

Program Report for the Preparation of Middle Level Mathematics Teachers National Council of Teachers of Mathematics (NCTM) 2020 Standards - Option 1

This form uses the 2020 NCTM Standards. Beginning in Fall 2022, all Middle Level Mathematics Teacher Education programs submitting initial review reports must use the 2020 Standards.

COVER SHEET

1. Institution Name

2. State

3. Date submitted

MM DD YYYY
[] / [] / []

4. Report Preparer's Information:

Name of Preparer:	
<hr/>	
Phone:	Ext.
() -	
E-mail:	
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5. CAEP Coordinator's Information:

Name:	
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Phone:	Ext.
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E-mail:	
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6. Name of institution's program

7. CAEP Category

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

(1) e.g., 5 - 9, 7 - 9, 6 - 8

9. Program Type

- First teaching license
 - Non-licensure/non-certification degree
10. Degree or award level
- Baccalaureate
 - Post Baccalaureate
 - Master's
11. Is this program offered at more than one site?
- Yes
 - No
12. If your answer is "yes" to above question, list the sites at which the program is offered
-
13. Title of the state license for which candidates are prepared
-
14. Program report status:
- Initial Review
 - Response to One of the Following Decisions: Further Development Required or Recognition with Probation
 - Response to National Recognition with Conditions
15. Is your Educator Preparation Provider (EPP) seeking
- CAEP accreditation for the first time (initial accreditation)
 - Continuing CAEP accreditation
16. State Licensure data requirement on program completers disaggregated by specialty area with sub-area scores: CAEP requires programs to provide completer performance data on state licensure examinations for completers who take the examination for the content field, if the state has a licensure testing requirement. Test information and data must be reported in Section IV. Does your state require such a test?
- Yes
 - No

SECTION I - CONTEXT

1. Description of any state or institutional policies that may influence the application of NCTM standards. (Response limited to 4,000 characters INCLUDING SPACES)
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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. Information must also include the qualifications of cooperating teachers and student teaching supervisors. (Response limited to 8,000 characters INCLUDING SPACES)
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3. A program of study that outlines the courses and experiences required for candidates to complete the program. The program of study must include course titles and numbers. (This information may be provided as an attachment from the college catalog or as a student advisement sheet.) For post baccalaureate or master's programs include a graduate advising form or transcript analysis form showing undergraduate mathematics content course requirements aligned to *NCTM 2020 Standards for Middle Level* content components.
 A [LINK](#) to upload or manage your uploaded file(s)
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.
 A [LINK](#) to upload or manage your uploaded file(s)
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. It is important that the number of completers reported on this table is reflected in the data presented for the State Licensure Test and for a Grades/ GPA/ Transcript Analysis content assessment. Data from those tables should reflect the year the candidate completed, regardless of when the test or coursework was taken.

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

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

6. Faculty Information

Directions: Complete the following information for each faculty member responsible for professional coursework, clinical supervision, or administration in this program. Make sure that faculty responsible for supervision of program candidates are clearly identified.

Faculty Member Name	
Highest Degree, Field, & University⁽³⁾	
Assignment: Indicate the role of the faculty member⁽⁴⁾	
Faculty Rank⁽⁵⁾	
Tenure Track	<input type="checkbox"/> YES
Scholarship⁽⁶⁾, Leadership in Professional Associations, and Service⁽⁷⁾: List up to 3 major contributions in the past 3 years⁽⁸⁾	
Teaching or other professional experience in P-12 schools⁽⁹⁾	

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

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

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

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

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

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

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

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

SECTION II - LIST OF ASSESSMENTS

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

- In this section, list the 6-8 assessments that are being submitted as evidence for meeting the NCTM standards. All programs must provide a minimum of six assessments. If your state does not require a state licensure test in the content area, you must substitute an assessment that documents candidate attainment of content knowledge in #1 below. For each assessment, indicate the type or form of the assessment and when it is administered in the program. NCTM provides sufficiency of evidence with the standards and components for nationally normed tests used in Assessment 1. In addition, it provides guidelines and templates if the program uses Grades/GPA/Transcript Analysis as a content assessment.

