**Secondary Math SPA Key Assessment**

**Re-aligned to NCTM 2012 Standards**

**Student Teaching Impact Portfolio Directions**

Each student will be responsible for the development of a reflective portfolio. During EDU425/525 class, individual meetings will be scheduled for preliminary reviews of your portfolios prior to submission. Student Teaching is where teacher candidates show that they can implement what they have learned from their coursework in adolescent development, learning theory, special needs, content and pedagogy in their discipline. This task requires teacher candidates to demonstrate their instructional competence in designing student-centered learning experiences consistent with the Education Unit’s Candidate Learning Outcomes and the national Specialty Program Association’s standards (NCTE for English, NCSS for Social Studies, NCTM for Mathematics, and NSTA for Biology and Environmental Earth Science). The main purpose of this portfolio is to demonstrate your ability to assess the impact of your teaching on student learning.

Therefore, the student teacher candidate will:

1. Student Impact Pre-assessment - Give students a pre-assessment before beginning a new unit and analyze the data to plan instruction. Provide a copy of the assessment including student data and a description of the analysis of the data.
2. Develop a unit plan on a topic using *Inquiry* and *Discussion* as part of the unit that you are teaching. This unit will include student work to be assessed.
3. Provide thorough lesson plans using the Eastern Connecticut State University format to teach 10-days of lessons to a single class (prep). This may be multiple individual lesson plans or one large unit plan. Standards must align with goal(s), objective(s), and assessment(s) and include copies of any handouts. How the lesson is differentiated for learners MUST be included. The lessons must include strategies for including reading/writing within the content area and strategies for including ELL students within the classroom context. Teacher candidates will also provide a table of contents to the unit showing where this lesson is placed in the scope and sequence of their unit. Student work may include a worksheet from the lesson, homework, or other form of formative assessment.
4. Show how student learning is assessed with three examples of student work and the feedback on those examples. Must be same three students’ work shown throughout the portfolio.
5. Student Impact Post-Assessment – Give students a post-assessment on the unit and compare the pre- and post-assessment results. Provide a copy of the assessment with student data provided in an Excel sheet (or similar data management system), create a visual showing the data, and analyze the data. Discuss how you impacted student learning.
6. Include a 2 page, single spaced reflection about: a) the lesson evaluating what went well and what you would change/improve in the future, b) what you learned from the pre-/post-assessments that show student learning c) how the changes in lessons/improvements in the future would potentially impact student learning in a positive way d) address your goals for the future as a Connecticut teacher candidate and address how you will meet these goals and e)UG ONLY- how your gained knowledge acquired as a part of your liberal arts degree affected your teaching/the learning of students in your classroom
7. Your portfolio MUST include documentation of completion of the CDC POP module (suicide prevention, youth violence prevention). A printout of the certificate of completion is fine.
8. Submit **all documents as a single file** on Blackboard and TK20 consisting of: table of contents for the unit (1 page); pre-, post-assessments; complete lesson plan with any handouts; work from three students with feedback; reflection, including analysis of lesson and pre-/post- assessments (2 pages). Be sure to label files and folders for easy navigation.

Remember: You will be scored on how well you present your information visually and in writing.

1. MOST IMPORTANT: Follow the Student Impact Portfolio Performance Feedback Rubrics for your content area for specific requirements, provided at the end of this syllabus.

