***PROFESSIONAL PORTFOLIO RUBRIC – Master of Education Math Education***

**SOE Goals correlated to NCTM and ACEI Standards**

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|  | **Not Met: 1** | **Met: 2** | **Target: 3** |
| **SOE Goal #1 Philosophy** | | | **NCTM 7 & 8 / ACEI #5a** |
| Statement | Reflects developing understanding of basic relationships and dependencies among curricular content and processes of elementary education, behavioral guidance and effective instruction. | Reflects understanding of basic relationships and dependencies among curricular content and processes of elementary education, behavioral guidance and effective instruction and reflects a commitment to the professional codes of ethical conduct. | Demonstrates deep understanding of basic relationships and dependencies among curricular content and processes of elementary education, behavioral guidance and effective instruction; reflects a commitment to the professional codes of ethical conduct; and includes citations of references that place it in a larger educational context. |
| Evidence | Philosophy statement demonstrates developing knowledge of strategies for reflecting on candidate's practice and influence on K-8 students' learning. | Philosophy statement demonstrates knowledge of strategies for reflecting on candidate's practice and influence on K-8 students' learning. | Philosophy statement demonstrates knowledge of strategies for reflecting on candidate's practice and influence on K-8 students' learning and provides supporting references. |
| **SOE Goal #2 Development** | | | **NCTM 8 / ACEI #1** |
| Statement | Knowledge of major concepts, principles, theories and research related to development of children and youth is general; reflected understanding is minimal. | Understanding of major concepts, principles, theories and research related to development of children and youth is demonstrated. | A clear depth of understanding of major concepts, principles, theories and research related to development of children and youth is demonstrated. |
| Evidence | Connections between concepts, principles and theories and teaching strategies/ learning approaches are vague or unidentified. | Use of development concepts, principles, theories and research to construct appropriate learning opportunities is documented and demonstrated. | Applied concepts, principles, theories and research related to development of learning opportunities reflect depth of knowledge and understanding. |
| **SOE Goal #3 Adaptation for Diverse Students** | | | **NCTM 1, 5, 7 & 8 / ACEI #3b** |
| Statement | Shows developing knowledge of how individual experiences, disabilities, prior learning, language and culture influence learning; of strategies used to provide equitable learning and mutual respect; and of developmental differences and how to seek outside resources when necessary. | Demonstrates understanding of how learning is influenced by individual experiences, disabilities, prior learning, language and culture; of strategies used to provide equitable learning and mutual respect; and of developmental differences and how to seek outside resources when necessary. | Demonstrates and documents clear understanding of how learning is influenced by individual experiences, disabilities, prior learning, language and culture; of strategies used to provide equitable learning and mutual respect; and of developmental differences and how to seek outside resources when necessary. |
| Evidence | Some ability to apply knowledge to provide differentiation for student needs is demonstrated. | Ability to apply knowledge to provide differentiation for student needs is documented and demonstrated. | Skilled sensitivity to apply knowledge of differentiation for student needs and create a classroom atmosphere conducive to respect and acceptance is documented and demonstrated. |

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| **SOE Goals #4 Math Content and Instruction – Problem Solving** | | | **NCTM 1 / ACEI #2d/4** |
| Statement | Reflects limited knowledge of the concepts of problem solving, how to teach and assess them. | Reflects how to develop and assess student knowledge and skills in problem solving and demonstrates some ability to help students connect problem solving concepts to the local community and the real world. | Reflects how to develop and assess student problem solving knowledge and skills, accommodating learning styles and abilities, and helps students connect problem solving to the local community and the real world. | |
| Evidence | Demonstrates developing ability to use knowledge of the concepts of problem solving to facilitate student learning in math. | Demonstrates ability to use pedagogical knowledge and assessment to facilitate students’ knowledge of the concepts of problem solving effectively. | Demonstrates clearly candidate’s pedagogical competence (instruction and assessment) in the teaching of problem solving and making it relevant for all students. | |
| **SOE Goals #4 Math Content and Instruction - Reasoning and Proof** | | | **NCTM 2 / ACEI #2d/4** | |
