<table>
<thead>
<tr>
<th>Quality Indicators</th>
<th>Performance Indicators</th>
<th>Artifact and Course</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>MoStep 1.2.1</strong> The preservice teacher understands the central concepts, tools of inquiry, and structures of the discipline(s) within the context of a global society, and creates learning experiences that make these aspects of subject matter meaningful for students.</td>
<td>1.2.1.1 The preservice teacher knows the discipline applicable to the certification area(s) (as defined by Missouri State Subject Area Competencies) - rule number to be determined; 1.2.1.2 The preservice teacher presents the subject matter in multiple ways; 1.2.1.3 The preservice teacher uses students’ prior knowledge; 1.2.1.4 The preservice teacher engages students in the methods of inquiry used in the subject(s); 1.2.1.5 The preservice teacher creates interdisciplinary learning.</td>
<td></td>
</tr>
<tr>
<td><strong>Conceptual Framework</strong> 1. Foundations 2. Subject Matter 6. Professional Skills</td>
<td>1.2.2.1 The preservice teacher knows and identifies child/adolescent development; 1.2.2.2 The preservice teacher strengthens prior knowledge with new ideas; 1.2.2.3 The preservice teacher encourages student responsibility; 1.2.2.4 The preservice teacher knows theories of learning.</td>
<td></td>
</tr>
<tr>
<td><strong>MoStep 1.2.2</strong> The preservice teacher understands how students learn and develop, and provides learning opportunities that support the intellectual, social, and personal development of all students.</td>
<td>1.2.3.1 The preservice teacher identifies prior experience, learning styles, strengths, and needs; 1.2.3.2 The preservice teacher designs and implements individualized instruction based on prior experience, learning styles, strengths, and needs; 1.2.3.3 The preservice teacher knows when and how to access specialized services to meet students’ needs; 1.2.3.4 The preservice teacher connects instruction to students’ prior experiences and family, culture, and community.</td>
<td></td>
</tr>
</tbody>
</table>

* This is a guide. Check with program faculty for required artifacts and changes.
* Updated on 9/26/01
<table>
<thead>
<tr>
<th>MoStep 1.2.4</th>
<th>The preservice teacher recognizes the importance of long-range planning and curriculum development and develops, implements, and evaluates curriculum based upon student, district, and state performance standards.</th>
</tr>
</thead>
</table>
| Conceptual Framework | 2. Subject Matter  
3. Learning and Development  
4. Reflective Skills  
6. Professional Skills  
9. Diversity |
| 1.2.4.1 | The preservice teacher selects and creates learning experiences that are appropriate for curriculum goals, relevant to learners, and based upon principles of effective instruction (e.g., encourages exploration and problem-solving, building new skills from those previously acquired): |
| 1.2.4.2 | The preservice teacher creates lessons and activities that recognize individual needs of diverse learners and variations in learning styles and performance; |
| 1.2.4.3 | The preservice teacher evaluates plans relative to long- and short-term goals and adjusts them to meet student needs and to enhance learning. |

<table>
<thead>
<tr>
<th>MoStep 1.2.5</th>
<th>The preservice teacher uses a variety of instructional strategies to encourage students’ development of critical thinking, problem-solving, and performance skills.</th>
</tr>
</thead>
</table>
| Conceptual Framework | 2. Subject Matter  
3. Learning and Development  
4. Reflective Skills  
5. Technology  
6. Professional Skills  
9. Diversity |
| 1.2.5.1 | The preservice teacher selects alternative teaching strategies, materials, and technology to achieve multiple instructional purposes and to meet student needs; |
| 1.2.5.2 | The preservice teacher engages students in active learning that promotes the development of critical thinking, problem-solving, and performance capabilities. |

<table>
<thead>
<tr>
<th>MoStep 1.2.6</th>
<th>The preservice teacher uses an understanding of individual and group motivation and behavior to create a learning environment that encourages positive social interaction, active engagement in learning, and self-motivation.</th>
</tr>
</thead>
</table>
| Conceptual Framework | 3. Learning and Development  
4. Reflective Skills  
6. Professional Skills |
| 1.2.6.1 | The preservice teacher knows motivation theories and behavior management strategies and techniques; |
| 1.2.6.2 | The preservice teacher manages time, space, transitions, and activities effectively; |
| 1.2.6.3 | The preservice teacher engages students in decision making. |

