Program Report for the Preparation of Secondary Mathematics Teachers
National Council of Teachers of Mathematics (NCTM)
Option B

COVER SHEET

1. Institution Name
Augustana College

2. State
Illinois

3. Date submitted
09/15/2012

4. Report Preparer's Information:
Name of Preparer: Mike Egan
Phone: Ext.
(309) 794-8965
E-mail: mikeegan@augustana.edu

5. NCATE Coordinator's Information:
Name: Mike Schroeder
Phone: Ext.
(309) 794-7283
E-mail: michaelschroeder@augustana.edu

6. Name of institution's program
Mathematics (Secondary)

7. NCATE Category
Mathematics Education

8. Grade levels\(^{(1)}\) for which candidates are being prepared
6-12

\(^{(1)}\) e.g. 7 - 12, 9 - 12

9. Program Type
\(\checkmark\) First teaching license
\(\checkmark\) Unspecified

10. Degree or award level
\(\checkmark\) Baccalaureate
\(\checkmark\) Post Baccalaureate
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

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<tr>
<th>Site 1</th>
<th>Site 2</th>
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13. Title of the state license for which candidates are prepared
   - Initial Secondary Teaching Mathematics

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 unit seeking
   - NCATE accreditation for the first time (initial accreditation)
   - Continuing NCATE accreditation

16. State Licensure requirement for national recognition:
   NCATE 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 III. 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)

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)

3. 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.)

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.

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<td>2010-2011</td>
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<td>2009-2010</td>
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(2) NCATE 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.

<table>
<thead>
<tr>
<th>Faculty Member Name</th>
<th>Highest Degree, Field, &amp; University(3)</th>
<th>Assignment: Indicate the role of the faculty member(4)</th>
<th>Faculty Rank(5)</th>
<th>Tenure Track</th>
<th>Scholarship(6), Leadership in Professional Associations, and Service(7); List up to 3 major contributions in the past 3 years(8)</th>
<th>Teaching or other professional experience in P-12 schools(9)</th>
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(3) e.g., PhD in Curriculum & Instruction, University of Nebraska.
(4) e.g., faculty, clinical supervisor, department chair, administrator
(5) e.g., professor, associate professor, assistant professor, adjunct professor, instructor
(6) Scholarship is defined by NCATE as 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) e.g., 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, inservice 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 assessments that are being submitted as evidence for meeting the NCTM standards. 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)

<table>
<thead>
<tr>
<th>Type and Number of Assessment</th>
<th>Name of Assessment (10)</th>
<th>Type or Form of Assessment (11)</th>
<th>When the Assessment Is Administered (12)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Assessment #1: Licensure assessment, or other content-based assessment (required)</td>
<td>NOTE: Assessment #1 (Illinois Certification Testing Data) from our 2010 report was not critiqued by the NCATE reviewers. Thus, data pertaining to this assessment will not be included in this Response to Conditions Report.</td>
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<tr>
<td>Assessment #2: Assessment of student learning (required)</td>
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<td>During the student teaching experience.</td>
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### Teacher Performance Assessment
[Note: Part G of our 2011 National Recognition Report indicated that the Assessment #2 we submitted in 2010 lacked clarity. In response to this critique, our program switched to this Teacher Performance Assessment]

The Teacher Performance Assessment (TPA) is an instrument requiring teacher candidates to build a structured portfolio around a sequence of enacted lessons. Used throughout the U.S., the TPA has been endorsed by NCATE and AACTE.

### Course Grades
[Note: Part G of our 2011 National Recognition Report indicated that our program had not met enough Standards and Indicators. This assessment has been updated to provide further evidence of our students' alignment to these indicators.]

Course grades for required collegiate courses in the secondary mathematics teacher education program.

### Student Teaching Evaluation
[Note: Part G of our 2011 National Recognition Report indicated that the Assessment #4 we submitted in 2010 lacked clarity. In response to this critique, our program updated our Student Teaching Evaluation form]

An evaluative rubric used by the teacher candidates' college-based supervisor to evaluate the candidates’ competence in relation to NCTM teaching standards and Illinois professional teaching standards.

### Teaching Portfolio
[Note: this is an additional assessment that was not included in our 2010 SPA Report. It is intended to provide additional evidence that our students' knowledge, skills, and dispositions align to NCTM Standards and Indicators.]

An electronic portfolio compiled by all mathematics teacher candidates. The portfolio is organized relative to particular NCTM Standards and Indicators. Students must provide documentary evidence of their competence in each indicator.

### Mathematics Preparation for All Mathematics Teacher Candidates

<table>
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<tr>
<th>Assessment #3:</th>
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<tr>
<td>Teacher Performance Assessment</td>
<td>Course Grades</td>
<td>Student Teaching Evaluation</td>
<td>Teaching Portfolio</td>
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<tr>
<td>[Note: Part G of our 2011 National Recognition Report indicated that the Assessment #2 we submitted in 2010 lacked clarity. In response to this critique, our program switched to this Teacher Performance Assessment]</td>
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### SECTION III - RELATIONSHIP OF ASSESSMENT TO STANDARDS

1. For each NCTM standard on the chart below, identify the assessment(s) in Section II that address the standard. One assessment may apply to multiple NCTM standards.

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Mathematics Preparation for All Mathematics Teacher Candidates

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

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

(12) 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).
### 1. Knowledge of Problem Solving. Candidates know, understand and apply the process of mathematical problem solving. [Indicators are listed at http://www.nctm.org/about/ncate/secondary_indic.htm]

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### 2. Knowledge of Reasoning and Proof. Candidates reason, construct, and evaluate mathematical arguments and develop as appreciation for mathematical rigor and inquiry. [Indicators are listed at http://www.nctm.org/about/ncate/secondary_indic.htm]

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### 3. Knowledge of Mathematical Communication. Candidates communicate their mathematical thinking orally and in writing to peers, faculty and others. [Indicators are listed at http://www.nctm.org/about/ncate/secondary_indic.htm]

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### 4. Knowledge of Mathematical Connections. Candidates recognize, use, and make connections between and among mathematical ideas and in contexts outside mathematics to build mathematical understanding. [Indicators are listed at http://www.nctm.org/about/ncate/secondary_indic.htm]

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### 5. Knowledge of Mathematical Representation. Candidates use varied representations of mathematical ideas to support and deepen students' mathematical understanding. [Indicators are listed at http://www.nctm.org/about/ncate/secondary_indic.htm]

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### 6. Knowledge of Technology. Candidates embrace technology as an essential tool for teaching and learning mathematics. [Indicators are listed at http://www.nctm.org/about/ncate/secondary_indic.htm]

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### 7. Dispositions. Candidates support a positive disposition toward mathematical processes and mathematical learning. [Indicators are listed at http://www.nctm.org/about/ncate/secondary_indic.htm]

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### 8. Knowledge of Mathematics Pedagogy. Candidates possess a deep understanding of how students learn mathematics and of the pedagogical knowledge specific to mathematics teaching and learning. [Indicators are listed at http://www.nctm.org/about/ncate/secondary_indic.htm]

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### 9. Knowledge of Number and Operations. Candidates demonstrate computational proficiency, including a conceptual understanding of numbers, ways of representing number, relationships among number and number systems, and the meaning of operations. [Indicators are listed at http://www.nctm.org/about/ncate/secondary_indic.htm]

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### 10. Knowledge of Different Perspectives on Algebra. Candidates emphasize relationships among quantities including functions, ways of representing mathematical relationships, and the analysis of change. [Indicators are listed at http://www.nctm.org/about/ncate/secondary_indic.htm]

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### 11. Knowledge of Geometries. Candidates use spatial visualization and geometric modeling to explore and analyze geometric shapes, structures, and their properties. [Indicators are listed at http://www.nctm.org/about/ncate/secondary_indic.htm]

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### 12. Knowledge of Calculus. Candidates demonstrate a conceptual understanding of limit, continuity, differentiation, and integration and a thorough background in techniques and application of the calculus. [Indicators are listed at http://www.nctm.org/about/ncate/secondary_indic.htm]

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### 13. Knowledge of Discrete Mathematics. Candidates apply the fundamental ideas of discrete mathematics in the formulation and solution of problems. [Indicators are listed at http://www.nctm.org/about/ncate/secondary_indic.htm]

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### 14. Knowledge of Data Analysis, Statistics and Probability. Candidates demonstrate an understanding of concepts and practices related to data analysis, statistics, and probability. [Indicators are listed at http://www.nctm.org/about/ncate/secondary_indic.htm]

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### 15. Knowledge of Measurement. Candidates apply and use measurement concepts and tools. [Indicators are listed at http://www.nctm.org/about/ncate/secondary_indic.htm]

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### DIRECTIONS: The 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 must be required of all candidates. Assessments and scoring guides 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 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.

A program is free to select the types of assessments within the following constraints:

• A program cannot use more than 8 key assessments. There is no minimum requirement.
• Assessments should be required of all candidates.
• The program must include the state licensure test in the program area for assessment #1. This requirement is waived if there is no state licensure test in the program area.
• One assessment must demonstrate candidate effects on student learning.
• In their entirety, the assessments and data should demonstrate that candidates have mastered the SPA standards.

Program must submit the following documentation:

(1) A rationale making the case that the key assessments, taken as a whole, demonstrate candidate mastery of the SPA/NCATE standards.

and

(2) Assessment Documentation
For each assessment attach one document that includes the following 3 items:
  a. The assessment tool itself or a rich description of the assessment (often the directions given to candidates);
  b. The scoring guide for the assessment; and
  c. Charts that provide candidate data derived from the assessment.

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

Note: As much as possible, combine all of the files for one assessment (a, b, and c above) into a single file. That is, create one file for Assessment #4 that includes the assessment itself (item a above), the scoring guide (item b above), and the data chart (item c 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. Rationale: Attach a narrative outlining your case that the assessments, taken as a whole, demonstrate candidate mastery of the SPA standards. (Character limit 40,000 characters)

2. State licensure tests or professional examinations of content knowledge. If your state does not require licensure tests or professional examinations in the content area, data from another assessment must be presented to document candidate attainment of content knowledge. (Assessment Required)

Provide assessment information as outlined in the directions for Section IV

3. EFFECTS ON STUDENT LEARNING. Assessment that demonstrates candidate effects on student learning. Examples of assessments include those based on student work samples, portfolio tasks, case studies, follow-up studies, and employer surveys.

Provide assessment information as outlined in the directions for Section IV

Assessment 2: Teacher Performance Assessment (New for Response to Conditions Report)

See Attachments panel below.

4. Provide assessment information as outlined in the directions for Section IV

Assessment 3: Course Grades (Updated For the Response to Conditions Report)

See Attachments panel below.

5. Provide assessment information as outlined in the directions for Section IV

Assessment 4: Student Teaching Evaluation Tool (Tool has been Updated in Response to earlier NCTM Critiques)

See Attachments panel below.
6. Provide assessment information as outlined in the directions for Section IV

Assessment 5: Teaching Portfolio (New for Response to Conditions Report)

See Attachments panel below.

7. Provide assessment information as outlined in the directions for Section IV

8. 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 has 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)

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 NCATE web site at http://www.ncate.org/Accreditation/ProgramReview/ProgramReportSubmission/RevisedProgramReports/tabid/453/Default.aspx

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 NCATE web site at http://www.ncate.org/Accreditation/ProgramReview/ProgramReportSubmission/ResponsetoConditionsReport/tabid/454/Default.aspx

(Response limited to 24,000 characters.)

The 2011 NCTM National Recognition Report for Augustana College listed the following conditions in Section G of the Report:

(1) The SPA-required number of standards and indicators is not met.
(2) These is a lack of clarity for some assessments (2 and 4).
(3) The guidelines for use of grades as an assessment must be used.

In responding to these conditions over the past 18 months, we have come to view conditions (1) and (2) as being inter-related. That is, we believe it is likely that we did not meet the required number of standards and indicators precisely because the assessment instruments we used prior to 2011 were not clear enough to provide convincing evidence that our program does indeed adequately meet these standards and indicators. Hence, over the past 18 months we have made substantial changes to our assessment system, and we believe that these changes will make it clear that our mathematics teacher candidates are held accountable for meeting a sufficient number of NCTM standards and indicators, and that our newly adopted assessment instruments measure our candidates’ performance relative to these standards and indicators unambiguously.

Given this consideration, it seems that the most logical way to structure this Response to Conditions narrative is to begin by responding to Condition (2) and indicate how we have updated our assessment system. We will then respond to Condition (1) and describe how our updated assessments provide clear evidence that we have met enough additional NCTM standards and indicators to reach the required number. We will then conclude with a response to Condition (3).

Response to Condition (2): These is lack of clarity for some assessments (2 and 4)

The NCTM reviewers correctly pointed out that the 2nd and 4th assessments we submitted with our 2010 report were generic instruments with some value for evaluating teachers in general (be they elementary teachers, art teachers, etc.), but they were not adequately aligned to the specific work of secondary mathematics teachers.
Drawing on this feedback from the NCTM reviewers, we replaced the former assessment 2 ("Work Sample") with a reputable, mathematics-specific instrument for student teachers, the Teacher Performance Assessment (TPA). We began using the TPA with all of our mathematics student teachers during the 2011-2012 year. The Assessment 2 PDF file included in this Response to Conditions Report provides a thorough description of the TPA, indicates why this instrument has developed a strong reputation in the teacher education field, indicates how we at Augustana are using the instrument in evaluating our student teachers, indicates how TPA tasks and evaluation criteria align to NCTM standards and indicators, provides performance data from the 2011-2012 Augustana mathematics student teachers, and provides the TPA instrument itself. Reviewers will readily see that this instrument is much more explicit than the Work Sample we used prior to 2011, is much more relevant to the work of secondary mathematics teaching, and aligns well to several NCTM standards and indicators.

Similarly, we updated the former assessment 4 ("Student Teacher Evaluation Tool") in such a way that NCTM standards and indicators were incorporated into the tool explicitly. The updated tool was implemented with our mathematics student teachers during the 2011-2012 year as well. This tool enables both cooperating teachers and the college-based supervisor of our mathematics student teachers to evaluate the student teachers’ performance relative to both NCTM indicators and Illinois Professional Teaching Standards (IPTS) directly using an explicit rubric. Prior to 2011, this instrument only addressed the IPTS standards, a set of standards which are generic in nature and intended to be used with any K-12 teacher. The explicit incorporation of NCTM standards and indicators into the tool in 2011 enables the tool to be more sensitive to the specific competencies expected of a middle or high school mathematics teacher. More details about this tool, including the complete tool itself and performance data measured with the tool during the 2011-2012 year, are provided via the Assessment 4 PDF file included with this Response to Conditions Report.

While the NCTM reviewers of our 2010 report listed only Assessment 2 and Assessment 4 as instruments requiring further clarity, we felt that an update to Assessment 3 (Course Grades) and the submission of another instrument (Assessment 5: Teaching Portfolio) would provide additional and clear evidence that our program does indeed adequately address an appropriate number of standards and indicators. The Assessment 3 file in this Response to Conditions Report includes additional information about particular required courses demonstrating that these courses strongly emphasize certain standards and indicators and hence final grades in these courses are highly indicative of our candidates’ competence relative to these indicators. The Teaching Portfolio requires our mathematics teacher candidates to build portfolios providing documentary evidence and convincing arguments that they have indeed demonstrated competence relative to certain NCTM standards and indicators. A complete description of this Teaching Portfolio requirement, the details of how it is assessed, its alignment to NCTM standards and indicators, and performance data generated by this assessment is available through the Assessment 5 file included in this Response to Conditions Report.

Response to Condition (1): The SPA-required number of standards and indicators is not met

The NCTM requires programs to meet at least 80% of its indicators (or at least 66 of the 82 indicators), and requires that at least one indicator from each standard be met. As of our 2011 National Recognition Report, Augustana has met 50 of the 82 indicators. Furthermore, there is one standard (Standard 3: Communication) for which no indicators have been met. Thus, in order to adequately address Condition (1), we must ensure that (a) at least 16 additional indicators are met, and (b) at least one of these additional indicators is from Standard 3.

As noted earlier, we believe that the changes we have made to our assessment system since 2010 enable us to provide very clear and explicit evidence that our mathematics teaching candidates demonstrate competence, and are held accountable for demonstrating competence, relative to an adequate number of standards and indicators. Again, an “adequate number” implies that we must firmly demonstrate that we have met at least 16 additional indicators (and at least one Communication indicator) over and above the 50 indicators we have already met. We are convinced that the materials in this Response to Conditions Report provide compelling evidence relative to 18 additional indicators, including all four indicators from Standard 3 (Communication). While we could make a case for additional indicators as well, we have chosen to focus on the indicators for which the supporting evidence is strongest.

The 18 additional indicators we are clearly aligned to are listed below, and the assessment tool(s) that provide evidence for this alignment are listed next to the indicators. For example, the first item in the list states 1.3: 3, 4, 5. This means that indicator 1.3 is supported by assessments 3, 4, and 5. Details about why a given assessment provides evidence for a given indicator are found in the four assessment reports (Assessment 2, Assessment 3, Assessment 4, and Assessment 5) that are included with this Response to Conditions Report.

1.3: 3, 4, 5
3.1: 2, 3, 4, 5
3.2: 2, 3, 4, 5
3.3: 2, 3, 4, 5
3.4: 2, 3, 4, 5
4.3: 2, 3, 4, 5
7.1: 2, 3, 4, 5
7.5: 2, 3, 4, 5
7.6: 3, 4, 5
8.1: 2, 3, 4, 5
8.2: 3, 4, 5
8.4: 2, 3, 4, 5
8.5: 3, 4, 5
8.6: 2, 3, 4, 5
8.8: 2, 3, 4, 5
8.9: 2, 3, 4, 5
13.1: 3
13.1: 3
Response to Condition (3): The guidelines for use of grades as an assessment must be used.

As this critique seems to focus on the formatting of our report rather than its substance, it seems like the least urgent of the three critiques. We have actively followed up with both NCATE and NCTM representatives about this particular critique via phone conversations and website searches, yet we remain uncertain of how to respond to it. This critique was puzzling for a few reasons, including: (1) all programs within our teacher education program (e.g., elementary education, secondary history, secondary science, etc.) formatted the Course Grades reports in an identical fashion, yet NCTM was the only SPA that critiqued the manner in which the course grades were presented; (2) I have contacted NCATE and NCTM representatives for advice about this, and no one has been able to identify a clear-cut flaw in the 2010 course grades report; (3) I have reviewed the guidelines posted at http://www.nctm.org/uploadedFiles/Professional_Development/NCATE/Guidelines%20for%20Using%20Course%20Grades.pdf as well as sample reports from other institutions and remain unsure why this critique was leveled at us. Perhaps reviewers felt that the data included in the tables in Part 4 involved more information than was necessary, as we went beyond merely highlighting our teacher candidates’ performance in courses but also compared their performance to other students in these classes who are not mathematics teacher candidates. However, the guidelines do state that the data tables must provide “at minimum” grade distributions for our teacher candidates. We went beyond this “minimal” requirement as we felt it provided us with useful information about our candidates’ overall performance in their coursework.

In sum, our response to this condition is essentially that we made a genuine effort to determine the specific meaning of the critique so that we could work to alleviate it, but we were unable to do so. We hope that reviewers of this Response to Conditions Report concur that the more serious conditions raised in our 2011 National Recognition Report were Conditions 1 and 2, that we have adequately addressed Conditions 1 and 2, and that our efforts to acknowledge and attempt to act on Condition 3 are sufficient.

Conclusion: The SPA Review Process as a Catalyst for Positive Change

While the entire NCATE accreditation review process (including the development of an initial NCTM SPA report, implementing changes to our program in response to SPA conditions, undergoing a site visit by the Board of Examiners, and writing a Response to Conditions SPA report) has been very time-intensive and even stressful, we at Augustana can attest that the process has indeed done what it is intended to do: help us make our program better.

The new assessments we have developed in response to the NCTM conditions have indeed provided us with a clearer picture of our teaching candidates’ strengths and weaknesses relative to important aspects of mathematics teaching. For example, performance data from our updated Student Teaching Evaluation Tool show that our teacher candidates require further support in facilitating problem solving in their middle and high school teaching sites. This finding is corroborated with Teacher Performance Assessment data showing that our candidates’ weakest area pertains to fostering student-centered reasoning in the context of teaching. This has obvious implications for the Mathematics Teaching Methods course (EDUC 384), and we are actively finding ways to help better prepare our candidates to facilitate reasoning and problem solving in their own teaching. Strengths that our candidates have demonstrated relative to these instruments are also helpful to us, and we believe that these instruments provide firmer evidence in regard to aspects of our work that are “going well.”

While we are certainly pleased to have a respite from accreditation work over the next few years, we are also convinced that our experiences during this recent review will help ensure that our program will be even stronger during the next review.

Please click "Next"

This is the end of the report. Please click "Next" to proceed.
Augustana College Teacher Education Program

NCTM SPA Response to Conditions Report

Assessment # 2: Teacher Performance Assessment

Table of Contents for Assessment Documentation

a. Description of the Assessment ........................................................................................................ Pages 2-38

b. Scoring Guide for the Teacher Performance Assessment ................................................................. Page 39

c. Chart Providing Candidate Data from this Assessment ................................................................. Page 40

d. Chart Aligning NCTM Standards and Indicators with the Teacher Performance Assessment ...... Pages 41-45
a. **Description of the Assessment**

The Augustana Teacher Education Program adopted the Teacher Performance Assessment (which will be abbreviated as TPA and TPAC interchangeably throughout this report) as a required portfolio-based assessment for all of our student teachers beginning with the 2011-2012 academic year. We adopted the TPA as a means of responding to critiques raised in NCATE SPA National Recognition Reports (including the NCTM report) that the Work Sample assessment we formerly required of our teacher candidates lacked clarity and was not adequately content-specific. The new TPA instrument requires student teachers to develop a focused portfolio showcasing their competence in Planning Instruction, Assessing Student Learning, Instructing and Engaging Students in Learning, Promoting Academic Language in the classroom, and Reflecting on teaching. The instrument also provides explicit rubrics for teacher educators to use while evaluating teacher candidates’ performance. Both teacher candidates and teacher educators have access to the performance task descriptions and the rubrics, so the assessment criteria are transparent to the candidates. The developers of the TPA have created several content-specific instruments. Hence, teacher candidates in our Secondary Mathematics program use the Secondary Mathematics version of the TPA, and their work is evaluated by Augustana’s mathematics education expert, Mike Egan. Mike has successfully completed formal training provided by Pearson Education, Inc. on how to use the rubrics to evaluate teacher candidates’ work on the TPA. Hence, the TPA evaluation process in Augustana’s Secondary Mathematics program is consistent with national norms.