***Impact Portfolio Rubric (In EDU 425/525 During Student Teaching)***

**PART A**

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| Indicator | TARGET 3 | ACCEPTABLE 2 | UNACCEPTABLE 1 |
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| 1. Classroom management and the resulting learning environment*CCCT 2.1* | The Teacher Candidate managed the classroom to create a learning environment in which students were encouraged to discuss ideas, seek information, and validate explanations. | The Teacher Candidate managed the classroom to create a learning environment in which students were encouraged to follow the teacher’s instructions. | The Teacher Candidate had difficulties with classroom management, and, as a result, students’ behavior may have interfered with their learning.  |
| 2 & 3. Learning activities aligned with national standards used to support students’ development of essential skills in the subject area*CCCT 1.2* | The Teacher Candidate planned lessons and units that addressed appropriate learning goals, including those that addressed local, state, and national standards and legislative mandates and used learning activities that integrated essential subject area knowledge and skills .  | The Teacher Candidate planned lessons and units that addressed appropriate learning goals, including those that addressed local, state, and national standards and legislative mandates and used learning activities to develop students’ basic skills and knowledge. | The Teacher Candidate did not plan lessons and units to appropriately address standards and legislative mandates or used learning activities that primarily involved students in memorization and/or recall of factual knowledge.  |
| The Teacher Candidate used learning activities that established a framework for future learning of subject area concepts and themes | The Teacher Candidate used learning activities that provided some opportunities for students to apply and/or develop essential subject area skills in learning content | The Teacher Candidate used learning activities that did not provide opportunities for students to apply or develop essential skills in learning content |
| 4, 5, & 6. Engaging the students in *inquiry* to examine issues in the subject area*CCCT 2.2* | Students were actively engaged in exploring one or more issues relevant to the content covered | Students were engaged in examining one or more issue using different resources  | Students located information from resources provided by the teacher |
| Students independently conducted research using a variety of sources | Students were guided to use research to summarize their findings | Students’ research was not a component in the inquiry activities. |
| Students developed, justified & presented their positions taking into account alternate points of view. | Students developed and presented positions with unfounded justification or no justification. | Students presented information with no justification and no or little evidence of research of findings. |

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| Indicator | TARGET 3 | ACCEPTABLE 2 | UNACCEPTABLE 1 |
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| 7. Engaged students in *discourse* about subject area concepts and issues related to the lesson*CCCT 3.8* | The class discourse provided multiple opportunities for students to express informed opinions. The students had several opportunities to demonstrate understanding of the content they were learning.  | The class discourse included a mix of teacher-directed and student initiated discourse in which students had some opportunities to exchange ideas with the teacher. The students had some opportunity to demonstrate understanding of the content they were learning. | The class discourse was primarily teacher-directed and the students did not have opportunities to demonstrate understanding of the content they were learning. |
| 8. Describe how the Teacher Candidate monitored students’ daily learning and adjusted instruction*CCCT 5.4* | The Teacher Candidate monitored students’ learning mainly through whole class questioning and/or task completion  | The Teacher Candidate monitored students’ learning through whole class questioning | The Teacher Candidate did not monitor students’ learning |
| *9. CCCT 4.5* | The Teacher Candidate made adjustments in instruction when necessary to address the learning needs of the whole class as well as those of individual students | The Teacher Candidate made limited adjustments in instruction to address the learning needs of the whole class. | The Teacher Candidate used instructional adjustments that were procedural in nature and did not generally address students’ learning needs |
| *10. CCCT 5.5* | The teacher candidate provided feedback that was descriptive and helped students improve performance and assume responsibility for learning | The teacher candidate provided feedback that was too brief, general, and/or inaccurate that was not very helpful to students to improve performance and assume responsibility for learning | The teacher candidate provided no feedback |
| 11 & 12. Student assessments*CCCT 3.1* | Assessments provided information about students’ prior knowledge/ misconceptions, understanding of the unit’s main concepts, the use of essential concept skills, and their ability to make connections between unit concepts and other concepts | The assessments provide information mainly about students’ prior knowledge of the unit’s content and the use of some essential content skills | The assessments provided information mainly about students’ recall and summary of content  |
| The Teacher Candidate used learning activities that included **pre-/post-assessments (each with an answer key)** to analyze effective student learning | The Teacher Candidate used learning activities that included a **pre-/post-assessment** to analyze effective student learning | The Teacher Candidate used learning activities that did not include a **pre-/post-assessment** to analyze student learning. |
| 13. Evaluation criteria*CCCT 5.5* | The Teacher Candidate provided students with grading criteria for assessment | Grading criteria were limited and students would find them to be unhelpful in knowing how to do an assignment or how an assignment was scored | No grading criteria were given |
| 14 & 15. Data regarding student performance*CCCT 5.4* | Pre- and post-assessment data are presented. The data interpretation and results clearly indicate how the teacher candidate impacted student content learning in a positive way.  | Pre- and post-data are provided but there are many scores missing – there is no justification for any missing scores. The data interpretation and results provided some indication of how the teacher candidate impacted student content learning in a positive way. | Pre- and post-data were missing or the data interpretation and results did not indicate how the teacher candidate impacted student content learning. |
| Pre- and post-assessment data outcomes and lesson planning changes related to results are discussed  | There is limited discussion about how the pre-assessment informed lesson development | There is no discussion about how the pre-assessment informed lesson development |
| 16. Visual aid representing data | Visual aid represents data accurately and shows an understanding of the use of educational statistics to show test scores. | Visual aid is simplistic and does not accurately represent the data. | Visual aid is poorly developed or missing. |
| 17. Reflective commentary | The reflective commentary and plans for future improvement of instruction centered on specific comments regarding teaching practices and students’ learning outcomes. | The reflective commentary and plans for future improvement of instruction included general connections between teaching & learning without specific details. | There is little reflection evident and/or no plans for future improvements of instruction. |

