD in education and 10 years secondary mathematics teaching experience. Any other clinical supervision by other university faculty does not occur during the student teaching semester but in courses before student teaching, such as SEU 313 and SEU 343.

2. Assessment 3 (unit plan): The first report contained a similar assessment (unit plan in SEU 323) but this revised report includes a new rubric that has been reworked entirely and especially attending to the feedback provided by the first CAEP report. Reviewers, please note that the first review needed specific improvement on the following standard elements in the rubric: 3d, 3f,

4b, 4d, 4e, 6b, and 6c. With the revised rubric, this assessment was given in Fall 2017 in SEU 323. In a revised report, one application of any new assessments must be provided. This data is included in the report.

3. Assessment 4: The initial review of our program indicated that the rubric for assessment 4 needed substantial revisions. In its original form, the rubric contained generic descriptors for all sub-elements of the standards. While it appropriately linked to NCTM standards, it failed to provide detailed descriptions of the candidate performances required to demonstrate competence. Therefore, in this revised report, you will find an entirely new rubric that contains the same standards and sub-elements but with specific performance indicators for each. You will also find in this revised report the inclusion of data from one application of the newly revised assessment, with a statement of findings included as well.

4. The first report contained a similar assessment (Teacher Work Sample during student teaching) but this revised report includes a new rubric that has been reworked entirely and especially attending to the feedback provided by the first CAEP report. Reviewers, please note that the first review needed specific improvement on the following standard sub-elements in the rubric: 3g, 4b, 4c, 5b, 5c, and 7c. With the revised rubric, this assessment was given in Fall 2017 in SEU 390/391 (student teaching semester). In a revised report, one application of any new assessments must be provided. This data is included in the report.

5. Assessment 6: The initial review of our program indicated that the rubric for assessment 6 needed substantial revisions. In its original form, the rubric contained generic descriptors for all items on the examination. While it appropriately linked to NCTM standards, it failed to provide detailed descriptions of the candidate performances required to demonstrate competence on each content standard. Therefore, in this revised report, you will find an entirely new rubric related to the same content standards but with specific descriptors of candidate performance on each examination item. In revising the rubric for this assessment, we determined that the assessment indicates performance on standard 1 but not standard 2, so you will find this additional change as well. You will also find in this revised report the inclusion of data from one application of the newly revised assessment, with a statement of findings included as well.

Thanks again to NCTM for the time taken to review and improve our program at Kutztown. Thanks specifically to Irma Cruz-White for her assistance in understanding the feedback from the initial report and how to go about these revisions.

Please click "Next"

This is the end of the report. Please click "Next" to proceed.