The TPA instrument was originally developed at Stanford University, and has recently undergone nationwide field-testing and development via a partnership between Stanford and Pearson Education, Inc. The TPA has been endorsed by NCATE, and the NCATE SPAs have endorsed the content-specific instruments (see http://www.ncate.org/LinkClick.aspx?fileticket=pT19OACvgsw%3D&tabid=741). The TPA is also endorsed by the American Association of Colleges for Teacher Education (http://aacte.org/News-Room/Announcements/a-message-to-aacte-members-about-the-tpa.html).

While our initial rationale for adopting the TPA at Augustana was so that we could demonstrate a conscientious and active response to NCATE SPA critiques, we have subsequently learned that the Illinois State Board of Education will require successful completion of the TPA as part of its teacher licensure requirements by the year 2015. Thus, our program’s work with the TPA now will likely make us better prepared for our state’s transition toward making this a required assessment that will be evaluated externally.

The TPA has now undergone full research and development, and it is the property of Pearson Education, Inc. Our program has not yet required our teacher to complete their TPAs under the auspices of Pearson, however. We have obtained permission to use an earlier, “pre-release” version of the TPA with our teacher candidates, and we evaluate their work on this instrument internally. Again, our Secondary Mathematics candidates’ work is evaluated by a mathematics education expert who has also been certified by Pearson as a qualified scorer of the Secondary Mathematics TPA.

The version of the TPA we use with our teacher candidates is shown on pages 3-38 of this document. Note that references to pagination within the instrument will not align to the pagination of this larger report.
Table of Contents

I. Overview of the TPAC Assessment
II. Task 1. Planning Instruction & Assessment
   • Planning Rubrics
III. Task 2. Instructing and Engaging Students in Learning
   • Instruction Rubrics
IV. Task 3. Assessing Student Learning
   • Assessment Rubrics
V. Task 4. Final Retrospective Reflection
   • Reflection Rubric
   • Academic Language Rubric

VI. Glossary
VII. Academic Language Appendix
VIII. Authenticity Sign Off Form

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1 This Table of Contents provides links to each section (click text in BLUE). To return to the Table of Contents, click the “RETURN” link at the top of each section.
Overview of the TPAC Assessment

Conceptual overview

In this assessment, you will describe, analyze, and evaluate the teaching of a 3-5 lesson unit of mathematics instruction that will be referred to as a “learning segment”. The assessment is built around the proposition that successful teaching is based on knowledge of subject matter and subject-specific pedagogy, developing knowledge of one’s students, reflecting and acting on evidence of the effects of instruction on student learning, and considering research/theory about how students learn.

The TPAC assessment is clearly focused on student learning. To complete the assessment, you will describe your plans and what you actually did to achieve student learning (the “what”), provide a rationale for your plans and an analysis of the effects of your teaching on your students’ learning (the “so what”), and analyze and reflect on the resulting student learning to plan next steps in instruction or improvements in your teaching practice (the “now what”).

Submit teaching artifacts and commentaries

You will submit artifacts and commentaries. Artifacts are evidence of your teaching practice. They include lesson plans, copies of instructional and assessment materials, one or two video clips of your teaching, and student work samples. You will also write commentaries describing your plans and practice, explaining the rationale behind them, and analyzing and reflecting on what you learned about your teaching practice and your students’ learning. In a commentary, you respond to questions that prompt you to provide evidence of what you know and understand about your teaching practice. The commentaries will guide the assessors in interpreting the artifacts you submit. They also are evidence of your ability to communicate about and reflect on your teaching practice. Note that your writing ability will not be scored directly, but it is important that the writing is clear and focused on key elements of your descriptions, explanations, or reflections.

The instructions in the following pages will guide you in putting together the artifacts and commentaries required in this assessment. A Glossary of terms used in the assessment appears on pages 28-30.

Evaluation Criteria and Scoring

Your assessment evidence will be judged on five dimensions of teaching: planning, instruction, assessment, reflection, and academic language. The evidence for the planning, instruction, and assessment dimensions will come from the corresponding tasks. Evidence for the reflection dimension comes primarily from the daily reflections but may come from the Instruction and Assessment tasks. Evidence for the academic language dimension will come from across the tasks. To identify the teaching competencies that will be assessed, read the rubrics that appear at the end of each task.
## Overview of Secondary Mathematics
### TPAC Assessment

<table>
<thead>
<tr>
<th>TPAC Task</th>
<th>What to Do</th>
<th>What to submit</th>
</tr>
</thead>
</table>
| **1. Planning Instruction & Assessment** | ✓ Provide relevant information about your instructional context by completing the Context for Learning Information.  
✓ Select a learning segment of 3-5 lessons (or, if teaching mathematics within a large time block, about 3-5 hours of connected instruction) that support students in building conceptual understanding, procedural fluency, and mathematical reasoning skills.  
✓ Determine what content and related academic language you will emphasize.  
✓ Consider your students’ strengths and needs, create an instruction and assessment plan for the learning segment, and write lesson plans.  
✓ Respond to commentary prompts to describe your students and teaching context, and explain your thinking in developing the plans and how they reflect what you know about your students as well as research/theory  
✓ As you are teaching, complete daily reflections by answering the prompts. | □ Context for Learning Information  
□ Lesson Plans for Learning Segment  
□ Instructional Materials  
□ Assessment tools and criteria  
□ Planning Commentary  
□ Daily reflections |
| **2. Instructing & Engaging Students in Learning** | ✓ Identify lessons where you are engaging your students in developing knowledge of procedures, conceptual understanding, and mathematical reasoning and select appropriate lessons for filming.  
✓ Collect permission forms from parents and prepare for filming.  
✓ Video the lesson.  
✓ Review the video to identify one or two video clips that | □ Video Clip(s)  
□ Video Label Form  
□ Instruction Commentary |
### TPAC Task

<table>
<thead>
<tr>
<th>What to Do</th>
<th>What to submit</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>3. Assessing Student Learning</strong></td>
<td>✓ Analyze student performance across the class from one assessment completed during the learning segment. ✓ Identify three student work samples that illustrate class trends in student understanding. ✓ Select two focus students from the class whose learning you will analyze in more depth, and for whom you will document feedback on their work. ✓ Respond to commentary prompts to analyze the extent to which the whole class met the standards/objectives, analyze the individual learning of two focus students and describe your feedback to them, and identify next steps in instruction based on your analysis.</td>
</tr>
<tr>
<td><strong>4. Final Retrospective Reflection</strong></td>
<td>✓ Reflect back on your teaching throughout the learning segment and consider what you have learned about your teaching and students’ learning. ✓ Respond to the commentary prompt about what you would do differently if you could teach this learning segment again.</td>
</tr>
</tbody>
</table>

* meet requirements. The total running time should not exceed 20 minutes.

✓ Respond to commentary prompts to analyze your teaching and your students’ learning in the video clip(s).
Task 1. Planning Instruction & Assessment

Purpose

The Planning Instruction & Assessment task asks you to describe your plans for the learning segment and explain how they are appropriate for the students and the content you are teaching. You will demonstrate your ability to organize curriculum, instruction, and assessment to help diverse students meet the standards for the curriculum content and to develop academic language related to that content. You will provide evidence of your ability to select, adapt, or design learning tasks and materials that offer your students equitable access to mathematics curriculum content.

What Do I Need to Do?

✓ If you teach more than one class, select one focus class for this assessment and complete the Context for Learning Information.

✓ Review the curriculum with your cooperating teacher and select a learning segment of 3-5 lessons (or, if teaching mathematics within a large time block, about 3-5 hours of connected instruction) to describe, analyze, and reflect upon. The learning segment should provide opportunities for students to develop conceptual understanding, procedural fluency, and mathematical reasoning skills and to understand how they are connected.

✓ Identify the big idea or essential question along with the content standards you will address in the learning segment. Consider how students might demonstrate their learning with respect to the standards and identify or adapt learning tasks to help your students develop related knowledge and skills.

✓ Consider the oral and written academic language that students will need to understand or produce in your learning segment and the genres that these texts represent. For more information on academic language, including subject-specific examples of genres, see Appendix A.

✓ Consider what your students need to learn and identify learning objectives for both content and related academic language. Write a lesson plan for each lesson in the learning segment.

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2 The purposes of Academic Language are to clearly and explicitly define, classify, analyze, explain, argue, interpret and evaluate ideas for an audience that may not be present or known to the writer/speaker.
Lesson plans should minimally include the following topics:
- state-adopted student academic content standards that are the target of student learning.
- learning objectives for both content and academic language
- informal and formal assessment tools to monitor student learning (type of assessment and what is assessed)
- instructional strategies and learning tasks to support student learning (what you and the students will be doing)
- resources and materials

To identify student academic content standards, please list the number and text of the standard. If only a portion of a standard is being addressed, then only list the relevant part(s).

Your credential program may require you to use a specific lesson-plan format or template for this assessment.

Submit copies of key instructional materials and all assessment tools used during the learning segment. The instructional materials might include class handouts, overheads, PowerPoint or SmartBoard slides. Select materials that, together with the plans, are needed to understand what you and the students will be doing. If any materials are included from a textbook, please provide a copy of the appropriate pages. If any of these individual items are longer than four pages, provide a summary of relevant features in lieu of a copy. To assist scorers in matching materials to lessons, label each document or group of documents with corresponding lesson number(s).

Respond to each of the prompts in the Planning Commentary. To protect confidentiality, please remove your name and use pseudonyms or general references (e.g., “the district”) for your school, district, or cooperating teacher. You may use either pseudonyms or first names only for students. Do this in all commentaries, and mask or remove proper names from all materials submitted, including lesson plans.

During the learning segment, record and submit daily reflections on teaching and learning. Daily reflections may be in the form of bulleted notes rather than paragraphs. While these need to be clear to the assessor, they need not be polished prose.

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3 Provide citations for all sources of materials that you did not create (e.g., published texts, websites, other educators). Citations can be listed on a written document or submitted as an additional page.
Task 1. Context for Learning Information

Provide the requested context information for the class selected for this assessment. This format is designed to be completed electronically. Use as much space as needed to respond.

About the school where you are teaching

1. Where are you teaching?
   - ___ Middle school
   - ___ High school
   - ___ Other (please describe) ________________________

2. List any specialized features of your school or classroom setting (e.g., themed magnet, classroom aide, bilingual) that will affect your teaching in this learning segment.

3. Describe any district, school, or cooperating teacher requirements or expectations that might impact your planning or delivery of instruction, such as required curricula, pacing plan, use of specific instructional strategies, or standardized tests.

About the subject area/course you are teaching

4. What is the name of the course you are documenting? ____________________________

5. What is the length of the course?  □ one semester  □ one year  □ other (describe) _________

6. What is the class schedule (e.g., 50 minutes every day, 90 minutes every other day)?

7. Is there any ability grouping or tracking in mathematics? If so, please describe how it affects your class.

8. Identify any textbook or instructional program you primarily use for mathematics instruction. If a textbook, please provide the name, publisher, and date of publication.

9. List other resources (e.g., SmartBoard, graphing calculators, on-line resources) you use for mathematics instruction in this class.

About the students in the class featured in this assessment

10. Grade level composition of the class ________________________
11. Number of:
   a. students in the class ______
   b. males ______ females _____
   c. English language learners _____
   d. students identified as gifted and talented _____
   e. students with Individualized Education Plans (IEPs) or 504 plans _____

12. Complete the chart below to summarize the required accommodations or modifications for special education students or gifted and talented students that will affect your mathematics instruction in this learning segment. As needed, consult with your cooperating teacher to complete the chart. The first row has been completed in italics as an example. Use as many rows as you need.

<table>
<thead>
<tr>
<th>Special Education Category</th>
<th>Number of Students</th>
<th>Accommodations/Pertinent IEP Objectives</th>
</tr>
</thead>
<tbody>
<tr>
<td>Example: Learning Disability</td>
<td>Example: 4</td>
<td>Close monitoring, follow up, and Resource Room</td>
</tr>
</tbody>
</table>

Planning Commentary

Write a commentary of 7-9 single-spaced pages (including prompts) that addresses the following prompts. If you are prompted for any explanations that can be found in your lesson plans, simply refer the assessor to the appropriate page(s) of your lesson plans.

1. Summarize the content focus of this learning segment. This summary might take the form of a “big idea” or “essential question.”

2. Describe what you know about your students with respect to this content focus, what they can do as well as what they are learning to do. Consider the variety of learners in your class, including individuals and subgroups requiring different strategies. Include how this knowledge influences your choices of instructional strategies to promote student learning of this content. Address the following areas:
a. Academic development (e.g., prior knowledge, key skills, ways of thinking in the subject areas, developmental levels, and other special educational needs)

b. Academic Language Development (students’ abilities to understand and produce the oral or written texts in English that are part of the learning segment)

c. Mathematical dispositions (e.g., student attitudes, curiosity, flexibility, and persistence in mathematics)

d. Social and emotional development (e.g., relationships with each other, expressing themselves in constructive ways, engaging in collaborative learning, contributions to a productive learning environment)

e. Family/community/cultural assets (e.g., cultural norms, student interests, relevant experiences and resources)

3. How do your plans support your students’ learning of mathematics and academic language related to the big idea/essential question of the learning segment?

   a. Explain how key learning tasks are sequenced in the learning segment to build connections from prior knowledge to new knowledge. Include how you will help students make connections between and among prior and new mathematical procedures, concepts, and reasoning/problem solving strategies to deepen student learning of mathematics throughout the learning segment. As needed, reference the instructional materials you have included.

   b. Consult with experienced mathematics educators to identify students’ possible or common errors associated with the learning segment content. How will you construct your assessments and lessons to identify and address possible misconceptions and errors?

   c. Identify the language demands embedded in the learning segment. Be sure to address relevant genres\(^4\), key vocabulary or phrases for the concepts being taught and linguistic features\(^5\) that enable students to understand or produce the oral and/or written texts in the learning segment.

   d. Explain how the learning tasks help students at different academic and language proficiency levels develop this academic language.

   e. Describe any strategies planned to support students with specific learning needs.\(^6\)

4. How will you monitor student learning during the learning segment?

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\(^4\) Genres are generic designs applicable across multiple topics to guide the process of interpreting or constructing texts. The designs are structured to achieve specific purposes related to a particular cultural and situational context. See Appendix A.

\(^5\) E.g., vocabulary patterns, connector words, grammatical structures, or text organization strategies.

\(^6\) This will vary by class, but commonly includes students with IEPs, English learners, or gifted students needing a greater challenge.
a. Explain how you will use the evidence from the planned informal and formal assessments to provide feedback to students and to monitor their progress toward meeting learning objectives.

b. Describe any modifications in the assessment tools or accommodations planned to allow students with specific needs to demonstrate their learning.

5. Reflection:

a. Indicate how specific research/theory guided your selection of specific strategies and materials to help your students develop the conceptual understanding, procedural fluency, and mathematical reasoning skills needed to meet the learning objectives.

b. Record a daily reflection after teaching each lesson by responding to the following prompts:

i. What is working? What is not? For whom? Why? (Consider teaching and student learning with respect to both content and academic language development.)

ii. How does this reflection inform what you plan to do in the next lesson?

iii. Submit these daily reflections in a document separate from the commentary. Daily reflections are not included when calculating the page range indicated above for the commentary.
<table>
<thead>
<tr>
<th>Level 1</th>
<th>Level 2</th>
<th>Level 3</th>
<th>Level 4</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Standards/objectives, learning tasks, and assessments are loosely aligned to a big idea or essential question.</td>
<td>• Standards/objectives, learning tasks, and assessments are clearly aligned to a big idea or essential question.</td>
<td>• Standards/objectives, learning tasks, and assessments are clearly aligned to a big idea or essential question.</td>
<td>• Standards/objectives, learning tasks, and assessments are clearly aligned to a big idea or essential question and with each other.</td>
</tr>
<tr>
<td>• Candidate plans a focus solely on facts/computations/procedures or concepts with no connection between the two or to reasoning.</td>
<td>• Planned connections among mathematical procedures, concepts, and reasoning are vague.</td>
<td>• Candidate plans how to make clear connections among mathematical procedures, concepts, and reasoning. The learning tasks and assessments represent differing depths of understanding.</td>
<td>• Candidate plans how to lead students to make clear connections among mathematical procedures, concepts, and reasoning.</td>
</tr>
<tr>
<td>OR</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• There are significant content inaccuracies that will lead to student misunderstandings.</td>
<td>• Learning tasks build on each other to promote an understanding of the designated mathematical concepts and procedures. Learning tasks (or their adaptations) are justified by explaining their appropriateness for the students.</td>
<td>• Learning tasks build on each other to promote an understanding of the designated mathematical concepts, procedures, and reasoning skills. Learning tasks (or their adaptation) are justified by explaining their appropriateness for students with references to relevant research and/or theory.</td>
<td>• Learning tasks build on each other to promote an understanding of the designated mathematical concepts, procedures, and reasoning skills. Learning tasks (or their adaptations) are justified by explaining their appropriateness for students with references to anticipated effects on student learning based on relevant research and/or theory.</td>
</tr>
</tbody>
</table>

**NOTE:** Text representing key differences between adjacent score levels is **bolded.**
PLANNING: USING KNOWLEDGE OF STUDENTS TO INFORM TEACHING

M2: How does the candidate use knowledge of his/her students to target support for students’ development of conceptual understanding, procedural fluency, and mathematical reasoning skills?

<table>
<thead>
<tr>
<th>Level 1</th>
<th>Level 2</th>
<th>Level 3</th>
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<tr>
<td>• Learning tasks and materials reflect characteristics of student academic development, experiential backgrounds, prior learning, and/or interests that are not closely related to learning objectives OR that reflect only deficits and ignore strengths of struggling students.</td>
<td>• Learning tasks and materials draw upon students’ academic development AND social/emotional development, or experiences, or interests to help students reach the learning objectives.</td>
<td>• Learning tasks and materials draw upon students’ academic and social/emotional development, including strengths, as well as experiences and interests to help students reach the learning objectives.</td>
<td>• Learning tasks and materials draw upon students’ academic and social/emotional development, including strengths, as well as experiences and interests to help students reach the learning objectives.</td>
</tr>
<tr>
<td>• Little support for students who might struggle or opportunities for students needing greater challenge are planned.</td>
<td>• Planned support consists of general strategies and modifications, which are not closely tied to learning objectives.</td>
<td>• Planned support consists of strategically selected or modified tasks/materials and/or scaffolding of instruction that are closely tied to specific learning objectives.</td>
<td>• Planned support consists of multiple ways of engaging with content that are integrated to support students to meet or exceed the standards/objectives. These are appropriately designed to address a variety of student learning needs tied to specific learning objectives.</td>
</tr>
</tbody>
</table>

7 These will vary with the class, but typically include English learners, gifted students, students with IEPs or 504 plans, and students who generally struggle or who are not challenged.

8 This might include different groupings, different tasks, or using different modes to represent content and making connections between them to help students understand.
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<tbody>
<tr>
<td>• The set of assessments will provide little evidence to allow the candidate to monitor student learning relative to the standards/objectives for each lesson.</td>
<td>• The set of assessments will provide evidence of student learning relative to the standards/objectives for each lesson. • Assessments are focused on what students do and do not understand relative to each lesson’s objectives.</td>
<td>• The set of assessments will provide evidence of student learning relative to the standards/objectives for each lesson. At least one lesson’s assessments provide evidence of student learning that extends beyond the formulaic application of procedures or problem solving steps. • Assessments are aligned to clearly defined benchmarks or criteria for student performance. • Assessments are modified or adapted to be appropriate for students having difficulty demonstrating their learning.</td>
<td>• The set of assessments will provide evidence of student learning relative to the standards/objectives for each lesson. Each lesson’s assessments provide evidence of student learning that extends beyond the formulaic application of procedures or problem solving steps. • Assessments are aligned to clearly defined benchmarks or criteria for student performance. • Assessments are modified, adapted, and/or designed in light of the standards/objectives to allow students with special needs opportunities to demonstrate their full progress toward meeting or exceeding the standards/objectives.</td>
</tr>
</tbody>
</table>
Task 2. Instructing & Engaging Students in Learning

**Purpose**

The Instructing & Engaging Students in Learning task asks you to demonstrate how you facilitate students’ developing understanding of mathematical concepts, procedures, and reasoning. You will provide evidence of your ability to engage students in meaningful mathematics tasks, monitor their understanding, and use your responses to students to guide their learning.

**What Do I Need to Do?**

**Video your classroom teaching**

✔ Examine your plans for the learning segment and identify learning tasks in which students are actively engaged in understanding mathematical concepts, procedures, and reasoning.

✔ View the video(s) to check the quality, analyze your teaching, and select the most appropriate video clip(s) to submit.

✔ **Provide one or two video clips of no more than twenty minutes total.** Select clip(s) that demonstrate how you engage students in developing their understanding mathematical concepts, procedures, and reasoning. The clip(s) should include interactions among you and your students and your responses to student comments, questions, and needs.

