

M in STEM Landscape Analysis

| Components | Beginning | Developing | Integrating | Generating and Sustaining |
|--|---|--|---|---|
| Extent to which mathematics and science content and mathematics and science methods are integrated | Program is seeking to provide opportunities for students to experience integrated mathematics and science content, or integrated mathematics and science methods courses. | Program provides limited opportunities for students to experience either integrated mathematics and science content or integrated mathematics and science methods. | Program provides multiple opportunities for students to experience integrated mathematics and science content and integrated mathematics and science methods. | Program provides multiple opportunities for students to experience integrated mathematics and science content and integrated mathematics and science methods, and for preservice teachers to consider when and how content should be integrated for greatest student benefit. |
| Extent to which the Association of Mathematics Teacher Educators (AMTE) Standards for Preparing Teachers of Mathematics (SPTMs) are reflected in the program | Program is seeking to align with the AMTE SPTMs C 1-4 regarding candidate knowledge, skills, and dispositions. | Program is partially aligned with the AMTE SPTMs C 1-4 regarding candidate knowledge, skills, and dispositions. | Program is mostly aligned with the AMTE SPTMs C 1-4 regarding candidate knowledge, skills, and dispositions. | Program is completely aligned with the AMTE SPTMs C 1-4 regarding candidate knowledge, skills, and dispositions, or, if partially aligned, has an action plan to become better aligned. |
| C 1: Mathematics Concepts, Practices, and Curriculum Well-prepared beginning teachers of mathematics possess robust knowledge of mathematical and statistical concepts that underlie what they encounter in teaching. They engage in appropriate mathematical and statistical practices and support their students in doing the same. They can read, analyze, and discuss curriculum, assessment, and standards documents | Seeking to align | Partially aligned | Mostly aligned | Completely aligned |

| | | | | |
|--|------------------|-------------------|----------------|--------------------|
| as well as students' mathematical productions. | | | | |
| <p>C2: Pedagogical Knowledge and Practices for Teaching Mathematics Well-prepared beginning teachers of mathematics have foundations of pedagogical knowledge, effective and equitable mathematics teaching practices, and positive and productive dispositions toward teaching mathematics to support students' sense making, understanding, and reasoning.</p> | Seeking to align | Partially aligned | Mostly aligned | Completely aligned |
| <p>C3: Students as Learners of Mathematics Well-prepared beginning teachers of mathematics have foundational understandings of students' mathematical knowledge, skills, and dispositions. They also know how these understandings can contribute to effective teaching and are committed to expanding and deepening their knowledge of students as learners of mathematics.</p> | Seeking to align | Partially aligned | Mostly aligned | Completely aligned |
| <p>C4: Social Contexts of Mathematics Teaching and Learning Well-</p> | Seeking to align | Partially aligned | Mostly aligned | Completely aligned |

| | | | | |
|--|---|---|---|--|
| prepared beginning teachers of mathematics realize that the social, historical, and institutional contexts of mathematics affect teaching and learning and know about and are committed to their critical roles as advocates for each and every student. | | | | |
| Extent to which program prepares teacher candidates to support diverse learners | Program is seeking to prepare teacher candidates to support diverse learners. | Program provides limited opportunities for teacher candidates to consider teaching practices to support diverse learners. | Program provides multiple opportunities for teacher candidates to consider teaching practices to support diverse learners. | Program provides multiple opportunities for teacher candidates to consider teaching practices to support diverse learners and for teacher candidates to implement these practices in field placements. |
| Extent to which barriers to success for teacher candidates from traditionally underrepresented groups are addressed | Program is seeking to better support teacher candidates from traditionally underrepresented groups | Program provides limited supports for teacher candidates from traditionally underrepresented groups | Program provides extensive supports for teacher candidates from traditionally underrepresented groups | Program provides extensive supports for teacher candidates from traditionally underrepresented groups at all phases of their teacher preparation (including before admission to the teacher prep program) and provides supports in the early phases of graduates' careers. |
| Extent to which mathematics education faculty are involved in all phases of mathematics teacher preparation | Program is seeking to involve mathematics education faculty in phases of mathematics teacher preparation beyond the courses those faculty teach | Program involves mathematics education faculty in some aspects of mathematics teacher preparation beyond the courses those faculty teach. Possible examples | Program involves mathematics education faculty in most aspects of mathematics teacher preparation beyond the courses those faculty teach. Possible examples | Program involves mathematics education faculty in all aspects of mathematics teacher preparation beyond the courses those faculty teach. Possible examples include coordinating with faculty who teach other teacher preparation courses to better align content, co-teaching courses with other |

| | | | | |
|--|--|--|--|--|
| | | include coordinating with faculty who teach other teacher preparation courses to better align content, co-teaching courses with other teacher preparation faculty, or assisting in teacher candidate field placement or supervision. | include coordinating with faculty who teach other teacher preparation courses to better align content, co-teaching courses with other teacher preparation faculty, or assisting in teacher candidate field placement or supervision. | teacher preparation faculty, or assisting in teacher candidate field placement or supervision. |
|--|--|--|--|--|