MS STEM Education for Certified Teachers (K-12):
Beginning Fall 2014!

Program Objectives:

• Examine, evaluate, and research STEM education implementation methods in K-12 classrooms.
• Explore, compare and contrast the different disciplines of STEM through activities, research, guest speakers, field trips and discussions.
• Use scientific, technological, engineering and mathematical concepts to design curricula that use a range of methods and materials to support instruction that will account for developmental and cultural differences among students.
• Examine and develop assessment strategies for STEM-based curricula.

This 33 credit MS STEM Education program for K-12 certified teachers will enable teachers to prepare students for the workforce and future STEM careers. The integration of the STEM discipline areas in the development of curriculum and assessment through Problem Based Learning (PBL) create authentic, meaningful learning experiences for teachers and students alike! The integration of the science and engineering practices support the development of the 21st century skills of critical thinking/problem solving, collaboration, and communication. National and state standards from each discipline and the CCSS provide a framework for all coursework.

All K-12 certified teachers are welcome!

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<thead>
<tr>
<th>Year</th>
<th>Fall</th>
<th>Spring</th>
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<tbody>
<tr>
<td>1</td>
<td>STEM 501: Applying Mathematical Concepts</td>
<td>MATH 500 level elective</td>
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<td>STEM 506: Problem-Based Learning in STEM</td>
<td>STEM 530: STEM Practices in the Earth/Space Sciences</td>
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<td>2</td>
<td>STEM 540: STEM Practices in the Life Sciences</td>
<td>STEM 517: Robotics Design for STEM Education</td>
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<td>STEM 521: Engineering Design for STEM Education</td>
<td>STEM 580: Special Topics in STEM</td>
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<td>3</td>
<td>STEM 520: STEM Practices in the Physical Sciences</td>
<td>STEM 595: Action Research in STEM</td>
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<td>STEM 598: Research in STEM Education</td>
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