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**Video Guidelines**

- A video clip should be continuous and unedited, with no interruption in the events.
- The clip(s) can feature either the whole class or a targeted group of students.
- Both you and your students should be visible and clearly heard on the video submitted.
- Tips for recording your class on video are available from your program.
- Before you video, ensure that you have the appropriate permission from the parents/guardians of your students and from adults that appear on the video.

✔ Provide a copy of any relevant writing on the board, overhead, or walls if it is not clearly visible on the video. Attach this document to the Instruction Commentary.

✔ **Complete the Video Label Form and either attach it to a videotape or put it in a folder or CD/DVD with the video file(s) in an electronic format.** The form is located after the instructions for this task.

✔ Respond to each of the prompts in the Instruction Commentary.
Instruction Commentary

Write a commentary of 2-4 single-spaced pages (including prompts) that addresses the following prompts.

1. In the instruction seen in the clip(s), describe strategies you used to engage students in the learning task(s) to build their own understandings of mathematical concepts, procedures, and reasoning.
   a. Cite examples of strategies aimed at engaging all your students and examples aimed at engaging specific individuals or subgroups. If you described any of these fully in the lesson plans or the planning commentary, just reference the relevant description.
   b. How did these strategies reflect students’ academic or language development, social/emotional development, or cultural and lived experiences?

2. Cite examples of language supports seen in the clip(s) to help your students understand the content and/or to build their academic language skills.
   a. How did these strategies reflect students’ varying language proficiencies and promote their language development?

3. Describe your strategies for eliciting student thinking and how your ongoing responses further their learning. Cite examples from the clip(s).

4. Reflection:
   a. Reflect on students’ learning of concepts and academic language as featured in the video clip(s). Identify both successes and missed opportunities for monitoring all students’ learning and for building their own understanding of mathematical concepts, procedures, and reasoning skills.
   b. If you could do it over, what might you have done to take advantage of missed opportunities or to improve the learning of students with diverse learning needs and characteristics?
Task 2. Video Label Form

Candidate ID # ________________________________________

Secondary Mathematics Clip(s)

Clip # 1
Lesson from which clip came: Lesson # _____
Focus of Clip (Check all that apply.)

☐ Developing understanding of a procedure
☐ Developing conceptual understanding
☐ Developing mathematical reasoning skills

Clip # 2 (Optional)
Lesson from which clip came: Lesson # _____
Focus of Clip (Check all that apply.)

☐ Developing understanding of a procedure
☐ Developing conceptual understanding
☐ Developing mathematical reasoning skills

If Electronic, Video Format of Clip(s): (check one)

☐ DVD format (no other media player involved)
☐ Flash
☐ QuickTime
☐ Windows Media Player
☐ Other (please specify) ___________________________________
## Instruction Rubrics

### INSTRUCTION: ENGAGING STUDENTS IN LEARNING

**M4**: How does the candidate actively engage students in developing their own understanding of mathematical concepts, procedures, and reasoning?

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<tbody>
<tr>
<td>• Strategies for intellectual engagement seen in the clip(s) <strong>limit</strong> opportunities for students to develop an understanding of mathematical concepts, procedures, and reasoning.</td>
<td>• Strategies for intellectual engagement seen in the clip(s) offer opportunities for students to develop an understanding of mathematical concepts, procedures, and reasoning. These strategies reflect <strong>attention to students’ academic or language development, social/emotional development, and/or cultural and lived experiences.</strong></td>
<td>• Strategies for intellectual engagement seen in the clip(s) offer <strong>structured opportunities</strong> for students to <strong>develop their own understanding of mathematical concepts, procedures, and reasoning.</strong> These strategies reflect attention to students’ academic or language development, social/emotional development, and/or cultural and lived experiences.</td>
<td>• Strategies for intellectual engagement seen in the clip(s) offer structured opportunities for students to develop their own understanding of mathematical concepts, procedures, and reasoning. These strategies are <strong>explicit</strong>, and clearly <strong>reflect attention</strong> to students with diverse academic or language development, social/emotional development, and/or cultural and lived experiences.</td>
</tr>
<tr>
<td>• Candidate accurately <strong>identifies successful and unsuccessful teaching practices.</strong></td>
<td>• Candidate accurately identifies successful and unsuccessful teaching practices and proposes reasonable improvements.</td>
<td>• Candidate identifies successful and unsuccessful teaching practices. The proposed improvements are reasonable and address the learning of a subgroup or individual students.</td>
<td>• Candidate identifies successful and unsuccessful teaching practices. The proposed improvements are reasonable and <strong>address the learning of diverse students.</strong></td>
</tr>
<tr>
<td>OR</td>
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<tr>
<td>• Student behavior or candidate’s disrespect for one or more students severely limits students’ engagement in learning.</td>
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INSTRUCTION: DEEPENING STUDENT LEARNING DURING INSTRUCTION

M5: How does the candidate elicit and monitor students’ responses to deepen their understanding of mathematical concepts, procedures, and reasoning?

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| * Candidate primarily asks *surface-level questions* and evaluates student responses as *correct or incorrect*.  
  * Few connections* are observed being made between and among mathematical concepts, procedures, and reasoning.  
  OR  
  * Materials or candidate responses include *significant content inaccuracies* that will lead to student misunderstandings. | *The candidate elicits student responses that require mathematical reasoning or problem solving strategies.*  
  * Candidate makes connections between and among mathematical concepts, procedures, and reasoning.* | *Candidates and/or other students build on what students are saying and/or doing, using reasoning to improve understanding of mathematical concepts and procedures.*  
  * Candidate and/or other students *prompt students to make connections* between and among mathematical concepts, procedures, and reasoning.* | *Candidate’s and/or other students’ interactions help develop or reinforce students’ abilities to evaluate their own ideas through reasoning.*  
  * Candidate and/or other students prompt students to make connections between and among mathematical concepts, procedures, and reasoning.* |
Task 3. Assessing Student Learning  

Purpose

The Assessment of Student Learning task asks you to assess student achievement, diagnose student learning strengths and needs, and inform instruction. You will provide evidence of your ability to 1) develop evaluation criteria that are aligned with your big idea or essential question, standards, and learning objectives; 2) analyze student performance on an assessment in relation to student needs and the identified learning objectives; 3) provide feedback to students; and 4) use the analysis to identify next steps in instruction for the whole class and individual students.

What Do I Need to Do?

✓ Select an assessment from the learning segment that you will use to evaluate your students’ developing knowledge and skills. The assessment should be the work of individuals, not groups. The assessment should give both you and the students a sense of how well they are progressing toward learning key knowledge, skills, and abilities targeted in the learning segment.

✓ Provide a copy of the directions/prompt for the assessment, if these are not apparent from the student work samples.

✓ Provide the evaluation criteria that you used to assess the student work from the learning segment. Evaluation criteria are performance indicators that you use to assess student learning. Examples of categories of evaluation criteria include the ability to identify characteristics of graphs from equations, use a counterexample to disprove an argument, solve inequalities, or translate a word problem into mathematical symbols. They can be represented in various ways, e.g., a rubric, a system of a possible number of points for different categories, or rules for awarding full vs. partial credit.

✓ Analyze the student work from the assessment to identify patterns in understanding across the class. You will need to collect student work from your entire class.

✓ To illustrate your analysis, submit three student work samples which together represent what students in the class generally understood and what a number of students were still struggling to understand. Remove names of students, yourself, and the school with correcting fluid, tape, or marker prior to copying/scanning the work samples. Label them as “Work Sample 1”, “Work Sample 2”, and “Work Sample 3”.

✓ Select two students as focus students whose learning you will discuss in more depth.

   o You may choose one or both of the students whose work samples were already submitted or choose two different students. However, at least one of the students must be a student with identified learning needs, e.g., an English Language Learner, a student with an IEP, or a student identified as gifted9. If either of these students is not included among the three for

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9 If you do not have any students with identified needs, select a student who is challenged by academic English, who usually struggles with the content OR who usually needs a greater challenge.
whom you already submitted samples, provide the work sample and label it Work Sample 4 or (if needed) Work Sample 5.

- **Document feedback** you provided to the two focus students, either as individuals or as part of a larger group. You may provide a copy of written feedback or video/audio evidence of oral feedback. If the feedback is written directly on the work sample, be sure that reviewers can distinguish the feedback from the students’ own work. If the feedback occurred in a video clip submitted as part of the Instruction task, identify the timestamp range on the video where the feedback can be found (e.g., Clip 1, 01:35 – 3:05). You may also submit an additional video clip showing oral feedback; label this video “Feedback clip”. Remember to obtain parental permission for all students appearing on the feedback video; one permission form can cover both the video in the Instruction task and any feedback video.

  ✓ Respond to each of the prompts in the Assessment Commentary.

**Assessment Commentary**

Write a commentary of 5-7 single-spaced pages (including prompts) that addresses the following prompts.

1. Refer to your lesson plans and cite the specific standards/objectives from the learning segment plans that are measured by the assessment chosen for analysis.

2. Create a summary of student learning for the whole class at this point in the learning segment relative to your evaluation criteria.
   a. Summarize student performance in narrative and/or graphic form (e.g., table or chart such as the optional chart provided in Appendix B).
   b. Attach your evaluation criteria, and note any changes from what was planned for assessment as described in the lesson plans or in the Planning commentary, prompt 4.

3. Discuss what most students appear to understand well, and, if relevant, any misunderstandings, confusions, or needs (including a need for greater challenge) that were apparent for some or most students. Cite evidence to support your analysis from the three student work samples you selected.

4. For the two focus students (see What Do I Need to Do? for how to select these students):
   a. Describe each student’s individual learning strengths and challenges (e.g., prior knowledge of the content, academic development, language proficiency, special needs) relative to what was measured by the assessment.
   b. What did you conclude from the work sample? Consider your knowledge of each student’s learning relative to the learning objectives. Use the work samples to cite specific evidence to support your conclusions.
   c. Explain how your feedback addressed individual student needs and learning objectives. To support your explanation, cite specific examples of written feedback (e.g., comments on work sample; e-mail; thread of conversation) or of oral feedback on an audio/video clip.
d. What opportunities did students have to apply the feedback to improve the work or their understanding, either within the learning segment or at a later time?

5. **Reflection:**
   a. Based on the student performance on this assessment, describe the next steps for instruction for your students. These next steps may include a specific instructional activity or other strategies to support or extend continued learning of objectives, standards, central focus, and/or relevant academic language for the learning segment.

   b. If different, describe any individualized next steps for the two students whose individual learning you analyzed.

   c. In your description, be sure to explain how these next steps follow from your analysis of the student performances.
### ASSESSMENT: ANALYZING STUDENT WORK

**M6:** How does the candidate demonstrate an understanding of student performance with respect to standards/objectives?

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</table>
| • Criteria are **not aligned with** the identified standards/objectives. **OR**
  • The conclusions in the analysis are **not supported** by either student work samples or the summary of learning. | • Criteria are well-defined and aligned with the indicated standards/objectives from the learning segment.
  • The analysis focuses only on listing what students did right or wrong in relationship to identified standards/objectives.
  • The analysis is supported by work samples and the summary of learning. The analysis of whole class performance describes some differences in levels of student learning for the content assessed. | • Criteria are well-defined and reflect the depth of understanding stated in the indicated standards/objectives from the learning segment.
  • The analysis focuses on patterns of student errors, skills, and understandings in relation to standards and learning objectives. The analysis uses these patterns to understand student thinking.
  • The analysis is supported by work samples and the summary of learning. Specific patterns are identified for individuals or subgroup(s) in addition to the whole class. | All components of Level 3 plus:
  • The candidate is able to see areas of strength in a predominantly weak sample and/or areas for improvement in a predominantly strong sample. |
### ASSESSMENT: USING ASSESSMENT TO INFORM INSTRUCTION

**M7:** How does the candidate use conclusions about what students know and are able to do to plan next steps in instruction?

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| - Next steps are **not relevant to the standards/learning objectives assessed**.  
  OR  
  - Next steps are **vaguely related to improving student performance related to the identified standards/learning objectives or use the same, unmodified strategies**.  
  OR  
  - Next steps are **not described in sufficient detail to understand them**. | - Next steps **follow from the analysis and are related to the standards/learning objectives**.  
  - Next steps focus on improving student performance through **new or slightly modified strategies for general support that addresses some identified student needs**.  
  - Next steps **described in sufficient detail to understand them**. | - Next steps follow from an **accurate analysis of student learning and aim at improving student understanding of important features of the standards/learning objectives**.  
  - Next steps focus on improving student performance through **targeted support to individuals and groups to address specific identified needs**.  
  - Next steps are **based on whole class patterns of performance and some patterns for individuals and/or subgroups** and are described in sufficient detail to understand them. | All components of Level 3 plus:  
  - Next steps demonstrate a **strong understanding of both the identified content and language standards/objectives and of individual students and/or subgroups**. |
### ASSESSMENT: USING FEEDBACK TO GUIDE FURTHER LEARNING

**M8: How does the candidate provide students feedback to guide their further learning?**

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<tbody>
<tr>
<td><strong>Feedback focuses solely on errors with no elaboration or is vague.</strong></td>
<td><strong>Feedback accurately identifies what students did well and areas for improvement related to specific learning objectives.</strong></td>
<td><strong>Specific and accurate feedback helps the student understand what s/he did well, and provides guidance for improvement.</strong></td>
<td><strong>Specific and accurate feedback on content and academic language helps the student understand what s/he did well, and provides guidance for improvement.</strong></td>
</tr>
<tr>
<td><strong>Opportunities for applying feedback are not described.</strong></td>
<td><strong>Candidate describes how students will use feedback to correct their errors.</strong></td>
<td><strong>Candidate describes how students will use feedback to improve their work or their understanding.</strong></td>
<td><strong>Candidate describes how students will use feedback to improve their work or their understanding and to evaluate their own work.</strong></td>
</tr>
<tr>
<td><strong>The feedback contains significant inaccuracies.</strong></td>
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*OR*

- Feedback focuses solely on errors with no elaboration or is vague.
- Opportunities for applying feedback are not described.
- The feedback contains significant inaccuracies.
Task 4. Final Retrospective Reflection

Purpose

The Final Retrospective Reflection task asks you to reflect on your experiences teaching the learning segment and to consider what you have learned about your teaching and the learning of your students. You will provide evidence of your ability to examine your teaching and propose changes that support the learning of your diverse students.

What Do I Need to Do?

✓ Reflect on your experiences teaching the entire learning segment and what you have written in your previous commentaries.

✓ Respond to the commentary prompt by explaining what you would do differently, given the opportunity to teach these lessons again.

Retrospective Reflection Commentary

Consider what you have learned about your teaching, your students, and their learning throughout the learning segment. Write a commentary of no more than one single spaced page (including prompts) in response to the following prompt.

1. If you could teach these lessons to the same group of students again, what would you change? Why?
**Reflection Rubric**

**REFLECTION: MONITORING STUDENT PROGRESS AND ADJUSTING INSTRUCTION**

**M9: How does the candidate monitor student learning and make appropriate adjustments in instruction during the learning segment?**

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| • Daily reflections indicate **inconsistent monitoring** of student performance | • Daily reflections **identify what** students could or could not do **within each lesson.** | • Daily reflections identify what students could or could not do **within each lesson and consider the implications for meeting the standards/objectives at the end of the learning segment.** | All components of Level 3 plus:  
  • Adjustments to instruction are focused on deepening students’ conceptual understanding, procedural fluency, and mathematical reasoning. |
| • There is **limited evidence of adjusting** instruction in response to observed problems, e.g., student confusion, a lack of challenge, time management. | • Adjustments to instruction are focused on **improving directions for learning tasks, time management, or reteaching.** | • Adjustments to instruction are **appropriate** and focused on addressing some individual and collective learning needs. | |

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### M10: How does the candidate identify the language demands of learning tasks and assessments relative to the students’ current levels of academic language proficiency?

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<tbody>
<tr>
<td>• Candidate’s description of students’ academic language proficiency at lower levels is limited to what they CANNOT do.</td>
<td>• Candidate describes academic language strengths and needs of students at different levels of academic language proficiency.</td>
<td>• Candidate describes academic language strengths and needs of students at different levels of academic language proficiency.</td>
<td>• Candidate describes academic language strengths and needs of students at the full range of academic language proficiency.</td>
</tr>
<tr>
<td>• Language genre(s) discussed are only tangentially to the academic purposes of the learning segment.</td>
<td>• The language genre(s) discussed are clearly related to the academic purposes of the learning segment and some language demands are identified.</td>
<td>• The language genre(s) discussed are clearly related to the academic purpose of the learning segment and language demands are identified.</td>
<td>• The language genre(s) discussed are clearly related to the academic purpose of the learning segment and language demands are identified.</td>
</tr>
<tr>
<td>• Candidate identifies unfamiliar vocabulary without considering other linguistic features.</td>
<td>• Candidate identifies vocabulary that may be problematic for students.</td>
<td>• Candidate identifies essential vocabulary for students to actively engage in specific language tasks.</td>
<td>• Candidate identifies essential vocabulary for students to actively engage in specific language tasks.</td>
</tr>
<tr>
<td>OR</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Candidate did not identify any language demands within the learning and assessment tasks.</td>
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</table>

Language demands might include: translating words or sentences into symbols or symbols into words and sentences; quickly decoding symbols into their abstract meanings; distinguishing mathematical uses of words used in everyday language (e.g., balance, product, irrational, factor, simplify, function); using technical language to explain intuitive understandings; using complex sentences to express conjectures; using precise language to explain mathematical concepts or reasoning; combining language and numbers to persuade an audience to accept a proposition.

Key genres in mathematics might include: interpreting or representing mathematical meanings represented symbolically, graphically or linguistically; recounting computational procedures or strategies used to solve mathematical problems; evaluating or constructing mathematical arguments; explaining mathematical concepts; defining technical terms; engaging in collaborative and oral mathematical reasoning.

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10 Language demands might include: translating words or sentences into symbols or symbols into words and sentences; quickly decoding symbols into their abstract meanings; distinguishing mathematical uses of words used in everyday language (e.g., balance, product, irrational, factor, simplify, function); using technical language to explain intuitive understandings; using complex sentences to express conjectures; using precise language to explain mathematical concepts or reasoning; combining language and numbers to persuade an audience to accept a proposition.

11 Key genres in mathematics might include: interpreting or representing mathematical meanings represented symbolically, graphically or linguistically; recounting computational procedures or strategies used to solve mathematical problems; evaluating or constructing mathematical arguments; explaining mathematical concepts; defining technical terms; engaging in collaborative and oral mathematical reasoning.
ACADEMIC LANGUAGE: EXPANDING STUDENTS’ ACADEMIC LANGUAGE REPERTOIRE

M11: How do the candidate’s planning, instruction, and assessment support academic language development?

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| ● The candidate gives **little or sporadic support to students** to meet the language demands of the learning tasks.  
OR  
● **Language and/or content is oversimplified** to the point of limiting student access to the core content of the curriculum. | ● The candidate uses scaffolding or other support to **address identified gaps** between students’ current language abilities and the language demands of the learning tasks and assessments, including selected genres and key linguistic features.  
● **Candidate articulates why instructional strategies chosen are likely to support aspects of students’ language development.** | ● The candidate’s use of scaffolding or other support provides access to core content while also providing **explicit models, opportunities for practice, and feedback for students to develop further language proficiency** for selected genres and key linguistic features.  
● **Candidate articulates why the instructional strategies chosen are likely to support specific aspects of students’ language development for different levels of language proficiency.** | ● The candidate’s use of scaffolding or other support provides access to core content while also providing **explicit models, opportunities for practice, and feedback for students to develop further language proficiency** for selected genres and key linguistic features.  
● **Candidate articulates why the instructional strategies chosen are likely to support specific aspects of students’ language development for the full range of language proficiency and projects ways in which the scaffolds can be removed as proficiency increases.** |

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12 Core content is the set of facts, concepts, skills, and abilities that are absolutely necessary to participate at least minimally in the learning/assessment tasks in the learning segment.

13 Such support might include one or more of the following: modeling of strategies for understanding word problems; explicit communication of the expected features of oral presentations of solutions (e.g., using rubrics, models, and frames); use of strategies that provide visual representations of content while promoting literacy development (e.g., graphic organizers); vocabulary development techniques (context cues, categorization, analysis of word parts, etc.); opportunities to work together with students with different kinds of language and literacy skills, etc.
Glossary

Academic Language: Academic language is the oral and written language needed by students to understand and communicate in the academic disciplines for specific purposes and audiences. Academic language often requires the inclusion of context information to make the meaning clear for a distant audience. It has long been accompanied by visuals such as illustrations and charts, and is beginning to incorporate multi-media as well as oral and written forms. Academic language genres include the specialized vocabulary, linguistic features, and textual resources associated with genres within a field (e.g., literary criticism, explanations of historical phenomena, lab reports). It also includes instructional language needed to participate in learning and assessment tasks, including discussing ideas and asking questions, summarizing instructional and disciplinary texts, following and giving instructions, listening to a mini-lesson, explaining thinking aloud, giving reasons for a point of view, and answering multiple-choice questions or writing essays to display knowledge on tests.

Assessment: Evidence teachers collect of student prior knowledge, thinking, or learning in order to evaluate what students understand and how they are thinking. Informal assessments include such things as student questions and responses during instruction and teacher observations of students as they work. Formal assessments may include such things as quizzes, homework assignments, lab reports, papers, journals, and projects.

Curriculum content: Descriptions of what students are to know and be able to do, including various areas of knowledge, e.g., facts, concepts, procedures, methods of inquiry and making judgments.

Engaging students in learning: Teacher strategies that promote students to actively increase their knowledge, skills, and abilities related to the learning objectives for the lesson. Engagement contrasts with participation in learning tasks where students complete the activities, but little learning takes place because the tasks are not well-designed and/or implemented.