| Statement | Reflects limited knowledge of the role of reasoning and proof in the teaching of mathematics. | Reflects how to develop and assess student ability to reason mathematically. Some ability to help students make and investigate mathematical conjectures. | Reflects how to develop and assess student knowledge and skills to reason mathematically. Accommodates learning styles and abilities, and helps students apply mathematical reasoning to real world situations. | |
| Evidence | Demonstrates developing ability to facilitate students’ mathematical reasoning. | Demonstrates ability to use pedagogical knowledge and assessment to facilitate students’ mathematical reasoning. | Demonstrates clearly candidate’s pedagogical competence (instruction and assessment) to foster students’ ability to reason mathematically and apply mathematical reasoning to real world situations. | |
| **SOE Goals #4 Math Content and Instruction - Mathematical Communication** | | | **NCTM 3 / ACEI #2d/4** | |
| Statement | Reflects limited knowledge of how to foster student ability to communicate mathematically. | Reflects how to develop and assess student knowledge and skills to communicate mathematically and demonstrates some ability to help students express themselves mathematically. | Reflects how to develop and assess student knowledge and skills to communicate mathematically, accommodates learning styles and abilities to help them express themselves mathematically. | |
| Evidence | Demonstrates developing ability to foster students mathematical communication. | Demonstrates ability to use pedagogical knowledge and assessment to facilitate students’ mathematical communication and foster their ability to express themselves mathematically. | Demonstrates clearly candidate’s pedagogical competence (instruction and assessment) to facilitate students’ mathematical communication and foster their ability to express themselves mathematically. | |
| **SOE Goals #4 Math Content and Instruction - Mathematical Connections** | | | **NCTM 4 / ACEI #2d/4** | |
| Statement | Reflects limited knowledge of the connections between mathematical ideas and how to apply mathematics beyond the classroom. | Reflects how to develop and assess student knowledge of the connections between mathematical ideas and ability to apply mathematics beyond the classroom. | Reflects how to develop and assess student knowledge of the connections between mathematical ideas. Incorporates learning styles and abilities while fostering the application of mathematics beyond the classroom. | |
| Evidence | Demonstrates developing ability to use knowledge of the connections between mathematical ideas and how to facilitate student application of mathematics beyond the classroom. | Demonstrates ability to use pedagogical knowledge and assessment to facilitate students’ knowledge of the connections between mathematical ideas and ability to apply mathematics beyond the classroom effectively. | Demonstrates clearly candidate’s pedagogical competence (instruction and assessment) to build student knowledge of the connections between mathematical ideas, accommodating learning styles and abilities while fostering the application of mathematics beyond the classroom. | |

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| **SOE Goals #4 Math Content and Instruction – Mathematical Representation** | | | | | | | **NCTM 5 / ACEI #2d/4** |
| Statement | Reflects limited knowledge of how to use mathematical representation to support and depen students’ mathematical understanding. | Reflects how to develop and assess students’ mathematical knowledge and skills through the use of mathematical representation. | | | | Reflects how to develop and assess students’ mathematical knowledge and skills through the use of mathematical representation. Incorporates students’ learning styles while fostering their ability to reason mathematically. | |
| Evidence | Demonstrates developing ability of how to use mathematical representation to facilitate student learning in mathematics. | Demonstrates ability to effectively use mathematical representation to facilitate student learning in mathematics. | | | | Demonstrates clearly candidate’s pedagogical competence (instruction and assessment) to effectively use mathematical representation to facilitate student learning in mathematics. | |
| **SOE Goals #4 Math Content and Instruction – Number and Operations** | | | | **NCTM Elementary and Middle School 9 / ACEI #2d/4** | | | |
| Statement | Reflects limited knowledge of number and operations. | Reflects how to develop and assess student knowledge and skills of number and operations. Demonstrates some ability to foster student understanding of number and operations. | | | | Reflects how to develop and assess student knowledge and skills of number and operations. Incorporates learning styles and abilities while fostering students’ understanding of number and operations. | |
| Evidence | Demonstrates developing ability to facilitate student understanding of number and operations. | Demonstrates ability to use pedagogical knowledge and assessment to facilitate students’ knowledge of number and operations effectively. | | | | Demonstrates clearly candidate’s pedagogical competence (instruction and assessment) to facilitate students’ knowledge of number and operations effectively. | |