<table>
<thead>
<tr>
<th>MoStep 1.2.7</th>
<th>The preservice teacher models effective verbal, nonverbal, and media communication techniques to foster active inquiry, collaboration, and supportive interaction in the classroom.</th>
</tr>
</thead>
</table>
| Conceptual Framework | 5. Technology  
6. Professional Skills  
9. Diversity |
| 1.2.7.1 | The preservice teacher models effective verbal/nonverbal communication skills; |
| 1.2.7.2 | The preservice teacher demonstrates sensitivity to cultural, gender, intellectual, and physical ability differences in classroom communication and in responses to students’ communications; |
| 1.2.7.3 | The preservice teacher supports and expands learner expression in speaking, writing, listening, and other media; |
| 1.2.7.4 | The preservice teacher uses a variety of media communication tools. |

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* Updated on 9/26/01
<table>
<thead>
<tr>
<th><strong>MoStep 1.2.8</strong></th>
<th>The preservice teacher understands and uses formal and informal assessment strategies to evaluate and ensure the continuous intellectual, social, and physical development of the learner.</th>
<th><strong>1.2.8.1</strong></th>
<th>The preservice teacher employs a variety of formal and informal assessment techniques (e.g., observation, portfolios of student work, teacher-made tests, performance tasks, projects, student self-assessments, authentic assessments, and standardized tests) to enhance and monitor her or his knowledge of learning, to evaluate student progress and performances, and to modify instructional approaches and learning strategies;</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Conceptual Framework</strong></td>
<td>4. Reflective Skills</td>
<td>6. Professional Skills</td>
<td><strong>1.2.8.2</strong></td>
</tr>
<tr>
<td><strong>1.2.8.3</strong></td>
<td>The preservice teacher evaluates the effect of class activities on both the individual student and the class as a whole, collecting information through observation of classroom interactions, questioning, and analysis of student work;</td>
<td><strong>1.2.8.4</strong></td>
<td>The preservice teacher maintains useful records of student work and performances and can communicate student progress knowledgeably and responsibly, based on appropriate indicators, to students, parents, and other colleagues.</td>
</tr>
<tr>
<td><strong>MoStep 1.2.9</strong></td>
<td>The preservice teacher is a reflective practitioner who continually assesses the effects of choices and actions on others. This reflective practitioner actively seeks out opportunities to grow professionally, and utilizes assessment and professional growth to generate more learning for more students.</td>
<td><strong>1.2.9.1</strong></td>
<td>The preservice teacher applies a variety of self-assessment and problem-solving strategies for reflecting on practice, their influences on students’ growth and learning, and the complex interactions between them;</td>
</tr>
<tr>
<td><strong>Conceptual Framework</strong></td>
<td>1. Foundation</td>
<td>4. Reflective Skills</td>
<td><strong>1.2.9.2</strong></td>
</tr>
<tr>
<td><strong>1.2.9.3</strong></td>
<td>The preservice teacher practices professional ethical standards.</td>
<td><strong>MoStep 1.2.10</strong></td>
<td>The preservice teacher fosters relationships with school colleagues, parents, and educational partners in the larger community to support student learning and well-being.</td>
</tr>
<tr>
<td><strong>Conceptual Framework</strong></td>
<td>6. Professional Skills</td>
<td>10. Collaboration and Leadership</td>
<td><strong>1.2.10.2</strong></td>
</tr>
<tr>
<td><strong>1.2.10.3</strong></td>
<td>The preservice teacher seeks opportunities to develop relationships with the parents and guardians of students, and seeks to develop cooperative partnerships in support of student learning and well-being;</td>
<td><strong>1.2.10.4</strong></td>
<td>The preservice teacher identifies and uses the appropriate school personnel and community resources to help students reach their full potential.</td>
</tr>
</tbody>
</table>

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* Updated on 9/26/01
### Conceptual Framework

1. **Subject Matter**
2. **Learning & Development**
3. **Technology**
4. **Assessment Skills**

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#### MoStep 1.2.11

The preservice teacher understands the theory and application of technology in educational settings and has adequate technological skills to demonstrate an understanding of technology operations and concepts.