Genres: Generic designs applicable across multiple topics to guide the process of interpreting or constructing texts. The designs are structured to achieve specific purposes related to a particular cultural (e.g., science community, ethnic community) and situational context (e.g., classroom discussion, test, school newspaper, or The Concord Review, a national history journal for secondary students). Examples of subject-specific genres appear in Appendix A.

Guiding Question: Questions used to identify the focus of each rubric, i.e., what it measures about the candidate’s teaching practice as documented in the Teaching Event. Each rubric level descriptor provides an answer to the related guiding question at a different level of performance. (See Rubric level descriptor)

Language Demands: In the context of learning in classrooms, language demands are descriptions of the language students need to effectively participate in classroom tasks. This includes demands related to listening, speaking, reading, writing, and shifting between those modalities. These demands can be vocabulary, linguistic features of genres, and other language demands related to participating in learning tasks (e.g., sharing ideas with a partner, listening to instructions). Particular language demands vary with the purpose and audience, although academic language is often aimed at communicating with distant audiences when assumptions and needed context need to be made explicit. The degree of language demand also varies with the cognitive complexity of the content, a student’s current language development, a student’s relevant knowledge and experience, and the context in which the language demand occurs (e.g.,
participating in a discussion with or without notes). Teachers can draw upon students’ language strengths (including language abilities in another language or context) and supply scaffolds to enable students to understand or produce language beyond their current level of mastery.

**Learning Objectives:** Student learning outcomes to be achieved by the end of the lesson.

**Learning Segment:** A set of lessons that build one upon another toward a central purpose, with a clearly defined beginning and end.

**Learning Tasks:** Purposefully designed activities in which students engage (not just participate – see Engaging Students in Learning) to meet the learning objectives for the lesson.

**Linguistic Features of Texts:** Regular language patterns characteristic of specific genres in a specific context. They include such things as vocabulary patterns, connector words, grammatical structures, or text organization strategies. Conventional linguistic features help authors of oral and written texts achieve their purpose, enabling others to understand the communication.

**Scaffolding:** A special type of instructional support to allow students to do a task that they cannot yet do independently. Like scaffolding for buildings under construction, the support is designed to be temporary and to be removed or gradually reduced as students learn to do the task by themselves.

**Student academic content standards:** A set of knowledge, skills, and abilities that students are to learn by the end of a particular grade, grade level, or course. Student academic content standards are usually published by the state department of education to guide curriculum and instruction in public schools.

**Text:** A text is a coherent configuration of language (and other symbolic resources such as graphs, charts, illustrations) of any length with the intention to communicate meaning and achieve social purposes in particular contexts. Every clause simultaneously represents a version of reality (who did what to whom), negotiates social relationships (between author and audience) and organizes the message. Meaning is realized through language choices that simultaneously interweave language choices (grammar, technical words, linking words, text forms, organizational moves and other linguistic deivces) into a coherent and cohesive whole to achieve particular cultural and situational purposes for specific audiences.

**Textual resources:** Textual resources help readers make sense of texts. They include formatting conventions, graphics, and organizational titles and headings.
Checklist of Required Evidence

**Required Forms** (this is in Appendix C)
- Teaching Event Authenticity Sign-Off Form

**Task 1. Planning for Instruction & Assessment**
- Context for Learning Information
- Lesson plans for learning segment
- Key instructional materials, e.g., class handouts, overheads, labeled by the lesson number(s) (e.g., Lesson 1, Lessons 2-3) for which each document will be used
- All assessment tools and evaluation criteria labeled by the lesson number(s) (e.g., Lesson 1, Lessons 2-3) for which each tool will be used
- Commentary explaining how the planned instruction and assessments draw upon what you know about your students as well as research and theory to support and monitor student learning
- Daily reflections

**Task 2. Instructing & Engaging Students in Learning**
- Video clip(s)
- Video Label Form
- Commentary explaining and analyzing the teaching and learning portrayed in the video

**Task 3. Assessing Student Learning**
- Evaluation criteria used to assess student performance on the assessment
- Work samples from three students to illustrate what students generally understood and what a number of students were still struggling to understand plus work samples from the two focus students, if different. (Be sure to mask or remove student names.)
- Evidence of oral and/or written feedback given to two focus students
- Commentary analyzing student learning based on performance on the assessment, describing feedback given to two students, and identifying next steps in instruction

**Task 4. Final Retrospective Reflection**
- Final Retrospective Reflection Commentary
Appendix A  
Academic Language for Secondary Mathematics

Academic language differs from everyday language. The differences include:

- a defined system of genres with explicit expectations about how texts are organized to achieve academic purposes;
- precisely-defined vocabulary to express abstract concepts and complex ideas;
- more complex grammar in order to pack more information into each sentence;
- a greater variety of conjunctions and connective words and phrases to create coherence among multiple ideas;
- textual resources (formatting conventions, graphics and organizational titles and headings) to guide understanding of texts.

Academic language also includes instructional language needed to participate in learning and assessment tasks, such as:

- discussing ideas and asking questions,
- summarizing instructional and disciplinary texts,
- following and giving instructions,
- listening to a mini-lesson,
- explaining thinking aloud,
- giving reasons for a point of view,
- showing problem solving steps to display knowledge on tests.

Academic language takes the form of many genres. Genres are generic designs applicable across multiple topics to guide the process of interpreting or constructing texts. The designs are structured to achieve specific purposes related to a particular cultural (e.g., mathematics community, parent community) and situational context (e.g., classroom discussion, test, school newspaper, mathematics competition.)

Examples of genres in secondary mathematics:

- representing word problems mathematically
- explaining or justifying mathematical reasoning
- describing procedures
- recounting how a problem was solved
- defining and relating mathematical concepts
- evaluating or constructing mathematical arguments
- interpreting and explaining proofs

Examples of linguistic features of genres:

- related clusters of vocabulary to express the content such as angle, triangle or divide, divisor, dividend
- connector words that join sentences, clauses, phrases and words in logical relationships of time, cause and effect, comparison, or addition

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• cohesive devices that link information in writing and help the text flow and hold together\textsuperscript{15}
• grammatical structures such as comparisons (The ___ is longer than the ____); passive voice, nominalizations where verbs are turned into nouns like argue into argument to help condense text and make connections between sentences as in “Jacob argued that the sum of two odd numbers is an odd number. But his argument contained an error when he said…”
• text organization strategies

Examples of connector words for different purposes:
• Temporal: first, next, then
• Causal: because, since, however, therefore
• Comparative: rather, instead, also, on the other hand
• Additive: and, or, furthermore, similarly, while
• Coordinating: and, nor, but, so

Example of text organization strategies for increasingly complex arguments\textsuperscript{16}:
• Simple argument: point/proposition, elaboration, e.g., I added the exponents because that is how variables with exponents and the same base are multiplied.
• Argument with evidence: Proposition, argument, conclusion
• Discussion: statement of issue, arguments for, arguments against, recommendation
• Elaborated discussion: statement of issue, preview of pro/con positions, several iterations of point/elaboration representing arguments against, several iterations of point/elaboration representing arguments for, summary, conclusion

\textsuperscript{15} Knapp & Watkins, op. cit., p. 47
\textsuperscript{16} Adapted from Knapp & Watkins, op. cit., pp. 190-195.
**Appendix B**

**Summary of Student Learning Chart**

*(Optional)*

List the categories of evaluation criteria as well as the corresponding characteristics of student work at each level of performance. This chart is designed to be completed electronically, so the blank space does not represent the space needed. Use as much space and as many rows and columns as you need.

<table>
<thead>
<tr>
<th>Evaluation Criteria Category</th>
<th>Characteristics of Student Work</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Performance Level 1</td>
</tr>
<tr>
<td><em>(name of category)</em></td>
<td><em>(provide description of performance of class at this level)</em></td>
</tr>
<tr>
<td><em>(name of category)</em></td>
<td><em>(provide description of performance of class at this level)</em></td>
</tr>
<tr>
<td><em>(name of category)</em></td>
<td><em>(provide description of performance of class at this level)</em></td>
</tr>
</tbody>
</table>
Submit this form with your completed TPAC assessment.

This TPAC assessment has been submitted as part of a pilot of the assessment instrument. This attestation is acknowledgement that the ultimate responsibility for compiling the documentation (including writing the commentaries) lies with the credential candidate. However, credential candidates are encouraged to seek assistance, input and feedback from their university supervisors, cooperating/master teachers, university instructors, or other credential candidates during the completion of the assessment.

Attestation by Credential Candidate

- I have primary responsibility for teaching the students/class during the learning segment profiled in this assessment;
- The video clip(s) submitted show me teaching the students/class profiled in the evidence submitted;
- The student work included in the documentation is that of my students who are profiled in the learning segment documented in this assessment;
- I am sole author of the teacher commentaries and other written responses to prompts and other requests for information in this assessment;
- Appropriate citations have been made for all materials in the assessment whose sources are from published text, the Internet, or other educators.

___________________________  __________________________  ____________
Teacher Candidate’s Signature  Teacher Candidate’s Name (printed)  Date

___________________________
Teacher Candidate ID #

Attestation by University Supervisor

To the best of my knowledge, the statements above are accurate.

___________________________  __________________________  ____________
University Supervisor’s Signature  University Supervisor’s Name (printed)  Date
b. **Scoring Guide for the Teacher Performance Assessment**

The Teacher Performance Assessment requires teacher candidates to build a portfolio organized into five sections (Planning, Instruction, Assessing, Reflection, and Academic Language) around a 3-5 lesson “learning segment” or sequence of lessons enacted during the student teaching experience.

The TPA provides teacher educators with eleven explicit scoring rubrics to use when evaluating the teacher candidates’ work. The Planning section includes three rubrics for assessing various components of the candidates’ planning (these rubrics are found on pages 14, 15, and 16 of this report); the Instruction section includes two rubrics (see pages 20 and 21); the Assessing section includes three rubrics (see pages 25, 26, and 27); the Reflection section includes one rubric (see page 29); and the Academic Language section includes two rubrics (see pages 30 and 31).

Each rubric includes a 4-point evaluation scale. The developers of this version of the instrument intended for a score of 2 on any given rubric to be considered the target competency for a student teacher. A score of 3 is considered very good for a beginning teacher and a score of 4 is considered exceptional. A score of 1 is below target and cause for concern.

The recommended guideline for evaluators using this instrument as evidence of a teacher candidate’s readiness for full-time teaching is that a competent beginning teacher should receive no more than two scores of “1” across all eleven rubrics, and a competent beginning teacher should receive no more than one score of “1” within any particular section of the instrument. This guideline will be used in Section C of this report when data about the percentage of Augustana mathematics teacher candidates meeting minimal expectations on this assessment is shared.

It should be noted that completion of the TPA is a requirement for the 1-credit seminar course that accompanies the student-teaching experience at Augustana. This course, like all courses at Augustana, requires an evaluative letter grade (A, B, C, D, F). Given this institutional requirement, our faculty has agreed on a method of converting the numerical rubric scores on the TPA into a letter grade. This conversion system is shared with our teacher candidates, and our teacher candidates are provided with all numeric scores from the original instrument as well as the letter grades. The letter grade is more of an institutional formality than a helpful assessment metric, so it does not seem necessary to share letter grade data in Section C. The numerical scores that are included with the TPA rubrics have explicit meaning, are the most helpful form of assessment data, and thus the numerical data are shared in Section C.
c. **Candidate Data from this Assessment**

As noted earlier, Augustana adopted the TPA during the 2011-2012 in response to critiques from the NCATE SPAs (including the NCTM) that the Work Sample assessment that we used prior to 2011-2012 lacked clarity and content specificity. Given that we have only used this instrument for one academic year, we do not have a large set of assessment data. We had only three secondary mathematics student teachers during 2011-2012. The performance of these three candidates on the TPA assessment was satisfactory, however, and thus indicates that they received appropriate preparation through our program.

1. **Percentage of Students Meeting Minimal Expectations on the TPA (n = 3).**

As indicated earlier, the Minimal Expectation for the TPA as laid out by the instrument’s developers is as follows: a competent beginning teacher should receive no more than two scores of “1” across all eleven rubrics, and a competent beginning teacher should receive no more than one score of “1” within any particular section of the instrument.

Given these guidelines, **100% of our teacher candidates met the minimal expectation during the 2011-2012 year.**

2. **Average Scores for the TPA Sections and Rubrics (n = 3)**

The table below lists the mean score for our three teacher candidates in 2011-2012 on each individual rubric and also provides the overall mean score for each section of the TPA.

<table>
<thead>
<tr>
<th>Section</th>
<th>Rubric</th>
<th>Mean Score Assigned</th>
<th>Mean Section Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Planning</td>
<td>M1: How do the plans support students’ development of conceptual understanding, procedural fluency, and mathematical reasoning skills?</td>
<td>2.67</td>
<td>2.33</td>
</tr>
<tr>
<td></td>
<td>M2: How does the candidate use knowledge of his/her students to target support for students’ development of conceptual understanding, procedural fluency, and mathematical reasoning skills?</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td></td>
<td>M3: How do the informal and formal assessments provide information to understand student progress toward the standards/objectives?</td>
<td>2.33</td>
<td></td>
</tr>
<tr>
<td>Instruction</td>
<td>M4: How does the candidate actively engage students in developing their own understanding of mathematical concepts, procedures, and reasoning?</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>M5: How does the candidate elicit and monitor students’ responses to deepen their understanding of mathematical concepts, procedures, and reasoning?</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>Assessing</td>
<td>M6: How does the candidate demonstrate an understanding of student performance with respect to standards/objectives?</td>
<td>2.33</td>
<td>2.22</td>
</tr>
<tr>
<td></td>
<td>M7: How does the candidate use conclusions about what students know and are able to do to plan next steps in instruction?</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td></td>
<td>M8: How does the candidate provide students feedback to guide their further learning?</td>
<td>2.33</td>
<td></td>
</tr>
<tr>
<td>Reflection</td>
<td>M9: How does the candidate monitor student learning and make appropriate adjustments in instruction during the learning segment?</td>
<td>2.33</td>
<td>2.33</td>
</tr>
<tr>
<td>Academic Language</td>
<td>M10: How does the candidate identify the language demands of learning tasks and assessments relative to the students’ current levels of academic language proficiency?</td>
<td>2.67</td>
<td>2.5</td>
</tr>
<tr>
<td></td>
<td>M11: How does the candidate’s planning, instruction, and assessment support academic language development?</td>
<td>2.33</td>
<td></td>
</tr>
</tbody>
</table>
### d. Chart Aligning NCTM Standards and Indicators with Work Sample

The TPA aligns well to multiple NCTM standards and indicators. Given that this is a Response to Conditions Report, however, this section will focus only on how this assessment aligns with standards and indicators that were judged as “Not Met” in the our 2011 NCTM National Recognition Report. We are convinced that this TPA assessment provides clear evidence that Augustana secondary mathematics teacher candidates are required to demonstrate their competence relative to these standards and indicators, and their performance on these standards and indicators is explicitly assessed through this instrument. We acknowledge that the Work Sample assessment we submitted in 2010 was not as clear or as content-specific as it could have been, we appreciate our reviewers’ feedback in pointing this out, and we believe that our adoption of the TPA represents an effective approach for improving our assessment practices and our program.

<table>
<thead>
<tr>
<th>NCTM Standard and Indicator</th>
<th>TPA Performance Descriptor</th>
</tr>
</thead>
<tbody>
<tr>
<td>Each standard and indicator listed below was judged as “Not Met” in our 2011 NCTM National Recognition Report. Rather than listing all of the indicators that align to this TPA assessment, we are highlighting only the indicators that were considered deficient in an effort to provide evidence that our program does indeed address these indicators thoroughly.</td>
<td>The language provided below is drawn directly from the evaluative rubrics that are used to assess the TPA. With the exception of the performance descriptor aligned to indicator 8.6, each performance descriptor aligns to the “target” competency (TPA score of 2 on the rubric). As noted in Section C of this report, our candidate’s performance tends to be at or above “target.” 8.6 is the exception simply because the language in Rubric M1 does not mention adherence to research results in its “target” (score = 2) language, but rather includes this in its “above target” (score = 3) language.</td>
</tr>
<tr>
<td>3.1 Communication Process Standard: [Candidates] communicate their mathematical thinking coherently and clearly to peers, faculty, and others.</td>
<td>Rubric M10: The language genre(s)* discussed [in the context of teaching] are clearly related to the academic purposes of the learning segment and some language demands are identified. Rubric M11: The candidate uses scaffolding or other support to address identified gaps between students’ current language abilities and the language demands of the learning tasks and assessments, including selected genres* and key linguistic features.</td>
</tr>
<tr>
<td>*A footnote in the TPA instrument defines “language genres” in the context of mathematics as follows: “Key genres in mathematics might include: interpreting or representing mathematical meanings represented symbolically, graphically or linguistically; recounting computational procedures or strategies used to solve mathematical problems; evaluating or constructing mathematical arguments; explaining mathematical concepts; defining technical terms; engaging in collaborative and oral mathematical reasoning.”</td>
<td></td>
</tr>
<tr>
<td>3.2 Communication Process Standard: [Candidates] use the language of mathematics to express ideas precisely.</td>
<td>Rubric M10: The language genre(s)* discussed [in the context of teaching] are clearly related to the academic purposes of the learning segment and some language</td>
</tr>
</tbody>
</table>
3.3 Communication Process Standard: [Candidates] organize mathematical thinking through communication.

| Rubric M10: The language genre(s)* discussed [in the context of teaching] are clearly related to the academic purposes of the learning segment and some language demands are identified.  
Rubric M11: The candidate uses scaffolding or other support to address identified gaps between students’ current language abilities and the language demands of the learning tasks and assessments, including selected genres* and key linguistic features.  
*A footnote in the TPA instrument defines “language genres” in the context of mathematics as follows: “Key genres in mathematics might include: interpreting or representing mathematical meanings represented symbolically, graphically or linguistically; recounting computational procedures or strategies used to solve mathematical problems; evaluating or constructing mathematical arguments; explaining mathematical concepts; defining technical terms; engaging in collaborative and oral mathematical reasoning.” |

3.4 Communication Process Standard: [Candidates] analyze and evaluate the mathematical thinking and strategies of others.

<p>| Rubric M4: Strategies for intellectual engagement seen in the [video] clip(s) offer opportunities for students to develop an understanding of mathematical concepts, procedures, and reasoning. These strategies reflect attention to students’ academic or language development, social/emotional development, and/or cultural and lived experiences. |</p>
<table>
<thead>
<tr>
<th>Rubric M5:</th>
<th>The candidate <strong>elicits student responses that require mathematical reasoning or problem solving strategies.</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Rubric M5:</td>
<td><strong>4.3 Connections Process Standard:</strong> [Candidates] demonstrate how mathematical ideas interconnect and build on one another to produce a coherent whole.</td>
</tr>
<tr>
<td>Rubric M1:</td>
<td>[Planned] <strong>Learning tasks build on each other</strong> to promote an understanding of the designated mathematical concepts and procedures. Learning tasks (or their adaptations) are <strong>justified by explaining their appropriateness</strong> for the students.</td>
</tr>
<tr>
<td>Rubric M1:</td>
<td>Planned <strong>connections</strong> among mathematical procedures, concepts, and reasoning are <strong>vague</strong> [yet present.] [Note that a score of “3” on this rubric corresponds to clearly articulated connections].</td>
</tr>
<tr>
<td>Rubric M5:</td>
<td><strong>Candidate makes connections</strong> between and among mathematical concepts, procedures, and reasoning.</td>
</tr>
<tr>
<td>Rubric M2:</td>
<td>Learning tasks and materials <strong>draw upon students’ academic development AND social/emotional development, or experiences, or interests to help students reach the learning objectives.</strong></td>
</tr>
<tr>
<td>Rubric M4:</td>
<td>Strategies for intellectual engagement seen in the [video] clip(s) [of teaching] offer <strong>opportunities for students to develop an understanding</strong> of mathematical concepts, procedures, and reasoning. These strategies reflect <strong>attention to students’ academic or language development, social/emotional development, and/or cultural and lived experiences.</strong></td>
</tr>
<tr>
<td>Rubric M3:</td>
<td>The set of assessments [used in instruction] will <strong>provide evidence of student learning relative to the standards/objectives for each lesson.</strong></td>
</tr>
<tr>
<td>Rubric M3:</td>
<td>Assessments [used in instruction] are <strong>focused on what students do and do not understand</strong> relative to each lesson’s objectives.</td>
</tr>
<tr>
<td>Rubric M6:</td>
<td>[Assessment] Criteria are <strong>well-defined</strong> and <strong>aligned with the indicated standards/objectives</strong> from the learning segment.</td>
</tr>
<tr>
<td>Rubric M6:</td>
<td>The analysis [of assessment data] is <strong>supported by</strong> work samples and the summary of learning. The analysis of whole class performance describes <strong>some differences in levels</strong> of student learning for the content.</td>
</tr>
</tbody>
</table>
Rubric M7: [Plans for] Next steps [in instruction] follow from the analysis [of assessment results] and are related to the standards/learning objectives.

Rubric M8: Feedback [provided to secondary school students by the teacher candidate] accurately identifies what students did well and areas for improvement related to specific learning objectives.

8.1 Knowledge of Mathematics Pedagogy: Select, use, and determine suitability of the wide variety of available mathematics curricula and teaching materials for all students, including those with special needs such as the gifted, challenged and speakers of other languages.

Rubric M1: [Planned and enacted] Learning tasks build on each other to promote an understanding of the designated mathematical concepts and procedures. Learning tasks (or their adaptations) are justified by explaining their appropriateness for the students.

Rubric M2: [Planned and enacted] Learning tasks and materials draw upon students’ academic development AND social/emotional development, or experiences, or interests to help students reach the learning objectives.