| **SOE Goals #4 Math Content and Instruction – Different Perspectives on Algebra** | | | | | **NCTM Elementary and Middle School 10 / ACEI #2d/4** | | |
| Statement | Reflects limited knowledge of the mathematical concepts underlying algebra. e | Reflects how to develop and assess student knowledge and skills of the mathematical concepts underlying algebra and demonstrates some ability to represent mathematical relationships. | | | | Reflects how to develop and assess student knowledge and skills of the mathematical concepts underlying algebra and how to represent mathematical relationships. Incorporates learning styles and abilities to foster perspectives on algebra. | |
| Evidence | Demonstrates developing ability to facilitate student understanding of patterns and relationships. | Demonstrates ability to use pedagogical knowledge and assessment to effectively facilitate students’ exploration and analysis of patterns and relationships in a variety of contexts. | | | | Demonstrates clearly candidate’s pedagogical competence (instruction and assessment) to facilitate students’ exploration and analysis of patterns and relationships in a variety of contexts. | |
| **SOE Goals #4 Math Content and Instruction – Geometries** | | | **NCTM Elementary and Middle School 11 / ACEI #2d/4** | | | | |
| Statement | Reflects limited knowledge of geometric modeling, structures and shapes. | Reflects how to develop and assess student knowledge and skills of geometric modeling, structures and shapes and demonstrates some ability to foster exploration and analysis of geometry. | | | | Reflects how to develop and assess student knowledge and skills of geometric modeling, structures and shapes and demonstrates some ability to foster exploration and analysis of geometry. Incorporates learning styles and abilities to foster spatial visualization and geometric relationships. | |
| Evidence | Demonstrates developing ability to facilitate student understanding of geometry and geometric relationships. | Demonstrates ability to use pedagogical knowledge and assessment to effectively facilitate students’ knowledge of geometry and geometric relationships. | | | | Demonstrates clearly candidate’s pedagogical competence (instruction and assessment) to effectively facilitate students’ knowledge of geometry and geometric relationships. | |

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| **SOE Goals #4 Math Content and Instruction - Data Analysis, Statistics, and Probability** | | | | **NCTM Elementary 12 and Middle School 14 / ACEI #2d/4** | | |
| Statement | Reflects limited knowledge of the concepts and practices related to data analysis, probability and statistics. | Reflects how to develop and assess student knowledge of the concepts and practices related to data analysis, probability and statistics, and ability to apply them. | | | Reflects how to develop and assess student knowledge and skills of the concepts and practices related to data analysis, probability and statistics. Incorporates learning styles and abilities to help students investigate and apply statistical methods. | |
| Evidence | Demonstrates developing ability to facilitate student knowledge of the concepts and practices related to data analysis, probability and statistics. | Demonstrates ability to use pedagogical knowledge and assessment to effectively facilitate students’ knowledge of the concepts and practices related to data analysis, probability and statistics. | | | Demonstrates clearly candidate’s pedagogical competence (instruction and assessment) to effectively facilitate students’ knowledge of the concepts and practices related to data analysis, probability and statistics. | |
| **SOE Goals #4 Math Content and Instruction - Measurement** | | | **NCTM Elementary 13 and Middle School 14 / ACEI #2d/4** | | | |
| Statement | Reflects limited knowledge of measurement concepts and tools and how to foster student understanding and application of them. | Reflects how to develop and assess student knowledge and skills in the understanding and application of measurement concepts and tools. | | | Reflects how to develop and assess student knowledge and skills in the understanding of measurement concepts and tools. Incorporates learning styles and abilities, and helps students apply measurement concepts and tools to the local community and the real world. | |
| Evidence | Demonstrates developing ability to facilitate student learning of measurement concepts and tools. | Demonstrates ability to use pedagogical knowledge and assessment to effectively facilitate students’ understanding and application of measurement concepts and tools. | | | Demonstrates clearly candidate’s pedagogical competence (instruction and assessment) to effectively facilitate students’ understanding and application of measurement concepts and tools. | |
| **SOE Goals #4 Math Content and Instruction - Calculus** | | | | | | **NCTM Middle School 12 / ACEI #2d/4** |
