

**Sciences and Mathematics for Teachers MEd
2016-2017 Student Learning Outcomes**

Outcome	Assessment Methods
<p>1 <i>Students will demonstrate (1) an understanding of course specific fundamental scientific concepts and theories about the natural world and will demonstrate essential intellectual competencies in the discipline by being able to (2) apply physical/natural principles to analyze and solve science-related problems; (3) measure, describe and analyze or model natural systems; and (4) for interdisciplinary B2 courses, apply concepts from across scientific disciplines to understand natural phenomena.</i></p>	<p><i>Pre and post course test questions</i></p>
<p>2 <i>Students will demonstrate (1) an understanding of fundamental mathematical concepts and methods by applying them to practical situations in the modern world (2) an ability to interpret mathematical models such as formulas, graphs, tables, and schemata, draw inferences and make decisions from them; (3) an ability to estimate and check answers to mathematical problems in order to determine whether an answer is reasonable, and critically evaluate numerical information.</i></p>	<p><i>Pre and post course test questions</i></p>
<p>3 <i>The candidate will (1) clearly and concisely summarize the goals, objectives, intellectual merit and outcomes of a project to reform or research an important issue in science or math teaching and learning; (2) demonstrate a comprehensive knowledge of an issue in math or science education and can justify, using existing theory and evidence, the need for educational reform or research; (3) clearly and comprehensively explain appropriate goals and incremental objectives, and the methods for achieving them for a project to reform or research an important issue in science or math teaching and learning; (4) properly analyze educational data to inform research findings or pedagogical/curricular decisions; (5) demonstrate an ability to use the professional literature/resources to inform the intellectual merit, goals, methodology and outcomes of a project to reform or research an important issue in science or math teaching and learning; (6) be able to articulate and advocate for sound professional practices and/or public policies that will help students to achieve or go beyond the expectations of South Carolina or National Science or Math Education Standards; (7) demonstrate an understanding of the role that student diversity of culture, language, ethnicity, experience and learning needs play in teaching and learning; (8) demonstrate understanding of theoretical and research based applications to the classroom related to human learning and motivation and reflect upon their current educational practice.</i></p>	<p><i>Capstone proposal evaluated with rubric</i></p> <p><i>Capstone project evaluated with rubric</i></p>