8.4 Knowledge of Mathematics Pedagogy: Plan lessons, units and courses that address appropriate learning goals, including those that address local, state, and national mathematics standards and legislative mandates.

Rubric M1: Standards/objectives, learning tasks, and assessments [articulated in lesson plans] are clearly aligned to a big idea or essential question.

Rubric M6: [Assessment] Criteria are well-defined and aligned with the indicated standards/objectives from the learning segment.

8.6 Knowledge of Mathematics Pedagogy: Demonstrate knowledge of research results in the teaching and learning of mathematics.

NOTE: As noted in the header to this column, the “performance indicator” language for this particular indicator differs from the other indicators. This is simply because the language associated with the “target” score of 2 in Rubric M1 does not refer to research, but the score of 3 does. It should be noted that 2 of our 3 candidates indeed scored a “3” on this rubric. Furthermore, all candidates were required to attempt to demonstrate their knowledge of research results via the writing prompts they were required to respond to. Hence, language from the “score = 3” on the rubric as well as the original writing prompts are provided here as evidence that this assessment does indeed measure our candidates’ ability to apply research results to teaching and learning.

Rubric M1 (Score = 3): Learning tasks build on each other to promote an understanding of the designated
8.8 Knowledge of Mathematics Pedagogy:
Demonstrate the ability to lead classes in mathematical problem solving and in developing in-depth conceptual understanding, and help students develop and test generalizations

<table>
<thead>
<tr>
<th>Rubric M1:</th>
<th>Learning tasks build on each other to promote an understanding of the designated mathematical concepts and procedures. Learning tasks (or their adaptations) are justified by explaining their appropriateness for the students.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rubric M4:</td>
<td>Strategies for intellectual engagement seen in the [video] clip(s) offer opportunities for students to develop an understanding of mathematical concepts, procedures, and reasoning. These strategies reflect attention to students’ academic or language development, social/emotional development, and/or cultural and lived experiences.</td>
</tr>
<tr>
<td>Rubric M5:</td>
<td>The candidate elicits student responses that require mathematical reasoning or problem solving strategies.</td>
</tr>
</tbody>
</table>
Augustana College Teacher Education Program

NCTM SPA Response to Conditions Report

Assessment # 3: Course Grades

Table of Contents for Assessment Documentation

Part 1: Description of the Assessment ................................................................. Pages 2-5
Part 2: Alignment with Previously “Not Met” SPA Indicators ........................ Pages 6-8
Part 3: Grade Policy and Minimum Expectation ............................................. Page 9
Part 4: Data Tables ......................................................................................... Pages 10-12
Part 1. **Description of the Assessment**

a. **Modifications to this Assessment Report since 2010**

This assessment, “Course Grades,” is being updated and resubmitted with this Response to Conditions report in order to provide further evidence related to our program’s alignment to the NCTM Standards and Indicators.

One critique from Section G of our 2011 NCTM National Recognition Report was that our program had not met the SPA-required number of standards and indicators. Part 2 of this report is designed to focus specifically on indicators that were judged as “Not Met” in the Recognition Report. Thus, many required courses that were highlighted in the 2010 report are not included in Part 2 of this report (though they are mentioned in Parts 1b and Part 4): it seems unnecessary to highlight courses aligned to indicators that our program has already “Met.” Only courses that are strongly aligned to indicators that were judged as “Not Met” will be included in Part 2 of this report, and additional information about each of these courses will be provided in order to establish why our teacher candidates’ successful completion of these collegiate courses is indicative of their competence relative to particular NCTM indicators.

b. **Description of the Assessment** (NOTE: this part of the report is identical to that which was submitted in 2010).

We monitor and assess the academic performance of the secondary mathematics teacher candidates on an individual candidate basis each term. We also monitor the performance of our candidates in the Course Group areas described below based on year of admission to the program cohorts. All courses listed below are required for all secondary mathematics teacher candidates.

**Psychology Course Group**

Courses: (1) Intro to Psychology, (2) Adolescent Development, (3) Educational Psychology & Measurement.

**Rationale for Course Selections:** Intro to Psychology helps our candidates fulfill general education requirements and prepares them for the other required psychology courses. Adolescent Development addresses the developmental stages of adolescents, the age group encountered by secondary school teachers. Educational Psychology & Measurement is the first course in the Education sequence. It exposes students to influential and foundational ideas in educational thought and psychology (e.g., Piaget, Vygotsky, Dewey).

**Alignment with NCTM Standards:** The psychology course group as a whole sets a foundation for NCTM Standard 8.6: “knowledge of research results in the teaching and learning of mathematics.” The psychology courses do not focus on mathematics teaching and learning specifically, but do expose students to the most robust research findings in educational psychology that have relevant application in mathematics education. These applications to mathematics teaching and learning are made explicit in the Math Methods course.

**Analysis of the Grades:** As shown in the table in Part 4, our secondary mathematics teacher candidates perform quite well relative to other Augustana students in the Psychology course group. For all course units these candidates averaged higher grades than other students. Furthermore, 100% of our candidates met the minimum grade expectation for these courses with the exception of one course unit: Educational Psychology in 2009-2010. The strong showing by our candidates is not surprising in the case of Intro to Psychology since our

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1 A “course unit” will be defined as a given course taken by our candidates in a given year. So, for example, since four academic years are presented in the tables, and PSYC 100 was taken by our candidates all four of those years, there are a total of four PSYC 100 “course units” in the table.
Department requires a minimal grade in this course for entry into our program. However, we are quite pleased that our candidates scored relatively well compared to their peers in Adolescent Psychology (a course consisting of all secondary education majors and all psychology majors) and Educational Psychology (a challenging course consisting of all elementary and secondary education majors). Even in the disappointing case of Educational Psychology in 2009-2010 when only 75% of our candidates met the minimal grade expectation, our candidates were still more likely than other students in the class to meet the grade expectation. This suggests that the course is indeed challenging, and, as stated on Part 3 of this report, the few candidates who failed to meet the grade expectation did have opportunities to make amends for their performance in this course in other ways. We view the strong overall showing by our candidates in the Psychology Course Group as convincing evidence that our teacher candidates enter the education course sequence with a firm foundation in research-based psychological theories that our pertinent in our field.

Education Course Group:
Courses: (1) Developing Classroom Assessments of Student Learning, (2) Methods of Inclusion, (3) Secondary and Middle School (General) Methods, (4) Middle and Secondary School Methods: Mathematics, (5) Computers in Education, (6) School and Society

Rationale for Course Selections: Assessing Learning is the second course in the education sequence (it follows Educational Psychology listed in the Psychology Course Group). It is offered early in the course sequence in order to emphasize the importance of assessing student knowledge in order to inform instruction, and also to familiarize students with various approaches to informal and formal assessment, and the potential value and limitations of these approaches. Methods of Inclusion emphasizes differentiation strategies in the classroom, highlighting methods teachers can use that help ensure that the diverse student needs exhibited in any given classroom can be met. The General Teaching Methods course follows Methods of Inclusion in the sequence. In this course, students learn about and engage with general teaching methods that are relevant across content areas (such as constructivist approaches, effective questioning techniques, student grouping strategies, etc.). The Secondary Math Methods course focuses on approaches, tools, and techniques for teaching secondary mathematics with particular emphasis on NCTM Principles and Process Standards as well as Illinois Content Standards. Computers in Education exposes students to various pieces of technology relevant to classroom instruction, thus expanding on the NCTM’s Technology Principle that is addressed in the methods course. Both the Secondary Math Methods and Computers in Education courses are taken after the General Methods course and before Student Teaching. School and Society is the capstone course of the program, taken in the term following student teaching. In this course students revisit questions raised throughout their time in the teacher education program (What does it mean to teach? What does it mean to learn? What are schools for?), and reflect on these question in light of their classroom experience as student teachers.

Alignment with NCTM Standards: The education sequence as a whole addresses the NCTM’s Standard 6 (Knowledge of Technology), Standard 7 (Dispositions), and Standard 8 (Pedagogy). Specific indication of how particular courses address the numerous indicators in these standards is provided in Part 2 of this document. The Middle and Secondary School Methods: Mathematics course goes further in that it also addresses the majority of indicators in the NCTM Process Standards (Standards 1-5) and two of the indicators in the Content Standard of Number and Operations (Standard 9). Further detail of how this course accomplishes this is presented in Part 2 of this document.

Analysis of the Grades: There is clear evidence in this cluster of courses that our secondary mathematics teacher candidates perform strongly when compared to their peers. For this particular course group, the “peers” include other education majors at Augustana. Since the teacher education program has high academic standards for all students (students must maintain a 3.0 overall GPA to be retained in the program), it is certainly noteworthy that the secondary mathematics teacher candidates stand out in this group. Our candidates earned...
higher grades than their peers in 18 of 22 (or 82%) of course units. Ironically, 3 of the 4 course units for which our teacher candidates’ grades were lower than peers were in content areas where our candidates have ample opportunity to “prove themselves” via other assessments. 2 of these courses were “Computers in Education” units (and our students can demonstrate their technological proficiency via a required course Introduction to Computer Science and via their ICTS test) and the other course was the Secondary Math Methods course (where the “other” students who outscored them were elementary education majors seeking a middle school mathematics endorsement). So, while it is disappointing that the secondary mathematics teacher candidates did not outperform their peers in these key courses, there is other evidence showing that our candidates are strong in the skills developed in these three course units. The 4th course in which “other” students outscored secondary mathematics teacher candidates was the General Methods course in 2009-2010. For this course, only 1 of our candidates was a participant, and this student earned an A-. Thus, that particular case is not a cause for concern. In summary, our candidates’ strong grades relative to other education majors coupled with the alignment our courses have with NCTM’s Standards 6, 7, and 8, convince us that our pre-service secondary mathematics teachers are adept at utilizing technology in the classroom, have appropriate dispositions for their field, and are well prepared in the various skills of our profession (such as assessing students, planning instruction, accommodating special needs, etc.).

**Mathematics Content Course Group**


**Rationale for Course Selections:** At Augustana College, secondary mathematics teacher candidates are required to major in mathematics. “Education” is considered the candidates’ concentration within their major. Thus, the primary rationale for this selection of courses is that our colleagues in the mathematics department have decided that this sequence of courses must be completed by all majors. From a teacher preparation standpoint, we embrace these required courses as they align closely with NCTM standards in both content and process.

**Alignment with NCTM Standards:** These courses taken in the mathematics department rigorously address the NCTM Content Standards 10-15. Standard 9, Knowledge of Number and Operation, is not directly addressed in these college-level courses as the content in Standard 9 is less advanced than the content found in the collegiate sequence. Also, the Augustana mathematics major does not require a course in Number Theory. Note that two indicators from Standard 9 are addressed in the education department’s Secondary Math Methods Course. In addition to addressing mathematical content, several courses in the mathematics sequence explicitly address NCTM Process Standards 1-6. Further detail of how this occurs is presented in Part 2 of this document.

**Analysis of the Grades:** Our candidates’ performance in this cluster of classes indicates that our pre-service teachers possess firm knowledge of the content and processes of mathematics. As with the Psychology and Education Course Groups, our candidates perform strongly in relation to their peers. In this content group, the “peers” consist almost entirely of other Augustana students who are exceptionally strong in mathematics. Calculus 1 is not a general education requirement at Augustana, hence the students who choose to fulfill their general education Quantitative Reasoning requirement by taking Calculus 1 tend to be strong and confident mathematical thinkers. Calculus 2 typically consists of mathematics and science majors only. All other courses in this cluster are populated by students who have chosen to major in mathematics. The data table in Part 4 provides evidence that our teacher candidates perform quite well in this larger, specialized group. Our candidates averaged better grades than other students in 30 of 35 (or 86%) course units, and 100% of our candidates met the minimal grade requirement in 32 of 35 (or 91%) course units. Focusing on the 5 courses in which our candidates’ grades were lower than other students, the difference is nominal in 4 of the courses. That is, the GPAs of our candidates and other students are identical in these 4 courses if the GPA is rounded to the nearest tenth (note, for example, the case of EDUC 340 in 2008-2009 in which our candidates’ GPA was 3.21
and that of other students was 3.24). One mathematics course, Real Analysis, does stand out as somewhat of a disappointment. In both 2007-2008 and 2008-2009 our candidates scored lower than their peers, with a fairly significant gap of 0.2 grade points in the latter year. Additionally, during these two years only 13 of our 16 (81%) candidates earned the minimally expected grade of C or better in this course. Though Real Analysis stands out as our candidates’ weakest course, and their future performance in this course will be monitored, we are still confident that their overall performance in mathematics content courses shows convincingly that our students are well prepared in the Content and Process Standards laid out by the NCTM. As noted in the alignment chart in Part 2, the content in Real Analysis is largely more advanced than the content standards of the NCTM, so their relatively weak performance in that course does not detract from the content knowledge expected of teachers. Real Analysis does offer our candidates opportunities to demonstrate their abilities with several Process Standards, but this is also true of most other mathematics courses where they have demonstrated resounding success.
### Part 2. Alignment with Previously “Not Met” SPA Indicators

**NOTE:** Only required courses that address SPA Indicators judged as “Not Met” in the 2011 National Recognition Report are listed in this section. Further information about these courses is provided in order to provide further evidence that these courses do indeed align to the indicators.

<table>
<thead>
<tr>
<th>Course Name and Number</th>
<th>Previously “Not Met” SPA Standard(s) Addressed by Course</th>
<th>Brief Description of How the Course Meets Cited Standards (if course title is unclear)</th>
</tr>
</thead>
<tbody>
<tr>
<td>EDUC 300: Educational Psychology and Measurement</td>
<td>8.6</td>
<td>Secondary mathematics teacher candidates enrolled in EDUC 300 may not necessarily be applying the psychological theories learned in this course to mathematical teaching and learning when they take this course as sophomores, but some of the foundational theories (particularly Piaget’s constructivism and Vygotsky’s socio-cultural theories) are re-examined and applied to mathematics specifically in EDUC 384 during the junior year.</td>
</tr>
<tr>
<td>EDUC 330: Developing Classroom Assessments of Student Learning</td>
<td>7.5</td>
<td>This course helps students develop general knowledge of assessment strategies (and an appreciation of the central role of assessment in quality teaching). Secondary mathematics teacher candidates in this course are beginning to consider how they can apply these assessment strategies in the mathematics classroom, but they are not explicitly directed to apply assessment strategies in mathematics until EDUC 384.</td>
</tr>
<tr>
<td>EDUC 340: Methods of Inclusion</td>
<td>7.1, 7.5, 8.1</td>
<td>This course exposes students to general differentiation methods (for both instruction and assessment) geared at including special needs students in mainstream instruction (“special needs” includes ELLs, students with diverse learning needs and styles, etc.). Secondary mathematics teacher candidates in this course are beginning to consider how they can apply these differentiation strategies in the mathematics classroom, but they are not explicitly directed to apply such strategies in mathematics until EDUC 384.</td>
</tr>
<tr>
<td>EDUC 380: Secondary and Middle School Methods</td>
<td>8.4</td>
<td>This course develops effective general teaching methods that can be applied in most secondary school settings. Emphasis is on planning instruction, fostering student construction of knowledge, active pedagogies, etc. Secondary mathematics teacher candidates begin to think of ways to apply these general teaching strategies in the context of mathematics, and then receive much more specific mathematically-focused methods in EDUC 384.</td>
</tr>
<tr>
<td>EDUC 384: Middle and Secondary School Methods: Mathematics</td>
<td>1.3, 3.1, 3.2, 3.3, 3.4, 4.3, 7.1, 7.5, 7.6, 8.1, 8.2, 8.4, 8.5, 8.6, 8.8, 8.9</td>
<td>EDUC 384 is organized around the NCTM Principles and Process Standards (as evidenced in the syllabus). <em>Principles and Standards for School Mathematics</em> is a required text, and students spend the bulk of the term reflecting on and applying these Principles and Process Standards as they engage directly with these processes via mathematical...</td>
</tr>
</tbody>
</table>
activity, learn mathematics teaching techniques, learn about tools for teaching (including concrete manipulatives and technology), plan lessons for particular content, and practice teaching via a partnership with a 7th grade classroom that enables teacher candidates to apply what they learn in EDUC 384 directly with actual middle school students. For this reason, most of the NCTM Process Standards and all of its Principles (referred to as “Dispositions” in the NCATE standards) are addressed in this course. Further, all of the Pedagogy standards are addressed (in this course, students learn about teaching methods, apply these methods by teaching actual middle school students each week, assess the middle schoolers’ knowledge, differentiate instruction for their students, etc.). Finally, specific strategies for teaching specific content are addressed in this class. This includes strategies for a wide range of content (including algebra, geometry, etc.). The Number and Operations Standards 9.1 and 9.3 are explicitly listed here because a great deal of time is devoted to strategies for teaching rational number concepts. And, since the basic content of Number and Operations is largely absent from college-level Mathematics Content courses, it is being emphasized that some of this content is explored in the methods course.

Assessment 5 in this Response to Conditions Report is indicative of the claims made here. Teacher candidates in this course are required to build a portfolio over the course of the term documenting their competence relative to the NCTM Process Standards, NCTM Principles, and NCTM Pedagogy standards. This portfolio strongly influences course grades (documented here), but is also a powerful indicator of the candidates’ overall professional competence in itself.

<table>
<thead>
<tr>
<th>Course</th>
<th>Code</th>
<th>Percent</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>EDUC 310: Computers in Education</td>
<td>7.6, 8.9</td>
<td></td>
<td>This course also focuses on general applications of educational technology (such as the use of interactive whiteboards, Web 1.0 and 2.0 resources, etc.). However, all students in this course are required to build instructional units around their chosen content area, hence secondary mathematics teacher candidates are able to further develop their knowledge of technology in the mathematics classroom via this course.</td>
</tr>
<tr>
<td>EDUC 450: School and Society</td>
<td>7.1</td>
<td></td>
<td>The capstone course in our program, EDUC 450 requires all students to engage with issues of equity in American schools directly via reading, discussion, writing assignments, and the interactions we have fostered through a partnership with a south Chicago high school that requires our teacher candidates to spend a school day in an under-funded school and also enables the high schoolers to spend a day on our campus and share perspectives on their experiences in</td>
</tr>
</tbody>
</table>
schools. A prominent learning objective for this course is articulated in the syllabus and supported by the experiences noted above: “[EDUC 450 students will] Investigate the meaning of —democracy in cultural and educational contexts. In the course of this investigation, students will develop sensitivity toward how and why a democratic culture can exclude many of its citizens from political and educational opportunities, and what can be done to work toward changing this. “

<table>
<thead>
<tr>
<th>Mathematics Content</th>
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</thead>
<tbody>
<tr>
<td>MATH 230: Discrete Mathematics</td>
</tr>
</tbody>
</table>
| The catalog description of MATH 230 reads: “Sets, functions, propositional and predicate logic, Boolean algebra, graph theory, matrices, proof techniques, combinatorics, probability.” A more detailed course description is provided to students in the course syllabus: “You will make arguments in written and oral form, you will edit your writing, you will work with your peers, you will make conjectures and check their validity, and you will practice using some of the most famous forms of deductive proof. The skill goals for this course are much more important than the content goals at this stage in your mathematical development, but there are a few classic topics covered including Graph Theory, Number Theory and Cryptography, Combinatorics, and the structures of Algorithms and Induction. The word Discrete means isolated; in practice this means that many of the topics in this course revolve around finite objects that you can get your hands dirty with while working as a young mathematician.” Collectively, these statements demonstrate that the course is strongly aligned to the Communication process indicators (3.1, 3.2, 3.3, and 3.4), the content expectations of the NCTM (indicator 13.1) and the process expectation for discrete mathematics (indicator 13.2).
Part 3. Grade Policy and Minimum Expectation

The minimum required Grade-point Average at Augustana is 2.0 for all Augustana coursework and for all Augustana coursework in a major. Since secondary mathematics teacher candidates are mathematics majors, the minimum GPA for all courses is 2.0 and for all mathematics courses is 2.0. For the purposes of this report, any grade in a mathematics course lower than a C (e.g., lower than a 2.0) is considered below the minimum expectation.

Additional expectations apply to teacher candidates in the education department. These are described below.

Teacher Candidates must earn and maintain an overall GPA at Augustana of 3.0 to be fully admitted to the teacher education program. Candidates who are admitted provisionally with a GPA from 2.75-2.99 must earn a 3.0 in each term (we use a trimester calendar) until their overall GPA reaches 3.0.

Students must earn at least a B- in college writing to be admitted to the program as teacher candidates (students may be admitted provisionally if they earn a C-, C, or C+ and begin working with personnel in the Reading/Writing Center on campus). Students must also earn at least a C- in PSYC-100 and PSYC-214. Further, students must earn at least a B- in EDUC-300. Or, if students earn a C-, C or C+ in EDUC-300 they may be admitted when a plan of improvement is submitted with their application to the teacher education program.