**Part B**

**Student Teaching/Impact Portfolio Rubric for Secondary Mathematics**

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|  | **Target (3)** | **Acceptable (2)** | **Unacceptable (1)** |
| **1. Knowledge of Curriculum Standards**NCTM CAEP Standards 2012, 3a | **Extensively** applies knowledge of curriculum standards for secondary mathematics and their relationship to student learning within and across mathematical domains. | Applies knowledge of curriculum standards for secondary mathematics and their relationship to student learning within and across mathematical domains. | Does not apply knowledge of curriculum standards for secondary mathematics or their relationship to student learning within and across mathematical domains. |
| **2. Analysis and Use of Research**NCTM CAEP Standards 2012, 3b  | **Extensively** analyzes and considers research in planning for and leading students in rich mathematical learning experiences. | Analyzes and considers research in planning for and leading students in rich mathematical learning experiences. | Does not analyze or consider research in planning for and leading students in rich mathematical learning experiences. |
| **3. Dealing with Diverse Learners and Using Mathematics-Specific and Instructional Technology**NCTM CAEP Standards 2012, 3c  | Plans **high quality** lessons and units that incorporate a variety of strategies, differentiated instruction for diverse populations, and mathematics-specific and instructional technologies in building all students’ conceptual understanding and procedural proficiency. | Plans lessons and units that incorporate a variety of strategies, differentiated instruction for diverse populations, and mathematics-specific and instructional technologies in building all students’ conceptual understanding and procedural proficiency. | Does not plan lessons and units that incorporate a variety of strategies, differentiated instruction for diverse populations, and mathematics-specific and instructional technologies in building all students’ conceptual understanding and procedural proficiency. |
| **4. Opportunities for Mathematical Communication and Connection**NCTM CAEP Standards 2012, 3d  | Provides students with **frequent** opportunities to communicate about mathematics and make connections among mathematics, other content areas, everyday life, and the workplace. | Provides students with **some** opportunities to communicate about mathematics and make connections among mathematics, other content areas, everyday life, and the workplace. | Does not provide students with opportunities to communicate about mathematics or make connections among mathematics, other content areas, everyday life, and the workplace. |
| **5. Engaging Students in High Quality Tasks**NCTM CAEP Standards 2012, 3e | Implements **multiple** techniques related to student engagement and communication including selecting high quality tasks, guiding mathematical discussions, identifying key mathematical ideas, identifying and addressing student misconceptions, and employing a range of questioning strategies. | Implements techniques related to student engagement and communication including selecting high quality tasks, guiding mathematical discussions, identifying key mathematical ideas, identifying and addressing student misconceptions, and employing a range of questioning strategies. | Does not implement techniques related to student engagement and communication including selecting high quality tasks, guiding mathematical discussions, identifying key mathematical ideas, identifying and addressing student misconceptions, or employing a range of questioning strategies. |
| 6. **Assessment strategies**NCTM CAEP Standards 2012, 3f | **Extensively** plans, selects, implements, interprets, and uses formative and summative assessments to inform instruction by reflecting on mathematical proficiencies essential for all students. | Plans, selects, implements, interprets, and uses formative and summative assessments to inform instruction by reflecting on mathematical proficiencies essential for all students. | Does not plan, select, implement, interpret, or use formative and summative assessments to inform instruction by reflecting on mathematical proficiencies essential for all students. |
| **7. Progress Monitoring and Making Instructional Decisions**NCTM CAEP Standards 2012,3g | **Consistently** monitors students’ progress, makes instructional decisions, and measures students’ mathematical understanding and ability using formative and summative assessments. | Monitors students’ progress, makes instructional decisions, and measures students’ mathematical understanding and ability using formative and summative assessments. | Does not monitor students’ progress, make instructional decisions, or measure students’ mathematical understanding and ability using formative and summative assessments. |