<table>
<thead>
<tr>
<th>1.2.11.1</th>
<th>The preservice teacher demonstrates an understanding of technology operations and concepts.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.2.11.2</td>
<td>The preservice teacher plans and designs effective learning environments and experiences supported by</td>
</tr>
<tr>
<td>1.2.11.3</td>
<td>The preservice teacher implements curriculum plans that include methods and strategies for applying informational and instructional technology to maximize student learning.</td>
</tr>
<tr>
<td>1.2.11.4</td>
<td>The preservice teacher applies technology to facilitate a variety of effective assessment and evaluation strategies.</td>
</tr>
<tr>
<td>1.2.11.5</td>
<td>The preservice teacher uses technology to enhance personal productivity and professional practice.</td>
</tr>
<tr>
<td>1.2.11.6</td>
<td>The preservice teacher demonstrates an understanding of the social, ethical, legal, and human issues surrounding the use of technology in PK-12 schools and applies that understanding in practice.</td>
</tr>
</tbody>
</table>

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* This is a guide. Check with program faculty for required artifacts and changes.
* Updated on 9/26/01
The beginning (pre-service) middle school social studies teacher will demonstrate knowledge of and/or competence in the following areas of study:

| 1 Social Studies as a Field of Study (1997 SSC: 1.1-2; NCSS: Themes 1.1 through 1.10; Discipline-Specific Standards 2.1-2.5; PRAXIS II: 0089: no overt alignment; Mo 5-8 SS GLE no overt alignment) | 1.1 the definitions and purposes of social studies (including history, geography, economics, political science, anthropology, psychology, and sociology).  
1.2 the themes, concepts drawn from social studies:  
   a) culture and cultural diversity;  
   b) time, continuity and change;  
   c) people, places, environment;  
   d) individual development and identity;  
   e) individuals, groups, institutions;  
   f) power, governance, and authority;  
   g) production, distribution and consumption;  
   h) the interaction between science, technology and society;  
   i) global connections;  
   j) civic ideals and practices.  
1.3 how to integrate knowledge across the social studies, and between the social studies and other disciplines (e.g., science, fine arts, language, mathematics). |
|---|---|
| 2 Principles Expressed in Documents Shaping Constitutional Democracy in the United States (1997 SSC: 2.1-4; NCSS: 1.10.1, 1.10.2, 1.10.8, 1.10.3, 1.10.4, 1.10.5, 1.10.6, 1.10.7, 1.10.9, 2.1, 2.3; G 4; SS1; PRAXIS II: 0089:II; Mo 5-8 SS GLE 1) | 2.1 basic U.S. government documents (including but not limited to those listed in the Show-Me Curriculum Frameworks, Standard 1 and the 5-8 Grade-Level Expectations), their origins, evolution, and changing interpretations, and how they attempt to balance the needs of the individual and the group.  
2.2 civic ideals and democratic principles implicit in basic documents (human dignity and individual rights, justice, general welfare, freedom, equality, rule of law, etc.).  
2.3 how events today and in the past have been shaped by democratic ideals and by the American people’s efforts to put those ideals into practice.  
2.4 a range of diverse primary sources, literature, and other media (local, national and international) to illustrate and explore citizenship in other times and places. |
| 3 Continuity and Change in the History of Missouri, the United States, and the World (1997 SSC: 3.1-5; NCSS: 1.2.1, 1.2.2, 1.2.3, 1.2.4, 1.2.5, 1.2.6, 1.5.2, 1.5.3, 1.5.7, 2.1.1, 2.1.2; SS2; PRAXIS II: 0089: I; II; Mo 5-8 SS GLE 2) | 3.1 key historical concepts, including time, chronology, cause and effect, change, conflict, point of view.  
3.2 historical periods, people, events, developments, and documents (including but not limited to  
   a) the migrations, interactions, and cultures of people from many regions of the world;  
   b) the development and evolution of democracy around the world, especially the American democracy;  
   c) the evolution of the world economy, including the development and growth of the American economy;  
   d) the evolution of U.S. domestic and foreign policies;  
   e) changes in world politics and cultures, including reform movements and civil unrest  
and others listed in the Show-Me Curriculum Frameworks and 5-8 Grade-level Expectations) and how the past shapes the present.  
3.3 how and why individuals (including historians) may view, interpret, and report on the past from very different perspectives.  
3.4 the link between human decisions and consequences.  
3.5 current and historical examples of the interaction and interdependence of science, technology, and society in a variety of cultural settings. |