Students may have no more than two grades of C+ or lower in their Education courses. For the purposes of this report, any grade in an Education course that is lower than a B- (e.g., lower that a 2.7) is considered below the minimum expectation.
## Data Tables

### Psychology Course Group: Grades of Candidates and Other Students†

<table>
<thead>
<tr>
<th></th>
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</thead>
<tbody>
<tr>
<td></td>
<td>Average course grade and (range)**</td>
<td>% of candidates meeting minimum expectation (n)</td>
<td>Average course grade and (range)*</td>
<td>% of candidates meeting minimum expectation (n)</td>
</tr>
<tr>
<td>PSYC 100</td>
<td>3.42 (2.7-4)</td>
<td>100 (8)</td>
<td>3.29 (2.3-4)</td>
<td>100 (8)</td>
</tr>
<tr>
<td>PSYC 100</td>
<td>2.80 (0-4)</td>
<td>97 (250)</td>
<td>2.87 (0-4)</td>
<td>96 (227)</td>
</tr>
<tr>
<td>PSYC 214</td>
<td>3.22 (3-4)</td>
<td>100 (9)</td>
<td>3.30 (3-4)</td>
<td>100 (9)</td>
</tr>
<tr>
<td>PSYC 214</td>
<td>3.09 (1-4)</td>
<td>100 (50)</td>
<td>3.19 (1-4)</td>
<td>98 (90)</td>
</tr>
<tr>
<td>EDUC 300</td>
<td>3.30 (2.7-4)</td>
<td>100 (9)</td>
<td>3.33 (2.7-4)</td>
<td>100 (9)</td>
</tr>
<tr>
<td>EDUC 300</td>
<td>3.04 (1.7-4)</td>
<td>84 (56)</td>
<td>2.98 (0-4)</td>
<td>80 (81)</td>
</tr>
</tbody>
</table>

† Black type indicates courses in which secondary mathematics teacher candidates’ grades or minimum expectation rates are, on average, greater than or equal to the grades or minimum expectation rates of other students. Red type indicates courses in which secondary mathematics teacher candidates’ grades or minimum expectation rates are, on average, less than the grades or minimum expectation rates of other students.

†† These years represent the year that the secondary mathematics teacher candidates were admitted to the teacher education program, not necessarily the year they took the given course.

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** A = 4, A- = 3.7, B+ = 3.3, B = 3, B- = 2.7, C+ = 2.3, C = 2, C- = 1.7, D = 1, F = 0

@ Though the lowest grade awarded met the minimum expectation, one or more student had a grade of I (incomplete) or W (withdrew) and hence did not meet the expectations of the Augustana Education department.
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</thead>
<tbody>
<tr>
<td><strong>EDUC 330</strong></td>
<td><strong>Average course grade and (range)</strong></td>
<td>% of candidates meeting minimum expectation (n)</td>
<td><strong>Average course grade and (range)</strong></td>
<td>% of candidates meeting minimum expectation (n)</td>
</tr>
<tr>
<td></td>
<td>3.85 (3.3-4)</td>
<td>100 (9)</td>
<td>3.63 (3-4)</td>
<td>100 (9)</td>
</tr>
<tr>
<td><strong>EDUC 330</strong></td>
<td>3.71 (3-4)</td>
<td>100 (91)</td>
<td>3.41 (2.3-4)</td>
<td>98 (55)</td>
</tr>
<tr>
<td><strong>EDUC 340</strong></td>
<td>3.89 (3.3-4)</td>
<td>100 (9)</td>
<td>3.58 (3.3-4)</td>
<td>100 (8)</td>
</tr>
<tr>
<td><strong>EDUC 340</strong></td>
<td>3.73 (2-4)</td>
<td>98 (54)</td>
<td>3.58 (3-4)</td>
<td>100 (51)</td>
</tr>
<tr>
<td><strong>EDUC 380</strong></td>
<td>3.85 (3.7-4)</td>
<td>100 (9)</td>
<td>3.88 (3.7-4)</td>
<td>100 (8)</td>
</tr>
<tr>
<td><strong>EDUC 380</strong></td>
<td>3.66 (1.7-4)</td>
<td>97 (31)</td>
<td>3.81 (3.3-4)</td>
<td>100 (21)</td>
</tr>
<tr>
<td><strong>EDUC 384</strong></td>
<td>3.70 (2-4)</td>
<td>89 (9)</td>
<td>3.88 (3.3-4)</td>
<td>100 (8)</td>
</tr>
<tr>
<td><strong>EDUC 384</strong></td>
<td>N/A</td>
<td>N/A</td>
<td>3.75 (3.7-4)</td>
<td>100 (4)</td>
</tr>
<tr>
<td><strong>EDUC 310</strong></td>
<td>4.00 (4-4)</td>
<td>100 (9)</td>
<td>4.00 (4-4)</td>
<td>100 (8)</td>
</tr>
<tr>
<td><strong>EDUC 310</strong></td>
<td>3.97 (3.7-4)</td>
<td>100 (29)</td>
<td>3.97 (3.7-4)</td>
<td>100 (23)</td>
</tr>
<tr>
<td><strong>EDUC 450</strong></td>
<td>3.85 (3.3-4)</td>
<td>100 (9)</td>
<td>3.79 (3.3-4)</td>
<td>100 (8)</td>
</tr>
<tr>
<td><strong>EDUC 450</strong></td>
<td>3.73 (3-4)</td>
<td>100 (33)</td>
<td>3.78 (3-4)</td>
<td>100 (46)</td>
</tr>
</tbody>
</table>

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<table>
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<tr>
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<td>% of candidates meeting minimum expectation (n)</td>
</tr>
<tr>
<td>MATH 219</td>
<td>3.57 (2.3-4)</td>
<td>100 (7)</td>
<td>3.60 (3.3-4)</td>
<td>100 (5)</td>
</tr>
<tr>
<td>MATH 219</td>
<td>2.83 (0-4)</td>
<td>86 (91)</td>
<td>2.72 (0-4)</td>
<td>80 (88)</td>
</tr>
<tr>
<td>MATH 220</td>
<td>3.52 (2-4)</td>
<td>100 (7)</td>
<td>3.67 (2.7-4)</td>
<td>100 (9)</td>
</tr>
<tr>
<td>MATH 220</td>
<td>2.77 (0-4)</td>
<td>79 (29)</td>
<td>3.01 (1-4)</td>
<td>83 (48)</td>
</tr>
<tr>
<td>MATH 230</td>
<td>3.00 (2-4)</td>
<td>100 (8)</td>
<td>3.26 (2-4)</td>
<td>100 (9)</td>
</tr>
<tr>
<td>MATH 230</td>
<td>2.76 (1.7-4)</td>
<td>73 (33)</td>
<td>2.80 (1-4)</td>
<td>80 (44)</td>
</tr>
<tr>
<td>MATH 315</td>
<td>3.13 (2.3-4)</td>
<td>100 (8)</td>
<td>3.41 (2.3-4)</td>
<td>100 (9)</td>
</tr>
<tr>
<td>MATH 315</td>
<td>2.74 (0-4)</td>
<td>81 (37)</td>
<td>2.71 (0-4)</td>
<td>79 (52)</td>
</tr>
<tr>
<td>MATH 329</td>
<td>3.43 (3-4)</td>
<td>100 (7)</td>
<td>3.07 (1.7-4)</td>
<td>89 (9)</td>
</tr>
<tr>
<td>MATH 329</td>
<td>3.25 (1.7-4)</td>
<td>95 (20)</td>
<td>3.11 (2-4)</td>
<td>100 (25)</td>
</tr>
<tr>
<td>MATH 340</td>
<td>3.13 (2.7-4)</td>
<td>100 (8)</td>
<td>3.33 (3-4)</td>
<td>100 (8)</td>
</tr>
<tr>
<td>MATH 340</td>
<td>2.75 (1.7-4)</td>
<td>75 (12)</td>
<td>3.07 (1-4)</td>
<td>90 (48)</td>
</tr>
<tr>
<td>MATH 350</td>
<td>3.33 (2.7-4)</td>
<td>100 (8)</td>
<td>2.88 (2-4)</td>
<td>100 (8)</td>
</tr>
<tr>
<td>MATH 350</td>
<td>3.27 (2.3-4)</td>
<td>100 (5)</td>
<td>2.92 (0-4)</td>
<td>92 (12)</td>
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<tr>
<td>MATH 411</td>
<td>3.00 (2-4)</td>
<td>100 (8)</td>
<td>2.71 (1.7-4)</td>
<td>75 (8)</td>
</tr>
<tr>
<td>MATH 411</td>
<td>2.18 (0-3)</td>
<td>77 (13)</td>
<td>2.74 (0-4)</td>
<td>85 (27)</td>
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<tr>
<td>CSC 211</td>
<td>3.13 (2-4)</td>
<td>100 (8)</td>
<td>3.34 (2.7-4)</td>
<td>100 (4)</td>
</tr>
<tr>
<td>CSC 211</td>
<td>2.60 (0-4)</td>
<td>66 (44)</td>
<td>2.70 (0-4)</td>
<td>83 (6)</td>
</tr>
</tbody>
</table>

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Augustana College Teacher Education Program

NCTM SPA Response to Conditions Report

Assessment # 4: Student Teaching Evaluation

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b. Chart Providing Candidate Data from this Assessment and Aligning NCTM Standards and Indicators with the Assessment........................................................................................................... Pages 15-16
a. **The Student Teaching Evaluation Tool and Scoring Guide**

1. **Update to the Student Teaching Evaluation Tool Since 2010**

One critique from Section G of our 2011 NCTM National Recognition Report was that our Assessment 4 (the Student Teaching Evaluation Tool) lacked clarity and content-specificity. In response to this critique we developed a new Student Teaching Evaluation Tool that is unique to secondary mathematics teachers in our teacher education program. We began using this new tool during the 2011-2012 academic year, a few months after we received the NCTM National Recognition Report.

The new tool is an adaptation of the tool we formerly used. The new tool is still used by cooperating teachers and college supervisors to evaluate our student teachers, and the evaluative criteria are the same as before, but the new tool explicitly lists NCTM teaching standards and indicators among the performance indicators for our teacher candidates.

2. **Brief Description of the Evaluation Tool and Its Use**

As an accredited teacher education program in the state of Illinois, we at Augustana are required by law to ensure that our teacher candidates’ demonstrate competence in the full range of Illinois Professional Teaching Standards (IPTS). As our program strives for national recognition, we also must ensure that our secondary mathematics teacher candidates demonstrate competence relative to the NCTM teaching standards and indicators. The Augustana Student Teaching Evaluation Tool is an instrument used to evaluate the performance of all mathematics student teachers in our teacher education program. Our instrument organizes the NCTM and IPTS indicators into 76 performance indicators arranged in 7 categories (The Content, The Learner, The Environment, Planning, Enacting, Reflecting, and Participating). In addition to assessing our candidates’ performance in each of the 76 areas, evaluators also judge our candidates’ overall disposition in relation to the 7 major categories. The complete instrument and its scoring guide are available on pages 3-14 of this report.

The secondary mathematics teacher candidates are evaluated during their student teaching experience by both their cooperating teacher and their college-based supervisor. For consistency’s sake, the data highlighted in this report are those that were generated by the college supervisor. During our candidates’ student teaching term in their senior year, at least four of their lessons are formally observed by the college supervisor. A formally observed lesson includes submission of a detailed lesson plan, observation of the lesson itself, a post-conference between the supervisor and the candidate, a brief discussion between supervisor and cooperating teacher about the candidates’ daily performance, and a follow-up reflective paper written by the candidate. Each aspect of the (four or more) formally observed lessons informs the supervisor’s assessment of the candidate in the final Evaluation.
Final Evaluation of Secondary Mathematics Teacher Candidate

Teacher Candidate: ________________________________

Cooperating Teacher: ___________________________________________________________

College Supervisor: _______________________________ District: _______________________

School: ___________________________ Grade Level(s): ________ Content Area(s): ________

Date of Report: __________________ Report Completed by: ☐ Cooperating Teacher ☐ Teacher Candidate ☐ College Supervisor

To the evaluator: Successful secondary mathematics teacher candidates at Augustana College are required to demonstrate adequate competence in the professional standards of their field during the student teaching experience. These standards are articulated in the 2003 National Council for Accreditation of Teacher Education and National Council of Teachers of Mathematics (NCATE/NCTM) Program Standards as well as the 2010 Illinois Professional Teaching Standards (IPTS) Performance Standards. In this document, the language and indicators of these state and national standards have been organized within the seven Augustana Standards for Teacher Education, a framework reflecting Augustana’s institutional approach to teacher education.

Each Augustana Standard includes an over-arching Goal statement (drawn from the IPTS), a list of performance indicators (NCATE/NCTM indicators begin with N, IPTS indicators begin with I), and an indication of the NCATE/NCTM Disposition(s) related to the given standard. If a single teaching competency is articulated in multiple indicators, language from one standard is shown and the corresponding equivalent standard(s) is listed parenthetically. Evaluators are invited to review the appendices for further detail about the standards and dispositions. Appendix A includes a description of the NCATE/NCTM Dispositions, Appendix B lists the NCATE/NCTM Content Standards, and Appendix C lists the IPTS Performance Indicators.

Use the following rubric to rank the teacher candidate’s progress on each of the Performance Indicators and Dispositions at the end of the student teaching experience. We expect our teacher candidates to make continuous progress and improvement as they complete the requirements of the program. It is our goal as a faculty to prepare teacher candidates for each step of the program and for them to be “on target” at each point of review. Therefore, we anticipate “3” to be the most common ranking on each of the items. Please don’t think of these categories as poor, fair, good and excellent. They don’t equate to traditional letter grades in any way. Rather, consider the candidate’s consistency of performance, level of independence, and initiative relative to the Target statement when determining a ranking.

Make a determination of progress for each of the performance indicators and dispositions listed below. A teacher candidate ranked at Target demonstrates the expected level of performance and is ready for the next step -- in this case, the work and responsibilities of a first year teacher. For all areas ranked with a 1 or 4 please provide a written explanation as noted at the end of this document.

The teacher candidate has demonstrated minimal or no competence in this area. Intensive intervention by the cooperating teacher and college supervisor is needed and extensive work by the candidate is required. Recommendation for certification will be withheld until significant improvement is made.

The teacher candidate has made progress in this area, but further refinement of this skill is needed. Success in the first year of teaching is likely with focused effort by the candidate, mentoring, and administrative support.

The teacher candidate has demonstrated a level of competence that indicates readiness for the first year of teaching. It is expected that with the support of teacher colleagues the candidate will continue to develop skill in this area.

The teacher candidate has demonstrated a level of competence, initiative and independence usually associated with a second- or third-year teacher and needs virtually no support from the cooperating teacher or college supervisor.

The Learner: The candidate understands the diverse characteristics and abilities of each student and how individuals develop and learn within the context of their social, economic, cultural, linguistic, and academic experiences. The teacher uses these experiences to create instructional opportunities that maximize student learning. (IPTS Standard 1)

RELEVANT NCATE/NCTM DISPOSITIONS: N.7.1 Attention to equity; N.7.4 Commitment to learning with understanding.

N.8.1 Selects, uses, and determines suitability of the wide variety of available mathematics curricula and teaching materials for all students including those with special needs such as the gifted, challenged and speakers of other languages (I.1J, I.2P, I.6I)

I.1I Analyzes and uses student information to design instruction that meets the diverse needs of students and leads to ongoing growth and achievement. (I.3K)

I.1I Stimulates prior knowledge and links new ideas to already familiar ideas and experiences.

I.1L Uses information about students’ individual experiences, families, cultures, and communities to create meaningful learning opportunities and enrich instruction for all students.

N.16.3 Demonstrates the ability to increase students’ knowledge of mathematics.
### The Content

GOAL: The candidate has in-depth understanding of mathematics that includes central concepts, methods of inquiry, structures of the discipline, and mathematical literacy. The candidate creates meaningful learning experiences for each student based upon interactions among content area and pedagogical knowledge, and evidence-based practice. (IPTS Standard 2)

<table>
<thead>
<tr>
<th>RELEVANT NCATE/NCTM DISPOSITION:</th>
<th>N.7.2 Use of stimulating curricula. (I.2I)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>N.9-15 Content</strong> Demonstrates and fosters firm understanding of the concepts, procedures, and processes involved in the subset of content standards the candidate is responsible for teaching (see Appendix B for a listing of the NCATE/NCTM content standards).</td>
<td>Final</td>
</tr>
<tr>
<td><strong>N.1 Problem Solving</strong> (I.2J, I.2K) The four sub-indicators below represent specific aspects of the Problem Solving Process Standard. Please assign a holistic evaluation of the candidate’s ability to foster problem solving in the classroom here, and assign separate scores for each sub-indicator.</td>
<td></td>
</tr>
<tr>
<td>N.1.1 Applies and adapts a variety of appropriate strategies to solve problems.</td>
<td></td>
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<tr>
<td>N.1.2 Solve problems that arise in mathematics and those involving mathematics in other contexts.</td>
<td></td>
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<tr>
<td>N.1.3 Build new mathematical knowledge through problem solving.</td>
<td></td>
</tr>
<tr>
<td>N.1.4 Monitor and reflect on the process of mathematical problem solving.</td>
<td></td>
</tr>
<tr>
<td><strong>N.2 Reasoning and Proof</strong> (I.2J, I.2K) The four sub-indicators below represent specific aspects of the Reasoning and Proof Process Standard. Please assign a holistic evaluation of the candidate’s ability to foster reasoning and proof in the classroom here, and assign separate scores for each sub-indicator.</td>
<td></td>
</tr>
<tr>
<td>N.2.1 Recognize reasoning and proof as fundamental aspects of mathematics.</td>
<td></td>
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<tr>
<td>N.2.2 Make and investigate mathematical conjectures.</td>
<td></td>
</tr>
<tr>
<td>N.2.3 Develop and evaluate mathematical arguments and proofs.</td>
<td></td>
</tr>
<tr>
<td>N.2.4 Select and use various types of reasoning and methods of proof.</td>
<td></td>
</tr>
<tr>
<td><strong>N.3 Communication</strong> (IPTS Standard 6, I.2J, I.2K, I.2Q, I.6P) The four sub-indicators below represent specific aspects of the Communication Process Standard. Please assign a holistic evaluation of the candidate’s ability to foster communication in the classroom here, and assign separate scores for each sub-indicator.</td>
<td></td>
</tr>
<tr>
<td>N.3.1 Communicate their mathematical thinking coherently and clearly to peers, faculty, and others. (I.6M, I.6R)</td>
<td></td>
</tr>
<tr>
<td>N.3.2 Use the language of mathematics to express ideas precisely. (I.6K, I.6L)</td>
<td></td>
</tr>
<tr>
<td>N.3.3 Organize mathematical thinking through communication. (I.6O)</td>
<td></td>
</tr>
<tr>
<td>N.3.4 Analyze and evaluate the mathematical thinking and strategies of others. (I.6M, I.6N)</td>
<td></td>
</tr>
<tr>
<td><strong>N.4 Connections</strong> (I.2J, I.2K, I.2N) The three sub-indicators below represent specific aspects of the Connections Process Standard. Please assign a holistic evaluation of the candidate’s ability to make meaningful connections, and foster students’ ability to do so, here. Then, assign separate scores for each sub-indicator.</td>
<td></td>
</tr>
<tr>
<td>N.4.1 Recognize and use connections among mathematical ideas.</td>
<td></td>
</tr>
<tr>
<td>N.4.2 Recognize and apply mathematics in contexts outside of mathematics. (I.3L)</td>
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</tr>
<tr>
<td>N.4.3 Demonstrate how mathematical ideas interconnect and build on one another to produce a coherent whole.</td>
<td></td>
</tr>
<tr>
<td><strong>N.5 Representation</strong> (I.2J, I.2K, I.2M, I.5L) The three sub-indicators below represent specific aspects of the Representation Process Standard. Please assign a holistic evaluation of the candidate’s ability to foster representation in the classroom here, and assign separate scores for each sub-indicator.</td>
<td></td>
</tr>
<tr>
<td>N.5.1 Use representations to model and interpret physical, social, and mathematical phenomena.</td>
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</tr>
<tr>
<td>N.5.2 Create and use representations to organize, record, and communicate mathematical ideas.</td>
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</tr>
<tr>
<td>N.5.3 Select, apply, and translate among mathematical representations to solve problems.</td>
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</tr>
<tr>
<td><strong>N.6.1 Knowledge of Technology</strong> Use knowledge of mathematics to select and use appropriate technological tools, such as but not limited to, spreadsheets, dynamic graphing tools, computer algebra systems, dynamic statistical packages, graphing calculators, data-collection devices, and presentation software. (I.2L, I.2M, I.2O, I.5O)</td>
<td></td>
</tr>
</tbody>
</table>

### Planning

GOAL: The candidate plans and designs instruction based on content area knowledge, diverse student characteristics, student performance data, curriculum goals, and the community context. The teacher plans for ongoing student growth and achievement. (IPTS Standard 3)

<table>
<thead>
<tr>
<th>RELEVANT NCATE/NCTM DISPOSITION:</th>
<th>N.7.3 Effective teaching.</th>
</tr>
</thead>
<tbody>
<tr>
<td>**N.8.4 Plans lessons, units and courses that address appropriate learning goals, including those that address local, state, and national mathematic standards and legislative mandates. (I.3I)</td>
<td>Final</td>
</tr>
<tr>
<td>**N.8.7 Uses knowledge of different types of instructional strategies in planning mathematics lessons. (I.3Q)</td>
<td></td>
</tr>
<tr>
<td>**N.8.9 Develop lessons that use technology’s potential for building understanding of mathematical concepts and developing important mathematical ideas. (I.3N)</td>
<td></td>
</tr>
<tr>
<td>**I.3J Uses data to plan for differentiated instruction to allow for variations in individual learning needs.</td>
<td></td>
</tr>
<tr>
<td>**I.3M Develops plans based on student responses and provides for different pathways based on student needs.</td>
<td></td>
</tr>
<tr>
<td>**I.3O When planning instruction, addresses goals and objectives contained in plans developed under Section 504 of the Rehabilitation Act of 1973 (29 USC 794), individualized education programs (IEP) (see 23 Ill. Adm. Code 226 (Special Education)) or individual family service plans (IFSP) (see 23 Ill. Adm. Code 226 and 34 CFR 300.24; 2006).</td>
<td></td>
</tr>
<tr>
<td>**I.3P Works with others to adapt and modify instruction to meet individual student needs. (I.5Q, I.6Q, I.8K, I.8N, I.8O)</td>
<td></td>
</tr>
</tbody>
</table>
The Environment

GOAL: The candidate structures a safe and healthy learning environment that facilitates cultural and linguistic responsiveness, emotional well-being, self-efficacy, positive social interaction, mutual respect, active engagement, academic risk-taking, self-motivation, and personal goal setting. (IPTS Standard 4)

RELEVANT NCATE/NCTM DISPOSITIONS: N.7.3: Effective teaching; N.7.6 Use of various teaching tools including technology.