| Statement | Reflects limited understanding of the basic calculus concepts and their applications. | Reflects how to develop and assess student knowledge of the basic calculus concepts and their applications and demonstrates some ability to foster student understanding of those concepts. | | | Reflects how to develop and assess student knowledge and skills of the basic calculus concepts and their applications and incorporates learning styles and abilities to foster understanding. | |
| Evidence | Demonstrates developing ability to use knowledge of the basic calculus concepts and their applications to foster student mathematical understanding. | Demonstrates ability to use pedagogical knowledge and assessment to effectively facilitate students’ understanding and application of the basic calculus concepts. | | | Demonstrates clearly candidate’s pedagogical competence (instruction and assessment) to effectively facilitate students’ understanding of the basic calculus concepts and their applications, and make those concepts relevant. | |
| **SOE Goals #4 Math Content and Instruction - Discrete Mathematic** | | | | | | **NCTM Middle School 13 / ACEI #2d/4** |
| Statement | Reflects limited knowledge of the fundamental ideas of discrete mathematics. | Reflects how to develop and assess student knowledge and skills of the fundamental ideas of discrete mathematics and demonstrates some ability to foster student application of those concepts. | | | Reflects how to develop and assess student knowledge and skills of the fundamental ideas of discrete mathematics and incorporates learning styles and abilities to foster applications of those ideas to solve problems. | |
| Evidence | Demonstrates developing ability to use knowledge of the fundamental ideas of discrete mathematics to foster student mathematical understanding. | Demonstrates ability to use pedagogical knowledge and assessment to effectively facilitate students’ understanding and application of the fundamental ideas of discrete mathematics. | | | Demonstrates clearly candidate’s pedagogical competence (instruction and assessment) to effectively facilitate students’ understanding and application of the fundamental ideas of discrete mathematics and to make those ideas relevant. | |

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| **SOE Goals #4 and #5 Connections Across the Curriculum** | | | **NCTM 4 / ACEI #2a,i** |
| Statement | Plans and reflections reflect developing understanding of the use of connections from content areas to build student learning. | Plans and reflections demonstrate understanding of the use of connections from content areas to build student learning. | Plans and reflections demonstrate command of the use of connections from content areas to build student learning effectively. |
| Evidence | Lesson plans and reflections show a developing understanding of connecting content across the curriculum. | Lesson plans and reflections show an understanding of how content connects to other subjects. | Lesson plans and reflections consistently show ability to connect content all areas of the curriculum. |
| **SOE Goals #5 Assessment to Plan, Evaluate and Strengthen Instruction** | | | **NCTM 7 & 8 / ACEI #4** |
| Statement | Plans and reflections reflect developing understanding of how to use assessment to plan, evaluate and strengthen instruction. | Plans and reflections demonstrate understanding of how to use assessment to plan, evaluate and strengthen instruction. | Plans and reflections demonstrate command of the use of assessment to plan, evaluate and strengthen instruction. |
| Evidence | Lesson plans and reflections show a how assessment is used to plan, evaluate and strengthen instruction. | Lesson plans and reflections show assessment is used to plan, evaluate and strengthen instruction. | Lesson plans and reflections show assessment is regularly used to plan, evaluate and strengthen instruction. |
| **SOE Goal #6 Classroom Management: Critical Thinking and Problem Solving** | | | **NCTM 1, 7 & 8 / ACEI #3c** |
| Statement | Demonstrates developing knowledge of strategies and choices of resources to develop cognitive processes of critical thinking, problem solving and performance skills. | Demonstrates knowledge of strategies and choices of resources to develop cognitive processes of critical thinking, problem solving and performance skills. | Demonstrates knowledge of advantages and limitations of strategies and choices of resources to develop cognitive processes of critical thinking, problem solving and performance skills. |
| Evidence | Demonstrates some attempt to use strategies and good choices of resources to develop cognitive processes of critical thinking, problem solving and performance skills. | Demonstrates use of strategies and wise choices of resources to develop cognitive processes of critical thinking, problem solving and performance skills. | Demonstrates skillful use of strategies and wise choices of resources to develop cognitive processes of critical thinking, problem solving and performance skills. Provides a plausible rationale for choice of strategies and instructional materials. |
| **SOE Goal #6 Classroom Management: Active Engagement of Learners** | | | **NCTM 3, 7 & 8 / ACEI #3d** |