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

Type and Number of Assessment	Name of Assessment ⁽¹⁰⁾	Type or Form of Assessment ⁽¹¹⁾	When the Assessment Is Administered ⁽¹²⁾
Assessment #1: Licensure assessment, or other content-based assessment aligned to <i>NCTM 2020 Standards for Middle Level</i> content components (required)			
Assessment #2: Content knowledge in middle level mathematics aligned to <i>NCTM 2020 Standards for Middle Level</i> (required)			
Assessment #3: Candidate ability to plan instruction (required)			
Assessment #4: Student teaching (required)			
Assessment #5: Candidate effect on student learning (required)			
Assessment #6: Additional assessment that addresses the <i>NCTM 2020 Standards for Middle Level</i> (required)			
Assessment #7: Additional assessment that addresses the <i>NCTM 2020 Standards for Middle Level</i> (optional)			
Assessment #8: Additional assessment that addresses the <i>NCTM 2020 Standards for Middle Level</i> (optional)			

(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).

SECTION III - RELATIONSHIP OF ASSESSMENT TO STANDARDS

1. Standard 1: Knowing and Understanding Meaningful Mathematics

	#1	#2	#3	#4	#5	#6	#7	#8
Candidates demonstrate and apply understandings of major mathematics concepts, procedures, knowledge, and applications within and among mathematical domains of Number and Operations; Algebra and Functions; Statistics and Probability; Geometry, Trigonometry, and Measurement.								
<i>*1a) Essential Concepts in Number and Operations.</i> Candidates demonstrate and apply understandings of major mathematics concepts, procedures, knowledge, and applications of number including flexibly applying procedures, and using real and rational numbers in contexts, attending to units, developing solution strategies and evaluating the correctness of conclusions. Major mathematical concepts in Number include number systems (particularly rational numbers); algorithmic and recursive thinking; number and set theory; ratio, rate of change, and proportional reasoning; and structure, relationships, operations, and representations.								
<i>*1b) Essential Concepts in Algebra and Functions.</i> Candidates demonstrate and apply understandings of major mathematics concepts, procedures, knowledge, and applications of algebra and functions including how mathematics can be used systematically to represent patterns and relationships among numbers and other objects, analyze change, and model everyday events and problems of life and society. Essential Concepts in Algebra and Functions include algebra that connects mathematical structure to symbolic, graphical, and tabular descriptions; connecting algebra to functions; induction; and develops families of functions of discrete and continuous variables as a fundamental concept of mathematics.								
<i>*1c) Essential Concepts in Statistics and Probability.</i> Candidates demonstrate and apply understandings of major mathematics concepts, procedures, knowledge, and applications of statistics and probability including how statistical problem solving and decision making depend on understanding, explaining, and quantifying the variability in a set of data to make decisions. They understand the role of randomization and chance in determining the probability of events. Essential Concepts in Statistics and Probability include quantitative literacy; visualizing and summarizing data; statistical inference; probability; exploratory data analysis and applied problems and modeling.								
<i>*1d) Essential Concepts in Geometry, Trigonometry, and Measurement.</i> Candidates demonstrate and apply understandings of major mathematics concepts, procedures, knowledge, and applications of geometry including using visual representations for numerical functions and relations, data and statistics, and networks, to provide a lens for solving problems in the physical world. Essential Concepts in Geometry, Trigonometry, and Measurement include measurement; transformations; scale; graph theory; geometric arguments; reasoning and proof; applied problems and modeling; development of axiomatic proof; and the Pythagorean theorem.								

2. Standard 2: Knowing and Using Mathematical Processes

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

assessments to elicit information on students' progress toward rigorous mathematics learning goals.

5b) *Analyze Assessment Data.* Candidates collect information on students' progress and use data from informal and formal assessments to analyze progress of individual students, the class as a whole, and subgroups of students disaggregated by demographic categories toward rigorous mathematics learning goals.

5c) *Modify Instruction.* Candidates use the evidence of student learning of individual students, the class as a whole, and subgroups of students disaggregated by demographic categories to analyze the effectiveness of their instruction with respect to these groups. Candidates propose adjustments to instruction to improve student learning for each and every student based on the analysis.

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6. Standard 6: Social and Professional Context of Mathematics Teaching and Learning

Candidates are reflective mathematics educators who collaborate with colleagues and other stakeholders to grow professionally, to support student learning, and to create more equitable mathematics learning environments.

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

*6a) *Promote Equitable Learning Environments.* Candidates seek to create more equitable learning environments by identifying beliefs about teaching and learning mathematics, and associated classroom practices that produce equitable or inequitable mathematical learning for students.

6b) *Promote Positive Mathematical Identities.* Candidates reflect on their impact on students' mathematical identities and develop professional learning goals that promote students' positive mathematical identities.

6c) *Engage Families and Community.* Candidates communicate with families to share and discuss strategies for ensuring the mathematical success of their children.