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1 *Show Me Standards* coding: G = *Show Me* Goal; SS = *Show Me* Social Studies
The beginning (pre-service) middle school social studies teacher will demonstrate knowledge of and/or competence in the following areas of study:

<table>
<thead>
<tr>
<th>4 Principles and Processes of Governance Systems</th>
<th>4.1 different types of government and institutional systems, including those of the United States, and how those systems interact.</th>
</tr>
</thead>
<tbody>
<tr>
<td>(1997 SSC: 4.1-5; NCSS: 1.6.1, 1.6.2, 1.6.3, 1.6.4, 1.6.5, 1.6.6, 1.6.7, 1.10.1, 1.10.2, 1.10.3, 1.10.4, 1.10.5, 1.10.6, 1.10.7, 1.10.8, 1.10.9, 2.3.1, 2.3.2, 2.3.3, 2.3.4, 2.3.5, 2.3.6, 2.3.7; SS3; PRAXIS II: 0089: III; Mo 5-8 SS GLE 3)</td>
<td>4.2 the effects of political theories and philosophies (including but not limited to those listed in the Show-Me Curriculum Frameworks and 5-8 Grade-Level Expectations).</td>
</tr>
<tr>
<td>4.2 the effects of political theories and philosophies (including but not limited to those listed in the Show-Me Curriculum Frameworks and 5-8 Grade-Level Expectations).</td>
<td>4.3 the role and impact of citizen participation in civil society and in the political arena.</td>
</tr>
<tr>
<td>4.3 the role and impact of citizen participation in civil society and in the political arena.</td>
<td>4.4 rights and responsibilities, rules, types of authority, and governmental structures of schools, communities, states, the country, and other nations.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>5 Economic Concepts and Principles</th>
<th>5.1 economic systems (e.g., traditional, market, command, and mixed, etc.) and basic economic concepts (e.g., scarcity, opportunity cost, trade-offs, supply, demand, etc.).</th>
</tr>
</thead>
<tbody>
<tr>
<td>(1997 SSC: 5.1-6; NCSS: 1.7.1, 1.7.2, 1.7.3, 1.7.4, 1.7.5, 1.7.6, 1.7.7, 1.7.8, 1.7.9, 2.4.1, 2.4.2, 2.4.3, 2.4.4, 2.4.5, 2.4.6, 2.4.7, 2.4.8, 2.4.9, 2.4.10, 2.4.11, 2.4.12, 2.4.13, 2.4.14, 2.4.15, 2.4.16, 2.4.17, 2.4.18, 2.4.19; SS4; PRAXIS II: 0089: V; Mo 5-8 SS GLE 4)</td>
<td>5.2 economic choices and processes for making rational economic decisions (e.g., saving, purchasing, investing, etc.).</td>
</tr>
<tr>
<td>5.2 economic choices and processes for making rational economic decisions (e.g., saving, purchasing, investing, etc.).</td>
<td>5.3 economic factors which determine the interdependence of economies (natural, capital, and human resources; investment; entrepreneurship, etc.).</td>
</tr>
<tr>
<td>5.3 economic factors which determine the interdependence of economies (natural, capital, and human resources; investment; entrepreneurship, etc.).</td>
<td>5.4 domestic and international trade and the interdependence of economies (specialization, use of money in trade, comparative advantage, etc.).</td>
</tr>
<tr>
<td>5.4 domestic and international trade and the interdependence of economies (specialization, use of money in trade, comparative advantage, etc.).</td>
<td>5.5 the role of technology in our economy and how our economy has changed from a primarily agricultural economy to a primarily service economy.</td>
</tr>
<tr>
<td>5.5 the role of technology in our economy and how our economy has changed from a primarily agricultural economy to a primarily service economy.</td>