| Statement | Demonstrates developing knowledge of effective classroom management, human motivation and behavior. Demonstrates knowledge of some strategies to foster active engagement, self-motivation and positive social interaction. | Demonstrates knowledge of effective classroom management, human motivation and behavior. Demonstrates knowledge of strategies to foster active engagement, self-motivation and positive social interaction. Strategies to promote positive relationships, cooperation and purposeful learning are also reflected. | Demonstrates clear knowledge of effective classroom management, human motivation and behavior. Demonstrates knowledge of a variety of strategies to foster active engagement, self-motivation and positive social interaction. Strategies to promote positive relationships, cooperation and purposeful learning are also well represented. |
| Evidence | Lessons reflect some consideration of classroom management, human motivation and behavioral guidance. Evidence of attempts to foster active engagement, self-motivation and positive interaction are present. | Lessons reflect effective use of strategies to foster active engagement, self-motivation and positive social interaction. | Lessons reflect effective use of strategies to successfully foster active engagement, self-motivation and positive social interaction. A variety of strategies are demonstrated. |

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| **SOE Goal #7 Collaboration with Parents and Families** | | | **NCTM 3 & 8 / ACEI #5c** |
| Statement | Reflects a developing knowledge of the importance of establishing and maintaining a positive collaborative relationship with families to promote learning. Statement demonstrates a developing knowledge of strategies to promote family involvement. | Demonstrates knowledge of the importance of establishing and maintaining a positive collaborative relationship with families to promote learning. Statement demonstrates knowledge of multiple strategies to promote family involvement. | Demonstrates knowledge of the importance of establishing and maintaining a positive collaborative relationship with families to promote learning. Statement demonstrates extensive knowledge of multiple strategies to promote family involvement. |
| Evidence | Demonstrates candidate awareness of the need for positive collaboration with families. Evidence reflects something that promotes family involvement. | Demonstrates candidate values positive collaboration with families. Evidence reflects some variety in strategies to promote family involvement. | Demonstrates candidate values positive collaboration with families. Evidence reflects a wide variety of strategies to promote family involvement. |
| **SOE Goal #8 Professionalism: Collaboration with Colleagues and Community** | | | **NCTM 8 / ACEI #5d** |
| Statement | Demonstrates developing awareness that collegial activities contribute to productive learning environment. Awareness of importance of using larger community to enhance student learning. | Demonstrates some use of collegial activities to contribute to productive learning environment. Some use of larger community to enhance student learning and wellbeing. | Demonstrates use of collegial activities to contribute to productive learning environment. Use of larger community to enhance student learning and wellbeing is also demonstrated. |
| Evidence | Demonstrates awareness that collegial activities contribute to productive learning environment and the importance of using larger community to enhance student learning. | Demonstrates some use of collegial activities to contribute to productive learning environment and of larger community to enhance student learning and wellbeing. | Demonstrates use of collegial activities to contribute to productive learning environment and of larger community to enhance student learning and wellbeing. |
| **SOE Goal #8 Professionalism: Commitment to Professional Growth** | | | **NCTM 3 & 8 / ACEI #5b** |
| Statement | Demonstrates nominal commitment to activities that support professional growth. | Demonstrates an understanding and commitment to the process of professional growth activities. | Demonstrates an understanding and commitment to professional growth and relates the process to improvement of teaching and learning. |
| Evidence | Suggests nominal commitment to activities that support professional growth. | Documents professional growth activities outside of program requirements. | Documents professional growth activities outside of program requirements and sharing of professional knowledge with colleagues |
| **SOE Goal #9 Technology** | | | **NCTM 6, 7 & 8 / ACEI #2c** |
| Statement | Knowledge of technology is evident and applied somewhere in teaching. | Knowledge and skill in using technology to make learning more effective and efficient is evident. | Demonstrates knowledge and skillful use of technology to facilitate learning. Technology is used effectively as a tool to support content learning. |
| Evidence | Demonstrates developing ability to use technology as a tool in learning. | Demonstrates ability to use technology as a tool in learning. | Demonstrates skillful ability to use technology as a tool to improve learning. |