6d) *Collaborate with Colleagues.* Candidates collaborate with colleagues to grow professionally and support student learning of mathematics.

7. * Standard 7: Middle Level Field Experiences and Clinical Practice

[NOTE: This standard is not a requirement for CAEP, but it is an NCTM requirement for a program to obtain National Recognition from the Council. The 2020 NCTM Standard 7 for Math programs was not based on the Guidelines outlined by CAEP's SPA Standards Review Committee. Instead, it is a specialty licensure area-specific requirement set by NCTM.]

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

*7a) *Design of Field Experiences and Clinical Practice.* Candidates participate in a diverse range of field experiences and clinical practice in middle level settings with highly qualified mathematics teachers.

*7b) *Supervision of Field Experiences.* Supervisors for the full-time student teaching/internship in middle school mathematics have secondary or middle level mathematics teaching experience or equivalent knowledge base.

Standard 7 is to be addressed in Section I, Context #1, #2 and #6. Any additional comments?

SECTION IV - EVIDENCE FOR MEETING STANDARDS

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

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

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

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

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

- (1) A two-page narrative that includes the following:
 - a. A brief description of the assessment and its use in the program (one sentence may be sufficient);

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

(2) Assessment Documentation

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

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

Note: As much as possible, combine all of the files for one assessment into a single file. That is, create one file for Assessment #4 that includes the two-page narrative (items a - d above), the assessment itself (item e above), the scoring guide (item f above), and the data chart (item g above). Each attachment should be no larger than 2 mb. Do not include candidate work or syllabi. There is a limit of 20 attachments for the entire report so it is crucial that you combine files as much as possible.

- 1. State licensure test(s) or professional examinations of content knowledge. NCTM standards addressed in this entry include Standard 1. If your state does not require licensure tests or professional examinations in the content area, data from another assessment aligned to *NCTM 2020 Standards for Middle Level* content components must be presented to document candidate attainment of content knowledge. (Assessment Required)**

Provide assessment information as outlined in the directions for Section IV

A [LINK](#) to upload or manage your uploaded file(s)

- 2. Assessment of content knowledge in mathematics. NCTM standards addressed in this assessment that is aligned to *NCTM 2020 Standards for Middle Level* could include but are not limited to Standards 1-2. Examples of assessments include comprehensive examinations, GPAs or grades, and portfolio tasks⁽¹³⁾. For post-baccalaureate teacher preparation, include an assessment used to determine that candidates have adequate content background in the subject to be taught. (Assessment Required)**

Provide assessment information as outlined in the directions for Section IV

A [LINK](#) to upload or manage your uploaded file(s)

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

- 3. Assessment that demonstrates candidates can effectively plan classroom-based instruction. NCTM standards that could be addressed in this assessment include but are not limited to Standards 3, 4 and 6. Examples of assessments include the evaluation of candidates' abilities to develop lesson or unit plans, individualized educational plans, needs assessments, or intervention plans. (Assessment Required)**

Provide assessment information as outlined in the directions for Section IV

A [LINK](#) to upload or manage your uploaded file(s)

- 4. Assessment that demonstrates candidates' knowledge, skills, and dispositions are applied effectively in practice. NCTM standards that could be addressed in this assessment include but are not limited to Standard 3, 4, 5 and 6. An assessment instrument used in student teaching or an internship should be submitted. (Assessment Required)**

Provide assessment information as outlined in the directions for Section IV

A [LINK](#) to upload or manage your uploaded file(s)

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

Provide assessment information as outlined in the directions for Section IV

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- 6. Additional assessment to provide evidence for standards. NCTM standards that could be addressed in this assessment include but are not limited to Standard 6. Examples of assessments could include analysis and reflection from teaching that highlight professional goals, artifacts that demonstrate collaboration with families and colleagues, or audits of beliefs regarding classroom/school policies that might advocate for better access/achievement for underrepresented groups and students.**

Provide assessment information as outlined in the directions for Section IV

A [LINK](#) to upload or manage your uploaded file(s)

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

Provide assessment information as outlined in the directions for Section IV

A [LINK](#) to upload or manage your uploaded file(s)

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

Provide assessment information as outlined in the directions for Section IV

A [LINK](#) to upload or manage your uploaded file(s)

SECTION V - USE OF ASSESSMENT RESULTS TO IMPROVE PROGRAM

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

(Response limited to 12,000 characters INCLUDING SPACES)

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

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

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

(Response limited to 24,000 characters, including spaces)

Please click "Next"

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