| **8. Exhibiting Positive Dispositions**NCTM CAEP Standards 2012,4a | **Consistently** exhibits knowledge of adolescent learning, development, and behavior and demonstrates a positive disposition toward mathematical processes and learning. | Exhibits knowledge of adolescent learning, development, and behavior and demonstrates a positive disposition toward mathematical processes and learning. | Does not exhibit knowledge of adolescent learning, development, and behavior or demonstrate a positive disposition toward mathematical processes and learning.  |
| **9. Planning and Creating Lessons for Student Engagement**NCTM CAEP Standards 2012, 4b | **Consistently** plans and creates developmentally appropriate, sequential, and challenging learning opportunities grounded in mathematics education research in which students are actively engaged in building new knowledge from prior knowledge and experiences. | Plans and creates developmentally appropriate, sequential, and challenging learning opportunities grounded in mathematics education research in which students are actively engaged in building new knowledge from prior knowledge and experiences. | Does not plan or create developmentally appropriate, sequential, and challenging learning opportunities grounded in mathematics education research in which students are actively engaged in building new knowledge from prior knowledge and experiences. |
| **10. Addressing Diversities and Motivating and Engaging Students**NCTM CAEP Standards 2012, 4c | **Consistently** incorporates knowledge of individual differences and the cultural and language diversity that exists within classrooms and includes culturally relevant perspectives as a means to motivate and engage students. | Incorporates knowledge of individual differences and the cultural and language diversity that exists within classrooms and includes culturally relevant perspectives as a means to motivate and engage students. | Does not incorporate knowledge of individual differences or the cultural and language diversity that exists within classrooms or include culturally relevant perspectives as a means to motivate and engage students. |
| **11. Ethical Treatment of All Students**NCTM CAEP Standards 2012, 4d | **Consistently** demonstrates equitable and ethical treatment of and high expectations for all students. | Demonstrates equitable and ethical treatment of and high expectations for all students. | Does not demonstrate equitable or ethical treatment of or high expectations for all students. |
| **12. Use of Instructional Tools** NCTM CAEP Standards 2012, 4e | **Frequently** applies mathematical content and pedagogical knowledge to select and use instructional tools such as manipulatives and physical models, drawings, virtual environments, spreadsheets, presentation tools, and mathematics-specific technologies (e.g., graphing tools, interactive geometry software, computer algebra systems, and statistical packages); and makes sound decisions about when such tools enhance teaching and learning, recognizing both the insights to be gained and possible limitations of such tools. | Applies mathematical content and pedagogical knowledge to select and use instructional tools such as manipulatives and physical models, drawings, virtual environments, spreadsheets, presentation tools, and mathematics-specific technologies (e.g., graphing tools, interactive geometry software, computer algebra systems, and statistical packages); and makes sound decisions about when such tools enhance teaching and learning, recognizing both the insights to be gained and possible limitations of such tools. | Does not apply mathematical content and pedagogical knowledge to select and use instructional tools such as manipulatives and physical models, drawings, virtual environments, spreadsheets, presentation tools, and mathematics-specific technologies (e.g., graphing tools, interactive geometry software, computer algebra systems, and statistical packages); or makes sound decisions about when such tools enhance teaching and learning, recognizing both the insights to be gained and possible limitations of such tools. |
| **13. Verification of Student Learning** NCTM CAEP Standards 2012, 5a | Verifies **through multiple evidence** that secondary students demonstrate conceptual understanding; procedural fluency; the ability to formulate, represent, and solve problems; logical reasoning and continuous reflection on that reasoning; productive disposition toward mathematics; and the application of mathematics in a variety of contexts within major mathematical domains.  | Verifies that secondary students demonstrate conceptual understanding; procedural fluency; the ability to formulate, represent, and solve problems; logical reasoning and continuous reflection on that reasoning; productive disposition toward mathematics; and the application of mathematics in a variety of contexts within major mathematical domains.  | Does not verify that secondary students demonstrate conceptual understanding; procedural fluency; the ability to formulate, represent, and solve problems; logical reasoning and continuous reflection on that reasoning; productive disposition toward mathematics; or the application of mathematics in a variety of contexts within major mathematical domains.  |