<td>5.6 the wider consequences of economic decisions on groups, communities, the nation, and the world.</td>
</tr>
<tr>
<td>5.6 the wider consequences of economic decisions on groups, communities, the nation, and the world.</td>
<td>5.7 the roles governments play in economic systems (production of public goods, taxation, regulations, etc.) and their impacts on economic systems.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>6 The Major Elements of Geographical Study and Analysis</th>
<th>6.1 application and use of geographic representations, tools, and resources (maps, atlases, aerial photographs, globes, etc.).</th>
</tr>
</thead>
<tbody>
<tr>
<td>(1997 SSC: 6.1-4; NCSS: 1.3.1, 1.3.2, 1.3.3, 1.3.4, 1.3.5, 1.3.6, 1.3.7, 1.3.8 1.3.9, 1.3.10, 2.2.1, 2.2.2, 2.2.3, 2.2.4, 2.2.5, 2.2.6, 2.2.7, 2.2.8, 2.2.9, 2.2.10, 2.2.11, 2.2.12, 2.2.13, 2.2.14, 2.2.15; SS5; PRAXIS II: 0089: IV; Mo 5-8 SS GLE 5)</td>
<td>6.2 locales, regions, nations, and the world relative to location, size, climate, and geology.</td>
</tr>
<tr>
<td>6.2 locales, regions, nations, and the world relative to location, size, climate, and geology.</td>
<td>6.3 the interaction between physical geography and culture, history, politics, and geology.</td>
</tr>
<tr>
<td>6.3 the interaction between physical geography and culture, history, politics, and geology.</td>
<td>6.4 relationships between human systems and the environment.</td>
</tr>
<tr>
<td>6.4 relationships between human systems and the environment.</td>
<td>6.5 how individuals and groups are affected by events on a regional, international and global scale.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>7 Relationships of Individuals and Groups to Institutions and Cultural Traditions</th>
<th>7.1 ideas, and concepts common across societies, social institutions, cultures, and cultural perspectives (e.g., culture, mores, stereotypes, socialization, etc.).</th>
</tr>
</thead>
<tbody>
<tr>
<td>(1997 SSC: 7.1-5; NCSS: 1.1.1, 1.1.3, 1.1.4, 1.1.5, 1.1.6, 1.1.7, 1.1.8, 1.4.1, 1.4.2, 1.4.3, 1.4.4, 1.4.5, 1.4.6, 1.4.7, 1.4.8, 1.4.9, 1.5.1, 1.5.2, 1.5.3, 1.5.4, 1.5.5, 1.5.6, 1.5.7, 1.8.1, 1.8.3, 1.8.4, 1.8.5, 1.9.1, 1.9.2, 2.5.1, 2.5.2, 2.5.3,</td>
<td>7.2 how to recognize and use cultural universals to analyze one’s own and other’s cultures.</td>
</tr>
<tr>
<td>7.2 how to recognize and use cultural universals to analyze one’s own and other’s cultures.</td>
<td>7.3 the similarity of basic human needs and the diverse ways individuals, groups, societies, and cultures meet those needs.</td>
</tr>
<tr>
<td>7.3 the similarity of basic human needs and the diverse ways individuals, groups, societies, and cultures meet those needs.</td>
<td>7.4 interactions among diverse individuals, groups, institutions, and cultures.</td>
</tr>
<tr>
<td>7.4 interactions among diverse individuals, groups, institutions, and cultures.</td>
<td>7.5 how diverse individuals, groups, institutions, and cultures change over time.</td>
</tr>
<tr>
<td>7.5 how diverse individuals, groups, institutions, and cultures change over time.</td>
<td>7.6 the tensions that occur when the goals, values, and principles of two or more institutions or groups conflict.</td>
</tr>
</tbody>
</table>
The beginning (pre-service) middle school social studies teacher will demonstrate knowledge of and/or competence in the following areas of study:

<table>
<thead>
<tr>
<th>2.5.4, 2.5.5, 2.5.6, 2.5.7, 2.5.8, 2.5.9; SS6; PRAXIS II: 0089: VI, VII; Mo 5-8 SS GLE 6</th>
<th>8 Social Science Tools and Inquiry (1997 SSC: 8.1-5; NCSS: 1.5.8 (and others), 2.1.3, 2.1.4, 2.1.6, 2.1.7, 2.2.17, 2.2.16, 2.5.12, 2.5.11, 2.5.10; G 1 &amp; 2; SS7; PRAXIS II: 0089: no overt alignment; Mo 5-8 SS GLE 7)</th>
</tr>
</thead>
<tbody>
<tr>
<td>8.1 various methods for framing research questions.</td>
<td>8.1 various methods for framing research questions.</td>
</tr>
<tr>
<td>8.2 various methods of inquiry in the social sciences (naturalistic, historical, experimental, etc.).</td>
<td>8.2 various methods of inquiry in the social sciences (naturalistic, historical, experimental, etc.).</td>
</tr>
<tr>
<td>8.3 data sources and collection techniques (artifacts and historical places; field research; primary and secondary sources; interviews, surveys, and polling; geographic representations; case studies; statistics; observations; charts, graphs, and tables; and multimedia/electronic resources; etc.).</td>
<td>8.3 data sources and collection techniques (artifacts and historical places; field research; primary and secondary sources; interviews, surveys, and polling; geographic representations; case studies; statistics; observations; charts, graphs, and tables; and multimedia/electronic resources; etc.).</td>
</tr>
<tr>
<td>8.4 how to interpret, classify, analyze, and evaluate data.</td>
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</tr>
<tr>
<td>8.5 how to formulate well-supported conclusions, oral and written arguments, policies, and positions; and report these to different audiences.</td>
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</tr>
</tbody>
</table>
The beginning (preservice) **Middle School Science** teacher will demonstrate knowledge of and/or competency in the following areas of study:

| 1: Unifying Concepts and Processes | 1.1. systems, order, and organization;  
1.2 evidence, models, and explanation;  
1.3 change, constancy, and measurement;  
1.4 evolution and equilibrium; and  
1.5 form and function. |
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>The beginning teacher of science is familiar with, and teaches, the major concepts and principles that unify all scientific effort and that are used in each of the science disciplines.</td>
<td>(1997 SSC: 1.2; CR GenEd, III.D; NSTA [2001]: Standard 1; NSTA [1998], Standard 1; NSES: UCP-1-5)</td>
</tr>
</tbody>
</table>

| 2: Science As Inquiry | 2.1 identify questions that can be answered through scientific investigations.  
2.2 design and conduct a scientific investigation, including general abilities, such as recognition of the principal elements in an experimental design (i.e., the hypothesis, independent and dependent variables, and controls); systematic observation, making accurate measurements, and identifying and controlling variables; clarifying ideas that are influencing and guiding the inquiry; and comparing ideas with current scientific knowledge  
2.3 use appropriate tools (e.g., hand tools, measuring instruments, calculators, and computers for the collection, summary, and display of evidence), techniques, and mathematics to gather, analyze, and interpret data, including selecting the scientific apparatus or instrument appropriate to a specified laboratory or field task and identifying proper operation of such equipment; using the metric system of measurement, recognizing equivalents within that system and selecting units appropriate to a given laboratory or field task; converting between scientific notation and conventional numerals and using scientific notation to perform calculations.  
2.4 develop descriptions, explanations, predictions, and models using evidence based on observation and the abilities to differentiate explanation from description, to provide causes for effects, and to establish relationships based on evidence and logical argument and connections between the content of science and the contexts within which new knowledge is developing.  
2.5 think critically and logically about relationships between evidence and explanations, including the ability to interpret and express the results of observation and experimentation.  
2.6 recognize, construct, and analyze alternative explanations, including the abilities to identify accurate verbal, graphic, and tabular expressions of data derived from observation and experimentation; draw conclusions and make inferences from observations or experimental results presented in verbal, graphic, or tabular form; and describe a scientific relationship in symbolic mathematical terms. |
| The beginning teacher of science understands and practices the science inquiry process. | (1997 SSC: 1.1, 1.4; CR GenEd, III.D; NSTA [2001]: Standard 3, 9; NSTA [1998], Standard 3, 9; NSES: M-A1, A2; S 1, 2, 7-8; ETS 0439: I) |

