

M.Ed. Elementary Education – STEM Concentration

Goals and Objectives

Goal 1: Candidates in STEM will utilize scientific, technological, engineering-based, and mathematical programs, information, and Research to develop STEM programs and activities for elementary classrooms

1.1. To provide the candidate opportunities for in depth synthesis of the research and best practices in elementary STEM education, both theoretical and practical.

1.2 To provide the candidate opportunity to gather data, analyze, and present information about teaching and learning in the areas of STEM.

1.3 To provide opportunity for students to design research projects that utilize STEM programs and design available to elementary schools.

Goal 2: STEM candidates will develop firm foundational content knowledge in all areas of STEM.

2.1. To provide the candidate an opportunity to develop a deep knowledge of the core subjects and the interconnectedness across STEM disciplines.

2.2 To provide the candidate with knowledge about ways to incorporate 21st century content and skills such as Creativity, Critical Thinking and Problem-Solving, Communication, Collaboration, and Information Literacy as it applies to STEM content.

2.3 To provide the candidate opportunities demonstrate content knowledge in Science, Technology, Engineering, and Mathematics in an elementary setting.

Goal 3: Candidates will demonstrate the ability to implement best practices based upon current research in the field of STEM.

3.1 To provide the Candidate with ability to utilize strategies to create learning outcomes for students that are aligned to the NGEN Standards, CCSS, Essential Standards, and the ISTE standards.

3.2 To provide the candidate with the ability to develop the skills needed for ongoing and continued personal and professional reflection to extend student learning and overall school improvement in the areas of STEM.

3.3 The candidate will becoming a facilitator of student learning who is skilled in applying a variety of authentic formative and summative performance-based assessments to impact, inform, and improve instruction.

Goal 4: Elementary candidates will have the knowledge and understanding of scientific inquiry, process skills, concepts, and application relative to STEM areas.

4.1. Candidates will understand various strategies of teaching and learning such as inquiry-based instruction, Problem-based learning, Project-based learning that apply to STEM classrooms.

4.2 Candidates will be able to integrate process skills and concepts of STEM across disciplines.

4.3 Candidates will demonstrate application of STEM Learning in the educational setting.