Final

**N.8.2** Selects and uses appropriate concrete materials for learning mathematics.

**L.4I** Creates a safe and healthy environment that maximizes student learning.

**L.4J/L.4O** Creates clear expectations and procedures for communication and behavior, creates a physical setting conducive to achieving classroom goals, and employs effective behavioral management techniques when appropriate.

**L.4K/L.4N** Uses strategies to create and monitor a smoothly functioning learning community in which students assume responsibility for themselves and one another, participate in decision-making, work collaboratively and independently, use appropriate technology, engage in purposeful learning activities, and are motivated to learn.

**L.4L** Analyzes the classroom environment and makes decisions to enhance cultural and linguistic responsiveness, mutual respect, positive social relationships, student motivation, and classroom engagement. (I.1K)

**L.4M/L.4P** Organizes, allocates, and manages time, materials, technology, and physical space to provide active and equitable engagement of students in productive learning activities; modifies such aspects of the environment when necessary to enhance learning.

**L.4Q** Analyzes student behavior data to develop and support positive behavior.

Enacting

GOAL: The candidate differentiates instruction by using a variety of strategies that support critical and creative thinking, problem-solving, and continuous growth and learning. This candidate understands that the classroom is a dynamic environment requiring ongoing modification of instruction to enhance learning for each student. (IPTS Standard 5)

RELEVANT NCATE/NCTM DISPOSITION: N.7.3 Effective teaching.

Final

**N.8.3** Uses multiple strategies, including listening to and understanding the ways students think about mathematics, to assess students’ mathematical knowledge, and uses this assessment information to adapt and modify curriculum and instruction in order to enhance learning. (I.5J, I.5P)

**N.8.6** Demonstrates knowledge of research results in the teaching and learning of mathematics. (I.5S)

**N.8.8** [Uses multiple teaching strategies, including adjusted pacing and flexible grouping, in order] to lead classes in mathematical problem solving and in developing in-depth conceptual understanding, and to help students develop and test generalizations. (I.5I)

**L.5K**Varies his or her role in the instructional process as instructor, facilitator, coach, or audience in relation to the content and purposes of instruction and the needs of students.

**L.5M** Uses strategies and techniques for facilitating meaningful inclusion of individuals with a range of abilities and experiences.

**L.5N** Uses technology to accomplish differentiated instructional objectives that enhance learning for each student.

**L.5R** Maximizes instructional time (e.g., minimizes transitional time).

Reflecting

GOAL: The candidate understands and uses appropriate formative and summative assessments for determining student needs, monitoring student progress, measuring student growth, and evaluating student outcomes. The teacher makes decisions driven by data about curricular and instructional effectiveness and adjusts practices to meet the needs of each student. (IPTS Standard 7)

RELEVANT NCATE/NCTM DISPOSITION: N.7.3: Effective teaching; N.7.5 Use of various assessments.

Final

**L.7J** Uses assessment results to determine student performance levels, identify learning targets, select appropriate research-based instructional strategies, and implement this instruction to enhance learning outcomes. (I.6J)

**L.7K** Appropriately uses a variety of formal and informal assessments to evaluate the understanding, progress, and performance of an individual student and the class as a whole.

**L.7L** Involves students in self-assessment activities to help them become aware of their strengths and needs and encourages them to establish goals for learning.

**L.7M** Maintains useful and accurate records of student work and performance.

**L.7N** Accurately interprets and clearly communicates aggregate student performance data to students, parents or guardians, colleagues, and the community in a manner that complies with the requirements of the Illinois School Student Records Act [105 ILCS 10], 23 Ill. Adm. Code 375 (Student Records), the Family Educational Rights and Privacy Act (FERPA) (20 USC 1232g) and its implementing regulations (34 CFR 99; December 9, 2008).

**L.7O** Effectively uses appropriate technologies to conduct assessments, monitor performance, and assess student progress.

**L.7P** Collaborates with families and other professionals involved in the assessment of each student. (I.8K, I.8O)

**L.7Q** Uses various types of assessment procedures appropriately, including making accommodations for individual students in specific contexts.

**L.7R** Uses assessment strategies and devices that are nondiscriminatory, and take into consideration the impact of disabilities, methods of communication, cultural background, and primary language on measuring knowledge and performance of students.

**L.9K** Reflects on professional practice and resulting outcomes; engages in self-assessment; and adjusts practices to improve student performance, school goals, and professional growth.
Participating………………………………………………………………….……….

GOAL: The candidate builds and maintains collaborative relationships to foster cognitive, linguistic, physical, and social and emotional development. This candidate works as a team member with professional colleagues, students, parents or guardians, and community members. The candidate is an ethical and reflective practitioner who exhibits professionalism; provides leaderships in the learning community; and advocates for students, parents or guardians, and the profession. (IPTS Standards 8 and 9)

RELEVANT NCATE/NCTM DISPOSITION: N.7.3 Effective teaching.

N.8.5 Participates in professional mathematics organizations and uses their print and online resources.

L8J Works with all school personnel (e.g., support staff, teachers, paraprofessionals) to develop learning climates for the school that encourage unity, support a sense of shared purpose, show trust in one another, and value individuals.

L8L/L8T Initiates and/or participates in collaboration with others both inside and outside the school to create opportunities that enhance students’ knowledge of academic content, educational experience, knowledge of broad issues beyond the school, and/or awareness of career opportunities. (I.9O)

L8M/L9M Uses digital tools and resources to promote collaborative interactions with students, parents or guardians, and peers.

L8P/L8Q Develops respectful and productive cooperative relationships with parents and guardians that result in fair and equitable treatment of each student, supports each student’s growth and learning, and promotes student well-being. (I.9L)

L8R Uses conflict resolution skills to enhance the effectiveness of collaboration and teamwork.

L8S Participates in the design and implementation of individualized instruction for students with special needs (i.e., IEPs, IFSP, transition plans, Section 504 plans), ELLs, and students who are gifted.

L9I Represents professional behavior that reflects honesty, integrity, personal responsibility, confidentiality, altruism and respect.

L9J Maintains accurate records, manages data effectively, and protects the confidentiality of information pertaining to each student and family.

L9P Participates in professional development, professional organizations, and learning communities, and engages in peer coaching and mentoring activities to enhance personal growth and development.

L9Q Uses leadership skills that contribute to individual and collegial growth and development, school improvement, and the advancement of knowledge in the teaching profession.

L9R Proactively serves all students and their families with equity and honor and advocates on their behalf, ensuring the learning and well-being of each child in the classroom.

L9S Is aware of and complies with the mandatory reporter provisions of Section 4 of the Abused and Neglected Child Reporting Act [325 ILCS 5/4].

L9T Models digital etiquette and responsible social actions in the use of digital technology.

L9U Models and teaches safe, legal, and ethical use of digital information and technology, including respect for copyright, intellectual property, and the appropriate documentation of sources.

Comments.................................................................................................................................

Please explain the circumstances and include specific examples to support and clarify your judgment of the teacher candidate’s performance for each item ranked at a level of 1 or 4. Use a separate page and attach it to this document, if necessary

________________________________________________________________________________________

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________________________________________________________________________________________

________________________________________________________________________________________

Signature of Teacher Candidate                                                Signature of Cooperating Teacher of College Supervisor
Appendix A: NCATE/NCTM Dispositions

The six NCATE/NCTM dispositions are rooted in the NCTM’s Principles for School Mathematics, published in the NCTM’s Principles and Standards for School Mathematics, © 2000, Reston, VA. Key language describing each disposition/principle is reproduced below. Evaluators may refer to the original publication (which is also available electronically at nctm.org) for further detail.

7.1: Attention to equity (pp. 12-14).
- Equity requires high expectations and worthwhile opportunities for all.
- Equity requires accommodating differences to help everyone learn mathematics.
- Equity requires resources and support for all classrooms and all students.

7.2: Use of stimulating curricula (pp. 14-16).
- A mathematics curriculum should be coherent.
- A mathematics curriculum should focus on important mathematics.
- A mathematics curriculum should be well articulated across the grades.

7.3: Effective teaching (pp. 16-19).
- Effective teaching requires knowing and understanding mathematics, students as learners, and pedagogical strategies.
- Effective teaching requires a challenging and supportive classroom learning environment.
- Effective teaching requires continually seeking improvement.

7.4: Commitment to learning with understanding (pp. 20-21).
- Students must learn mathematics with understanding, actively building new knowledge from experience and prior knowledge.
- Conceptual understanding is an important component of proficiency.

7.5: Use of various assessments (pp. 22-24).
- Assessment should support the learning of important mathematics and furnish useful information to both teachers and students.
- Assessment should enhance students’ learning.
- Assessment is a valuable tool for making instructional decisions.

7.6: Use of various teaching tools including technology (pp. 24-27).
- Technology enhances mathematics learning.
- Technology supports effective mathematics teaching.
- Technology influences what mathematics is taught.
Appendix B: NCATE/NCTM Content Standards

Listed below are the content standards found in the 2003 NCATE/NCTM Program Standards (available at http://www.ncate.org/ProgramStandards/NCTM/NCTMSECONStandards.pdf). Augustana secondary mathematics teacher candidates are expected to be proficient in each of these standards and indicators. Knowledge of this and other advanced content is required for the Bachelor of Arts degree in mathematics at the College. Teacher candidates’ knowledge of an appropriate subset of this content should also be made evident through their student teaching experience. This “appropriate subset” will depend on the specific teaching assignment, grade level(s) and content teaching responsibilities occurring during their student teaching term.

Content (Standards 9-15)

Candidates’ comfort with, and confidence in, their knowledge of mathematics affects both what they teach and how they teach it. Knowing mathematics includes understanding specific concepts and procedures as well as the process of doing mathematics. That knowledge is the subject of the following standards.

Standard 9: Knowledge of Number and Operation
Candidates demonstrate computational proficiency, including a conceptual understanding of numbers, ways of representing number, relationships among number and number systems, and meanings of operations.

Indicators
9.1 Analyze and explain the mathematics that underlies the procedures used for operations involving integers, rational, real, and complex numbers.
9.2 Use properties involving number and operations, mental computation, and computational estimation.
9.3 Provide equivalent representations of fractions, decimals, and percents.
9.4 Create, solve, and apply proportions.
9.5 Apply the fundamental ideas of number theory.
9.6 Make sense of large and small numbers and use scientific notation.
9.7 Compare and contrast properties of numbers and number systems.
9.8 Represent, use, and apply complex numbers.
9.9 Recognize matrices and vectors as systems that have some of the properties of the real number system.
9.10 Demonstrate knowledge of the historical development of number and number systems including contributions from diverse cultures.

Standard 10: Knowledge of Different Perspectives on Algebra
Candidates emphasize relationships among quantities including functions, ways of representing mathematical relationships, and the analysis of change.

Indicators
10.1 Analyze patterns, relations, and functions of one and two variables.
10.2 Apply fundamental ideas of linear algebra.
10.3 Apply the major concepts of abstract algebra to justify algebraic operations and formally analyze algebraic structures.
10.4 Use mathematical models to represent and understand quantitative relationships.
10.5 Use technological tools to explore algebraic ideas and representations of information and in solving problems.
10.6 Demonstrate knowledge of the historical development of algebra including contributions from diverse cultures.
Appendix B: NCATE/NCTM Content Standards

Standard 11: Knowledge of Geometries
Candidates use spatial visualization and geometric modeling to explore and analyze geometric shapes, structures, and their properties.

Indicators
11.1 Demonstrate knowledge of core concepts and principles of Euclidean and non-Euclidean geometries in two and three dimensions from both formal and informal perspectives.
11.2 Exhibit knowledge of the role of axiomatic systems and proofs in geometry.
11.3 Analyze characteristics and relationships of geometric shapes and structures.
11.4 Build and manipulate representations of two- and three-dimensional objects and visualize objects from different perspectives.
11.5 Specify locations and describe spatial relationships using coordinate geometry, vectors, and other representational systems.
11.6 Apply transformations and use symmetry, similarity, and congruence to analyze mathematical situations.
11.7 Use concrete models, drawings, and dynamic geometric software to explore geometric ideas and their applications in real-world contexts.
11.8 Demonstrate knowledge of the historical development of Euclidean and non-Euclidean geometries including contributions from diverse cultures.

Standard 12: Knowledge of Calculus
Candidates demonstrate a conceptual understanding of limit, continuity, differentiation, and integration and a thorough background in the techniques and application of the calculus.

Indicators
12.1 Demonstrate a conceptual understanding of and procedural facility with basic calculus concepts.
12.2 Apply concepts of function, geometry, and trigonometry in solving problems involving calculus.
12.3 Use the concepts of calculus and mathematical modeling to represent and solve problems taken from real-world contexts.
12.4 Use technological tools to explore and represent fundamental concepts of calculus.
12.5 Demonstrate knowledge of the historical development of calculus including contributions from diverse cultures.

Standard 13: Knowledge of Discrete Mathematics
Candidates apply the fundamental ideas of discrete mathematics in the formulation and solution of problems.

Indicators
13.1 Demonstrate knowledge of basic elements of discrete mathematics such as graph theory, recurrence relations, finite difference approaches, linear programming, and combinatorics.
13.2 Apply the fundamental ideas of discrete mathematics in the formulation and solution of problems arising from real-world situations.
13.3 Use technological tools to solve problems involving the use of discrete structures and the application of algorithms.
13.4 Demonstrate knowledge of the historical development of discrete mathematics including contributions from diverse cultures.
Appendix B: NCATE/NCTM Content Standards

Standard 14: Knowledge of Data Analysis, Statistics, and Probability
Candidates demonstrate an understanding of concepts and practices related to data analysis, statistics, and probability.

Indicators
14.1 Design investigations, collect data, and use a variety of ways to display data and interpret data representations that may include bivariate data, conditional probability and geometric probability.
14.2 Use appropriate methods such as random sampling or random assignment of treatments to estimate population characteristics, test conjectured relationships among variables, and analyze data.
14.3 Use appropriate statistical methods and technological tools to describe shape and analyze spread and center.
14.4 Use statistical inference to draw conclusions from data.
14.5 Identify misuses of statistics and invalid conclusions from probability.
14.6 Draw conclusions involving uncertainty by using hands-on and computer-based simulation for estimating probabilities and gathering data to make inferences and conclusions.
14.7 Determine and interpret confidence intervals.
14.8 Demonstrate knowledge of the historical development of statistics and probability including contributions from diverse cultures.

Standard 15: Knowledge of Measurement
Candidates apply and use measurement concepts and tools.

Indicators
15.1 Recognize the common representations and uses of measurement and choose tools and units for measuring.
15.2 Apply appropriate techniques, tools, and formulas to determine measurements and their application in a variety of contexts.
15.3 Completes error analysis through determining the reliability of the numbers obtained from measures.
15.4 Demonstrate knowledge of the historical development of measurement and measurement systems including contributions from diverse cultures.
Appendix C: 2010 Illinois Professional Teaching Standards (IPTS)

The 2010 IPTS are available at http://www.isbe.state.il.us/PEAC/pdf/IL_prof_teaching_stds.pdf. The Augustana “Final Evaluation of Secondary Mathematics Teacher Candidate” form utilizes only the Performance Indicators from the IPTS (the Knowledge Indicators are addressed in education coursework at the College). The nine Illinois Professional Teaching Standards and their related Performance Indicators are reproduced below.

**Standard 1 - Teaching Diverse Students** – The competent teacher understands the diverse characteristics and abilities of each student and how individuals develop and learn within the context of their social, economic, cultural, linguistic, and academic experiences. The teacher uses these experiences to create instructional opportunities that maximize student learning.

**Performance Indicators – The competent teacher:**

1H) analyzes and uses student information to design instruction that meets the diverse needs of students and leads to ongoing growth and achievement;
1I) stimulates prior knowledge and links new ideas to already familiar ideas and experiences;
1J) differentiates strategies, materials, pace, levels of complexity, and language to introduce concepts and principles so that they are meaningful to students at varying levels of development and to students with diverse learning needs;
1K) facilitates a learning community in which individual differences are respected; and
1L) uses information about students' individual experiences, families, cultures, and communities to create meaningful learning opportunities and enrich instruction for all students.

**Standard 2 - Content Area and Pedagogical Knowledge** – The competent teacher has in-depth understanding of content area knowledge that includes central concepts, methods of inquiry, structures of the disciplines, and content area literacy. The teacher creates meaningful learning experiences for each student based upon interactions among content area and pedagogical knowledge, and evidence-based practice.

**Performance Indicators – The competent teacher:**

2I) evaluates teaching resources and materials for appropriateness as related to curricular content and each student's needs;
2J) uses differing viewpoints, theories, and methods of inquiry in teaching subject matter concepts;
2K) engages students in the processes of critical thinking and inquiry and addresses standards of evidence of the disciplines;
2L) demonstrates fluency in technology systems, uses technology to support instruction and enhance student learning, and designs learning experiences to develop student skills in the application of technology appropriate to the disciplines;
2M) uses a variety of explanations and multiple representations of concepts that capture key ideas to help each student develop conceptual understanding and address common misunderstandings;
2N) facilitates learning experiences that make connections to other content areas and to life experiences;
2O) designs learning experiences and utilizes assistive technology and digital tools to provide access to general curricular content to individuals with disabilities;
2P) adjusts practice to meet the needs of each student in the content areas; and
2Q) applies and adapts an array of content area literacy strategies to make all subject matter accessible to each student.

**Standard 3 - Planning for Differentiated Instruction** – The competent teacher plans and designs instruction based on content area knowledge, diverse student characteristics, student performance data, curriculum goals, and the community context. The teacher plans for ongoing student growth and achievement.

**Performance Indicators – The competent teacher:**

3H) establishes high expectations for each student’s learning and behavior;
3I) creates short-term and long-term plans to achieve the expectations for student learning;
3J) uses data to plan for differentiated instruction to allow for variations in individual learning needs;
3K) incorporates experiences into instructional practices that relate to a student's current life experiences and to future life experiences;
3L) creates approaches to learning that are interdisciplinary and that integrate multiple content areas;
3M) develops plans based on student responses and provides for different pathways based on student needs;
3N) accesses and uses a wide range of information and instructional technologies to enhance a student's ongoing growth and achievement;
3O) when planning instruction, addresses goals and objectives contained in plans developed under Section 504 of the Rehabilitation Act of 1973 (29 USC 794), individualized education programs (IEP) (see 23 Ill. Adm. Code 226
Appendix C: 2010 Illinois Professional Teaching Standards (IPTS)

(Special Education)) or individual family service plans (IFSP) (see 23 Ill. Adm. Code 226 and 34 CFR 300.24; 2006);

3P) works with others to adapt and modify instruction to meet individual student needs; and
3Q) develops or selects relevant instructional content, materials, resources, and strategies (e.g., project-based learning) for differentiating instruction.

**Standard 4 - Learning Environment** – The competent teacher structures a safe and healthy learning environment that facilitates cultural and linguistic responsiveness, emotional well-being, self-efficacy, positive social interaction, mutual respect, active engagement, academic risk-taking, self-motivation, and personal goal-setting.

**Performance Indicators – The competent teacher:**
4I) creates a safe and healthy environment that maximizes student learning;
4J) creates clear expectations and procedures for communication and behavior and a physical setting conducive to achieving classroom goals;
4K) uses strategies to create a smoothly functioning learning community in which students assume responsibility for themselves and one another, participate in decision-making, work collaboratively and independently, use appropriate technology, and engage in purposeful learning activities;
4L) analyzes the classroom environment and makes decisions to enhance cultural and linguistic responsiveness, mutual respect, positive social relationships, student motivation, and classroom engagement;
4M) organizes, allocates, and manages time, materials, technology, and physical space to provide active and equitable engagement of students in productive learning activities;
4N) engages students in and monitors individual and group-learning activities that help them develop the motivation to learn;
4O) uses a variety of effective behavioral management techniques appropriate to the needs of all students that include positive behavior interventions and supports;
4P) modifies the learning environment (including the schedule and physical arrangement) to facilitate appropriate behaviors and learning for students with diverse learning characteristics; and
4Q) analyzes student behavior data to develop and support positive behavior.

**Standard 5 - Instructional Delivery** – The competent teacher differentiates instruction by using a variety of strategies that support critical and creative thinking, problem-solving, and continuous growth and learning. This teacher understands that the classroom is a dynamic environment requiring ongoing modification of instruction to enhance learning for each student.

**Performance Indicators – The competent teacher:**
5I) uses multiple teaching strategies, including adjusted pacing and flexible grouping, to engage students in active learning opportunities that promote the development of critical and creative thinking, problem-solving, and performance capabilities;
5J) monitors and adjusts strategies in response to feedback from the student;
5K) varies his or her role in the instructional process as instructor, facilitator, coach, or audience in relation to the content and purposes of instruction and the needs of students;
5L) develops a variety of clear, accurate presentations and representations of concepts, using alternative explanations to assist students’ understanding and presenting diverse perspectives to encourage critical and creative thinking;
5M) uses strategies and techniques for facilitating meaningful inclusion of individuals with a range of abilities and experiences;
5N) uses technology to accomplish differentiated instructional objectives that enhance learning for each student;
5O) models and facilitates effective use of current and emerging digital tools to locate, analyze, evaluate, and use information resources to support research and learning;
5P) uses student data to adapt the curriculum and implement instructional strategies and materials according to the characteristics of each student;
5Q) uses effective co-planning and co-teaching techniques to deliver instruction to all students;
5R) maximizes instructional time (e.g., minimizes transitional time); and
5S) implements appropriate evidence-based instructional strategies.
Appendix C: 2010 Illinois Professional Teaching Standards (IPTS)

**Standard 6 - Reading, Writing, and Oral Communication** – The competent teacher has foundational knowledge of reading, writing, and oral communication within the content area and recognizes and addresses student reading, writing, and oral communication needs to facilitate the acquisition of content knowledge.