1 S = Show Me Science Content Standard
| 2.7 communicate scientific arguments and explanations. |
| 2.8 use mathematics in all aspects of scientific inquiry to ask questions; to gather, organize, and present data; and to structure convincing explanations. |
| 2.9 handle, label, store, and dispose of chemicals, electrical equipment, and scientific apparatuses and take actions to prevent or report an emergencies, including, but not limited to, general first aid as it relates to incidents in the science classroom or laboratory. (NSTA 9.b) |
| 2.10 understand liability and negligence, especially as applied to science teaching and take action to prevent potential problems. (NSTA 9.c) |

### 3: Physical Science
- The beginning teacher of science understands the central concepts, tools of inquiry, and structures of the physical sciences and makes these aspects of subject matter meaningful for students.
- (1997 SSC: 2.1-2.8, 3.1-3.7; CR GenEd, III.D; NSTA [2001]: Rationale; Standard 1; NSTA [1998], Standard 1; NSES: M-B1, B2, B3; S 1, 2, 7-8; ETS 0439: III)

#### 3.1 Structure of Atoms
(ETS 0439: II, III)

#### 3.2 Properties & Changes of Properties in Matter
(1997 SSC: 2.1-.8; NSES: M-B1; ETS 0439: III)

#### 3.3 Motion and Forces
(1997 SSC 3.1-.7; NSES: M-B2; ETS 0439: III)

#### 3.4 Transfer of Energy
(1997 SSC: 2.5-.7; NSES: M-B3; ETS 0439: III)

#### 3.5 General Chemistry and Chemical Reactions in Physical and Life Science
(1997 SSC: 2.2-.5; ETS 0439: III)

#### 3.6 Conservation of Energy and Increase in Disorder
(1997 SSC: 2.7; ETS 0439: III)

### 4: Life Science
- The beginning teacher of science understands the central concepts, tools of inquiry, and structures of the life sciences and makes these aspects of subject matter meaningful for students.
- (1997 SSC 4.1-.7, 5.1-.6; CR GenEd, III.D; NSTA [2001]: Rationale; Standard 1; NSTA [1998], Standard 1; NSES: M-C1, C2, C3, C4, C5; S 3, 4, 7-8; ETS 0439: IV)

#### 4.1 Structure and Function in Living Systems
(1997 SSC: 4.3-.7; NSES: M-C1; ETS 0439: IV)

#### 4.2 The Cell
(1997 SSC: 4.4, NSES: M-C3; ETS 0439: IV)

#### 4.3 Molecular Basis of Heredity
(1997 SSC 4.2; ETS 0439: IV)

#### 4.4 Reproduction and Heredity
(1997 SSC 4.2-.3; NSES: M-C2; ETS 0439: IV)

#### 4.5 Populations and Ecosystems
(1997 SSC 4.1, 5.1-.6; NSES: M-C4; ETS 0439: IV)

#### 4.6 Diversity and Adaptations of Organisms
(1997 SSC 5.1-.6; NSES: M-C5; ETS 0439: IV)

### 5: Earth and Space Science
- The beginning teacher of science understands the central concepts, tools of inquiry, and structures of the earth and space sciences and makes these aspects of subject matter meaningful for students.
- (1997 SSC 6.1-.7, 7.1-.5; CR GenEd, III.D; NSTA [2001]: Rationale; Standard 1; NSTA [1998], Standard 1; NSES: M-D1, D2, D3; S 5-8; ETS 0439: V)