| **14. Engaging Students** NCTM CAEP Standards 2012, 5b | **Consistently** engages students in developmentally appropriate mathematical activities and investigations that require active engagement and include mathematics-specific technology in building new knowledge. | Engages students in developmentally appropriate mathematical activities and investigations that require active engagement and include mathematics-specific technology in building new knowledge. | Does not engage students in developmentally appropriate mathematical activities and investigations that require active engagement or include mathematics-specific technology in building new knowledge. |
| **15. Enhancing Student Learning as a Result of Instruction** NCTM CAEP Standards 2012, 5c | **Frequently** collects, organizes, analyzes, and reflects on diagnostic, formative, and summative assessment evidence and determines the extent to which students’ mathematical proficiencies have increased as a result of their instruction. | Collects, organizes, analyzes, and reflects on diagnostic, formative, and summative assessment evidence and determines the extent to which students’ mathematical proficiencies have increased as a result of their instruction. | Does not collect, organize, analyze, or reflect on diagnostic, formative, or summative assessment evidence or determine the extent to which students’ mathematical proficiencies have increased as a result of their instruction. |
| **16. Participating in Professional Development**NCTM CAEP Standards 2012, 6a | Takes **initiative and** an active role in their professional growth by participating in professional development experiences that directly relates to the learning and teaching of mathematics. | Takes an active role in their professional growth by participating in professional development experiences that directly relates to the learning and teaching of mathematics. | Does not take an active role in their professional growth by participating in professional development experiences that directly relates to the learning and teaching of mathematics. |
| **17. Collaboration with Colleagues and Families to Enhance Student Learning** NCTM CAEP Standards 2012, 6b | **Consistently** engages in continuous and collaborative learning that draws upon research in mathematics education to inform practice; enhance learning opportunities for all students’ mathematical knowledge development; involves colleagues, other school professionals, families, and various stakeholders; and advances their development as a reflective practitioner. | Engages in continuous and collaborative learning that draws upon research in mathematics education to inform practice; enhance learning opportunities for all students’ mathematical knowledge development; involves colleagues, other school professionals, families, and various stakeholders; and advances their development as a reflective practitioner. | Does not engage in continuous and collaborative learning that draws upon research in mathematics education to inform practice; enhance learning opportunities for all students’ mathematical knowledge development; involves colleagues, other school professionals, families, and various stakeholders; or advances their development as a reflective practitioner. |
| **18. Using Resources from Professional Organizations**NCTM CAEP Standards 2012, 6c | **Extensively** uses resources from professional mathematics education organizations such as print, digital, and virtual resources and collections. | Uses resources from professional mathematics education organizations such as print, digital, and virtual resources and collections. | Does not use resources from professional mathematics education organizations such as print, digital, or virtual resources and collections. |
| **19. Developing Knowledge, Skills, and Professional Behaviors**NCTM CAEP Standards 2012, 7c | **Consistently** develops knowledge, skills, and professional behaviors; examines the nature of mathematics, how mathematics should be taught, and how students learn mathematics; and observes and analyzes a range of approaches to mathematics teaching and learning, focusing on tasks, discourse, environment, and assessment. | Develops knowledge, skills, and professional behaviors; examines the nature of mathematics, how mathematics should be taught, and how students learn mathematics; and observes and analyzes a range of approaches to mathematics teaching and learning, focusing on tasks, discourse, environment, and assessment. | Does not develop knowledge, skills, and professional behaviors; examine the nature of mathematics, how mathematics should be taught, and how students learn mathematics; or observe and analyze a range of approaches to mathematics teaching and learning, focusing on tasks, discourse, environment, and assessment. |

**Note: Incomprehensible and missing responses will result in a score of 0.**

**In order to receive credit for student teaching and impact portfolio, candidates must receive a score of 2 or 3 in each category of this rubric.**