**Performance Indicators – The competent teacher:**

6J) selects, modifies, and uses a wide range of printed, visual, or auditory materials, and online resources appropriate to the content areas and the reading needs and levels of each student (including ELLs, and struggling and advanced readers);

6K) uses assessment data, student work samples, and observations from continuous monitoring of student progress to plan and evaluate effective content area reading, writing, and oral communication instruction;

6L) facilitates the use of appropriate word identification and vocabulary strategies to develop each student's understanding of content;

6M) teaches fluency strategies to facilitate comprehension of content;

6N) uses modeling, explanation, practice, and feedback to teach students to monitor and apply comprehension strategies independently, appropriate to the content learning;

6O) teaches students to analyze, evaluate, synthesize, and summarize information in single texts and across multiple texts, including electronic resources;

6P) teaches students to develop written text appropriate to the content areas that utilizes organization (e.g., compare/contrast, problem/solution), focus, elaboration, word choice, and standard conventions (e.g., punctuation, grammar);

6Q) integrates reading, writing, and oral communication to engage students in content learning;

6R) works with other teachers and support personnel to design, adjust, and modify instruction to meet students' reading, writing, and oral communication needs; and

6S) stimulates discussion in the content areas for varied instructional and conversational purposes.

**Standard 7 - Assessment** – The competent teacher understands and uses appropriate formative and summative assessments for determining student needs, monitoring student progress, measuring student growth, and evaluating student outcomes. The teacher makes decisions driven by data about curricular and instructional effectiveness and adjusts practices to meet the needs of each student.

**Performance Indicators – The competent teacher:**

7J) uses assessment results to determine student performance levels, identify learning targets, select appropriate research-based instructional strategies, and implement instruction to enhance learning outcomes;

7K) appropriately uses a variety of formal and informal assessments to evaluate the understanding, progress, and performance of an individual student and the class as a whole;

7L) involves students in self-assessment activities to help them become aware of their strengths and needs and encourages them to establish goals for learning;

7M) maintains useful and accurate records of student work and performance;

7N) accurately interprets and clearly communicates aggregate student performance data to students, parents or guardians, colleagues, and the community in a manner that complies with the requirements of the Illinois School Student Records Act [105 ILCS 10], 23 Ill. Adm. Code 375 (Student Records), the Family Educational Rights and Privacy Act (FERPA) (20 USC 1232g) and its implementing regulations (34 CFR 99; December 9, 2008);

7O) effectively uses appropriate technologies to conduct assessments, monitor performance, and assess student progress;

7P) collaborates with families and other professionals involved in the assessment of each student;

7Q) uses various types of assessment procedures appropriately, including making accommodations for individual students in specific contexts; and

7R) uses assessment strategies and devices that are nondiscriminatory, and take into consideration the impact of disabilities, methods of communication, cultural background, and primary language on measuring knowledge and performance of students.

**Standard 8 - Collaborative Relationships** – The competent teacher builds and maintains collaborative relationships to foster cognitive, linguistic, physical, and social and emotional development. This teacher works as a team member with professional colleagues, students, parents or guardians, and community members.

**Performance Indicators – The competent teacher:**

8J) works with all school personnel (e.g., support staff, teachers, paraprofessionals) to develop learning climates for the school that encourage unity, support a sense of shared purpose, show trust in one another, and value individuals;

8K) participates in collaborative decision-making and problem-solving with colleagues and other professionals to achieve success for all students;

8L) initiates collaboration with others to create opportunities that enhance student learning;
Appendix C: 2010 Illinois Professional Teaching Standards (IPTS)

8M) uses digital tools and resources to promote collaborative interactions;
8N) uses effective co-planning and co-teaching techniques to deliver instruction to each student;
8O) collaborates with school personnel in the implementation of appropriate assessment and instruction for designated students;
8P) develops professional relationships with parents and guardians that result in fair and equitable treatment of each student to support growth and learning;
8Q) establishes respectful and productive relationships with parents or guardians and seeks to develop cooperative partnerships to promote student learning and well-being;
8R) uses conflict resolution skills to enhance the effectiveness of collaboration and teamwork;
8S) participates in the design and implementation of individualized instruction for students with special needs (i.e., IEPs, IFSP, transition plans, Section 504 plans), ELLs, and students who are gifted; and
8T) identifies and utilizes community resources to enhance student learning and to provide opportunities for students to explore career opportunities.

Standard 9 - Professionalism, Leadership, and Advocacy – The competent teacher is an ethical and reflective practitioner who exhibits professionalism; provides leadership in the learning community; and advocates for students, parents or guardians, and the profession.

Performance Indicators – The competent teacher:
9I) models professional behavior that reflects honesty, integrity, personal responsibility, confidentiality, altruism and respect;
9J) maintains accurate records, manages data effectively, and protects the confidentiality of information pertaining to each student and family;
9K) reflects on professional practice and resulting outcomes; engages in self-assessment; and adjusts practices to improve student performance, school goals, and professional growth;
9L) communicates with families, responds to concerns, and contributes to enhanced family participation in student education;
9M) communicates relevant information and ideas effectively to students, parents or guardians, and peers, using a variety of technology and digital-age media and formats;
9N) collaborates with other teachers, students, parents or guardians, specialists, administrators, and community partners to enhance students’ learning and school improvement;
9O) participates in professional development, professional organizations, and learning communities, and engages in peer coaching and mentoring activities to enhance personal growth and development;
9P) uses leadership skills that contribute to individual and collegial growth and development, school improvement, and the advancement of knowledge in the teaching profession;
9Q) proactively serves all students and their families with equity and honor and advocates on their behalf, ensuring the learning and well-being of each child in the classroom;
9R) is aware of and complies with the mandatory reporter provisions of Section 4 of the Abused and Neglected Child Reporting Act [325 ILCS 5/4];
9S) models digital etiquette and responsible social actions in the use of digital technology; and
9T) models and teaches safe, legal, and ethical use of digital information and technology, including respect for copyright, intellectual property, and the appropriate documentation of sources.
b. Chart Providing Candidate Data from this Assessment and Aligning NCTM Standards and Indicators with the Assessment

**NOTE:** We began using this updated Student Teaching Evaluation Tool during the 2011-2012 academic year as part of our response to critiques raised by the NCTM in the 2011 National Recognition Report. Note that our program had only 3 mathematics student teachers during the 2011-2012 year.

The table below highlights our candidates’ performance relative to the NCTM standards and indicators that are assessed through this instrument (the additional Illinois Professional Teaching Standards that the instrument assesses are not listed for the sake of brevity). In brief, the evaluative scores are defined as follows: 1 = Concern, 2 = Developing, 3 = Target, and 4 = Distinguished. Further detail about the meaning of these descriptors is found on page 3 of this report. Our candidates’ average scores on each NCTM indicator and the frequency of scores on each indicator are recorded in the table.

Note that indicators judged as “Not Met” in the 2011 National Recognition Report that are assessed via this instrument include: 1.3, 3.1, 3.2, 3.3, 3.4, 4.3, 7.1, 7.5, 7.6, 8.1, 8.2, 8.4, 8.5, 8.6, 8.8, and 8.9

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<sup>1</sup> The “Effective Teaching” disposition is listed five times on the instrument and assessed relative to five different components of effective teaching: Planning, the Environment, Enacting, Reflecting, and Participating. Since our 3 candidates were assessed relative to this disposition five different times on the single instrument, the frequency of scores totals 15.
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Augustana College Teacher Education Program

NCTM SPA Response to Conditions Report

Assessment # 5: Teaching Portfolio

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a. **Description of the Assessment**

The Teaching Portfolio was implemented as a major requirement for the course EDUC 384: Middle and Secondary School Methods: Mathematics in the spring term of 2011. EDUC 384 is the mathematics-specific teaching methods course that is required of all secondary mathematics teaching candidates at Augustana. The Teaching Portfolio was implemented in the spring of 2011 in response to the critique raised in Section G of the February 2011 NCTM National Recognition Report that our program had not met the SPA-required number of standards and indicators.

A complete description of the Teaching Portfolio and explicit indication of how it aligns to NCTM teaching standards is provided to all students enrolled in EDUC 384 via the course syllabus. This description is provided below:

The Teaching Portfolio, due Wednesday of finals week (May 18), is a compilation of artifacts gathered from your ED384 work. The Portfolio should demonstrate the extent to which your teaching adheres to the professional standards for mathematics teaching set out by the National Council for Accreditation of Teacher Education (NCATE) and the National Council of Teachers of Mathematics (NCTM). For ED384, your portfolio will focus on NCATE/NCTM Standards 1-8 and 16.3.\(^1\) [Dispositions, Process Standards, Knowledge of Technology, Pedagogy, and Ability to Increase Students’ Knowledge of Mathematics]. The portfolio will include both “raw evidence” (e.g., the artifacts themselves) and explicit commentary explaining how the artifacts demonstrate that you have met a given standard.

The Portfolio can be collected in a three-ring binder or as an ePortfolio, and its general organizational structure will be as follows:

I. **Dispositions (6 Indicators)\(^2\):** This section of the Portfolio will be an essay that serves as a general overview of the entire Portfolio. Here you will make the case that you have developed each of the dispositions suggested by the six indicators of NCATE/NCTM Standard 7: Dispositions. As this part of the Portfolio is about “dispositions” or “attitudes,” you should articulate how you have come to appreciate the value of these facets of teaching, or why you believe they are important, etc. While “dispositions” can be difficult to document with hard evidence, you still might choose to refer to certain artifacts within the Portfolio as a means of demonstrating that you “practice what you preach.” That is, rather than simply claiming that you believe in using stimulating curricula in the classroom, you might go the added step of referring readers to an actual classroom activity you implemented that is found in the Portfolio.

II. **Process Standards (5 Indicators):** This section will include descriptions of how you fostered each of the five NCTM Process Standards (Problem Solving, Reasoning and Proof, Communication, Connections, and Representation) in your teaching. That is, you will explain how you enabled your students to engage with these Process Standards as you facilitated their mathematical work. The descriptions of how you fostered the Process Standards will be similar in length to the “cover sheets”

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1 Prospective mathematics teachers in the Augustana College Education Department will have opportunities to demonstrate their competence in Standards 9-16.2 [Content Standards and Field-Based Experiences] through other avenues, including mathematics coursework, clinical and student teaching work, and performance on teaching licensure tests.

2 An “indicator” refers to language found in either the NCATE/NCTM Program Standards or Principles and Standards for School Mathematics (or both) that articulates a particular teaching competency. In this portfolio, each “indicator” will require a written explanation of how the indicator was met (similar to the “Cover Sheets” you wrote in ED300 that explained how you demonstrated an Augustana College Knowledge Indicator) and artifacts of your ED384 work that provide evidence that you met the indicator. The written explanations should state explicitly why the artifacts are appropriate pieces of evidence. The artifacts can include any ED384 assignment or other artifact, including teaching lab lesson plans, samples of your 7th graders’ work, your Equity Paper, etc.
you completed in ED300, but they will be written in relation to the NCTM Process Standards rather than the Augustana Knowledge Indicators. In articulating how you fostered a given Process Standard, you may refer to any relevant indicators of the Standard listed in either Principles and Standards for School Mathematics (PSSM) or NCATE/NCTM Program Standards (NCATE/NCTM). For example, when you are focusing on Problem Solving, you can draw on language from either PSSM or NCATE/NCTM (or both) in making the case that you fostered Problem Solving. You do not necessarily need to make a case for all four indicators found in NCATE/NCTM, but the more indicators from either publication you can demonstrate the better. In addition to describing how you met each Standard, you will also provide actual teaching artifacts that serve as evidence that the Standard was met. As with ED300 cover sheets, the descriptions should refer explicitly to the artifacts and help explain why the artifacts provide evidence that a Standard was met.

III. Knowledge of Technology (1 Indicator): In this section you will document your awareness of how to use technology effectively in mathematics instruction. The description you write in this section can connect either to the language found in Standard 6 of the NCATE/NCTM document or to the Technology Principle in PSSM. You should include one or more evidentiary artifact: you may include your “Teaching with Technology” assignment or artifacts related to a lesson you taught with technology, etc. As with other sections in the Portfolio, your description should explain why the artifacts provide evidence that your teaching adheres to the NCTM’s expectations for technology use in the classroom.

IV. Pedagogy (9 Indicators): In this section you will demonstrate your adherence to each of the nine indicators found in NCATE/NCTM Standard 8: Knowledge of Mathematical Pedagogy. You will write a description explaining how you met each indicator (similar to the ED300 “cover sheets”), provide evidentiary artifacts for each, and ensure that your description draws connections between the artifacts and the indicators.

V. Ability to Increase Students’ Knowledge of Mathematics (1 Indicator): This section of the Portfolio will essentially be a re-packaging of one or both of your “Teaching Lab Final Analysis” papers in order to meet the format expectations of the Portfolio. The Final Analysis papers represent your opportunity to meet NCATE/NCTM Standard 16.3 during the ED384 term (note that you will be required to document your impact on student learning even more extensively during student teaching through your Work Sample assignment). By including one or both of these papers in your Portfolio, you will first write a brief explanation of how your paper(s) demonstrates your ability to increase students’ knowledge of mathematics, and you will then include the paper(s) in the Portfolio as documentary evidence.
b. Scoring Guide for the Teaching Portfolio
The assessment criteria for the Teaching Portfolio are written explicitly in a scoring rubric that is made available to the teacher candidates at the beginning of the spring term (the Portfolio must be submitted during finals week of the term). This 2-page rubric is provided below: all text and footnotes are from the original document that is provided to the candidates.

The Teaching Portfolio should demonstrate that the middle school or secondary school mathematics teacher candidate has developed the pedagogical skills, dispositions, and competencies expected of modern teaching professionals as articulated in Principles and Standards for School Mathematics (PSSM) and the NCATE/NCTM Program Standards for Initial Preparation of Mathematics Teachers (NCATE/NCTM). The portfolio serves as a case-making statement that the candidate has demonstrated proficiency in all of the relevant indicators mentioned in the first footnote. A convincing case, by nature, will include both convincing arguments and supporting evidence. Thus, for each required NCATE/NCTM indicator, the teacher candidate’s portfolio must accomplish three goals: (1) make a convincing argument or explanation that the candidate has met the expectations of the indicator; (2) provide relevant evidence supporting the argument; and (3) clearly explain how or why the evidentiary artifact(s) is indicative of the candidate’s proficiency relative to the indicator. The candidate’s proficiency on each indicator will therefore be evaluated using the following 3-point scale:

3 = Strong Evidence the Candidate is Proficient: All three goals listed above are effectively met. It is clear that the candidate understands the implications of the language in the indicator. The candidate makes a clear and convincing argument that he or she has met this standard. The supporting evidence is relevant, and the candidate’s arguments help explain why the evidence is relevant.

2 = Acceptable Evidence the Candidate is Proficient: There is evidence that the candidate has met the given standard. However, one of the goals listed above has not been completely met.

1 = Weak Evidence the Candidate is Proficient: There is some evidence that the candidate has met part of the expectations for a given standard. However, it is clear that the candidate must develop further in this area, or it is clear that the candidate must become more adept at documenting this particular skill, competency, or disposition. The evaluator can readily point to multiple aspects of the goals listed above that have not been met.

0 = No Evidence the Candidate is Proficient: Either the candidate literally provided no evidence that the standard has been met (and “no evidence” implies that either an argument or supporting evidence or both are missing), or the evidence provided is completely disconnected from the intended meaning of the indicator.

The portfolio should address 22 indicators, hence a maximum of 66 points can be earned for the case-making aspect of the portfolio.

A quality portfolio should include additional qualities beyond that which is indicated above, however. A portfolio should be well organized so that reviewers can easily navigate its contents. The written language in the portfolio should be grammatically and structurally sound in order to indicate that the creator is an educated professional. Finally, it should have a neat and professional appearance. These three aspects of the portfolio will also be evaluated and hence impact the final score for this ED384 assignment. Each aspect will be scored on a 5-point scale [5 = Excellent; 4 = Good; 3 = Fair; 2 = Marginally Acceptable; 0 = Unacceptable… .note that a score of “1” is not possible]. Thus, these aspects of the portfolio contribute an additional 15 points to the final score, for an overall maximum total of 81 points.

The record of your score for each aspect of the portfolio, your final score, and final comments are shown on the next page:

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3 This portfolio strictly addresses pedagogical competencies; it does not address content knowledge. Thus, candidates are only required to document their proficiency in relation to NCATE/NCTM Standards 1-8 and 16.3 in this portfolio.


6 Argument and evidence are mutually supportive and inextricably linked in any convincing case. One can argue that he or she is competent at something, but the argument is not convincing if there is no supporting evidence. Likewise, evidence cannot stand alone: an artifact or document does not tell its own story; one must argue or explain why the piece of evidence is indicative of competence or skill, etc.

7 For standards 1-6 and 16.3, the “relevant evidence” must include one or more tangible artifact (such as a course assignment, a piece of student work from a teaching lab, etc.). Note that it is possible that one artifact could serve as supporting evidence for multiple indicators. For standard 7 (Dispositions) and its six indicators, tangible artifacts are not necessarily required as supporting evidence. It can be difficult to document a “disposition,” as these have more to do with personal attitudes, beliefs, etc. than documentable practice. It may be appropriate to simply provide written ideas as the supporting evidence. However, there may be situations in which it is appropriate (and advisable) to point to tangible artifacts in order to demonstrate a disposition. For example, for Standard 7.6 you might explain why you believe technology is valuable in mathematics instruction and also point to a lesson plan or other artifact where technology played a central role.

8 Drawing on original language from PSSM or NCATE/NCTM may be useful in this regard. Some of the concepts in NCATE/NCTM are very broad. For example, Disposition 7.3 simply reads “Effective teaching.” It is not immediately obvious what this means, but the PSSM’s “Teaching Principle” does articulate the intended meaning much more precisely. Thus, candidate’s are encouraged to draw directly from language in the “Teaching Principle,” or effectively paraphrase its meaning, when making the case that their work adheres to Standard 7.3.
NCATE/NCTM Standard 7: Dispositions

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NCATE/NCTM Standards 1-6: Process Standards\(^9\) and Technology

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</table>

NCATE/NCTM Standard 8: Pedagogy

<table>
<thead>
<tr>
<th>Indicator</th>
<th>8.1</th>
<th>8.2</th>
<th>8.3</th>
<th>8.4</th>
<th>8.5</th>
<th>8.6</th>
<th>8.7</th>
<th>8.8</th>
<th>8.9</th>
<th>Sub-Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Score</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<td></td>
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<td></td>
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</tr>
</tbody>
</table>

NCATE/NCTM Standard 16.3 and Professional Quality\(^{10}\) of the Portfolio

<table>
<thead>
<tr>
<th>Indicator</th>
<th>16.3</th>
<th>Organization</th>
<th>Grammar</th>
<th>Appearance</th>
<th>Sub-Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Score</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

| Raw Score | 81 |
| Scaled Score | 16 |

(Comments:)

\(^9\) The NCATE/NCTM document lists multiple indicators for each of the five NCTM process standards. For this portfolio, teacher candidates are not required to provide evidence pertaining to each process standard indicator. Rather, they should make a case for fostering these process standards in the context of teaching more generally. Teacher candidates are advised that demonstrating multiple indicators will correlate to stronger evidence for meeting the standard, but it is unrealistic to expect to be able to document all of the indicators prior to student teaching.

\(^{10}\) Note: As indicated on the first page of this rubric, the three “Professional Quality” indicators are scored a different scale and are NOT included in the NCATE/NCTM Standards.)
c. Chart Providing Candidate Data from this Assessment and Aligning NCTM Standards and Indicators with the Assessment

As noted in Part a of this report, the Teaching Portfolio was implemented into the EDUC 384 course in the spring of 2011 in response to the critique raised in Section G of the February 2011 NCTM National Recognition Report that our program had not met the SPA-required number of standards and indicators.

EDUC 384 has convened twice since them, so we have data from both the Spring of 2011 and the Spring of 2012. A total of 8 secondary mathematics teacher candidates enrolled in this course during those two terms (3 in 2011 and 5 in 2012). Five additional students were also enrolled in EDUC 384 during these terms, but these additional students were elementary education majors seeking a middle school endorsement in mathematics. As this report focuses on the secondary mathematics program at Augustana, only data from the 8 secondary mathematics teacher candidates is shared below.

The table below shows score frequencies and average scores earned for each of the NCTM Standards and Indicators documented by the 8 candidates in the Teaching Portfolio. Once again, the scale used is as follows: 3 = Strong Evidence the Candidate is Proficient; 2 = Acceptable Evidence the Candidate is Proficient; 1 = Weak Evidence the Candidate is Proficient; 0 = No Evidence the Candidate is Proficient. Further details about the meaning of these scores is available on page 15 of this document.

<table>
<thead>
<tr>
<th>Standard/Indicator</th>
<th>Avg Score (n = 8)</th>
<th>0</th>
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<th>2</th>
<th>3</th>
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<tbody>
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<td>2</td>
<td>6</td>
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<td></td>
</tr>
<tr>
<td>2*</td>
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<td>1</td>
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<td></td>
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<tr>
<td>3*</td>
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<td>4</td>
<td>4</td>
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</tr>
<tr>
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</tr>
<tr>
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<td>6</td>
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<td>2</td>
<td>5</td>
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<td></td>
</tr>
<tr>
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<td>3</td>
<td>5</td>
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</tbody>
</table>

*The five NCTM Process standards have various sub-indicators. However, as indicated on pages 2-3 of this document, teaching candidates are not expected document every indicator for the Process Standards in their Teaching Portfolio. Rather, they are expected to document some aspects of each Process Standard.*