#### 5.1 Properties of Earth Materials
(1997 SSC: 6.1-.3, 6.5-.6; ETS 0439: V)

#### 5.2 Structure of the Earth System
(1997 SSC: 6.1-.7; NSES: M-D1; ETS 0439: V)

#### 5.3 Earth in the Solar System
(1997 SSC: 7.1, 7.2; NSES: M-D3; ETS 0439: V)

#### 5.4 Earth's History
(1997 SSC: 6.2; NSES: M-D2; ETS 0439: V)

#### 5.5 Origin and Evolution of the Universe
(1997 SSC: 7.3-.5; ETS 0439: V)
6: Science and Technology: The beginning teacher of science understands the relationship between science and technology, can distinguish between natural objects and objects made by humans, and makes these aspects of subject matter meaningful for students by creating experiences in making models of useful things and by developing students’ abilities to identify and communicate a problem and to design, implement, and evaluate a solution. (1997 SSC: 1.3, 1.4; NSTA [2001], Standards 4, 5.d; NSTA [1998] Standards 2, 4, 5; NSES: M-E1, E2, E3; S 8; ETS 0439: I, VI)

6.1 compare/contrast scientific inquiry and technological design (NSES: M-E2; ETS 0439: I, VI)
6.2 explain the reciprocal relationship between science and technology (NSES: M-E2; ETS 0439: I, VI)
6.3 explain the intended and unintended consequences of technological designs. (NSES: M-E2; ETS 0439: I, VI)
6.4 identify appropriate problems for technological design (NSES: M-E2; ETS 0439: VI)
6.5 design a solution or product and use a variety of technologies to model phenomena (NSES: M-E1; ETS 0439: I, VI)
6.6 identify and organize materials and other resources, choose suitable tools and techniques, and work with appropriate measurement methods to ensure adequate accuracy in the implementation of a proposed design. (NSES: M-E1; ETS 0439: I, VI)
6.7 analyze and interpret data obtained from an experiment or investigation, including graphical data, and identify and demonstrate an understanding of sources of error in data that is presented (NSES: M-E1; ETS 0439: I, VI)
6.8 demonstrate understanding of scientific measurement and notation systems (NSES: M-E1; ETS 0439: I, VI)
6.9 collaborate as a team-member in the identification, communication, and resolution of scientific and technological problems. (NSES: M-E2; ETS 0439: I, VI)
6.10 use words, drawings, and simple models to communicate the process and products of technological design and scientific investigation (NSES: M-E1; ETS 0439: I, VI)
6.11 use criteria relevant to the original purpose or need to evaluate completed technological designs or products (NSES: M-E1; ETS 0439: I, VI)

Science in Personal and Social Perspectives: The beginning teacher of science understands the context of science (i.e., relationships among systems of human endeavor including science and technology; relationships among scientific, technological, personal, social and cultural values; and the relevance and importance of science to the personal lives of students) and the social context of science teaching (i.e., the social and community support network within which science teaching and learning occur; relationship of science teaching and learning to the needs and values of the community; and involvement of people and institutions from the community in the teaching of science) and uses this knowledge to enrich the science

7.1 Personal Health (1997 SSC: 4.3, 4.6; NSES: M-F1; ETS 0439: VI)
7.2 Populations, Resources, and Environments (1997 SSC: 5.1, 5.4-.6; NSES: M-F2; ETS 0439: VI)
7.3 Types of Resources (1997 SSC: 6.1; NSES: M-F2; ETS 0439: VI)
7.4 Changes in Environments (1997 SSC: 5.1, 5.6; NSES: M-F2; ETS 0439: VI)
7.5 Natural Hazards (1997 SSC: 1.3; NSES: M-F3; ETS 0439: VI)
7.6 Risks and Benefits (1997 SSC: 1.3; NSES: M-F4; ETS 0439: VI)
7.7 Science and Technology in Society (1997 SSC: 1.3; NSES: M-F5; ETS 0439: VI)


| **8: History and Nature of Science** | 8.1 Science as a Human Endeavor  
(1997 SSC: 1.2, 1.5, 1.6; NSES: M-G1; ETS 0439: I)  
8.2 Nature of Science  
(1997 SSC: 1.2, 1.5, 1.6; NSES: M-G2; ETS 0439: I)  
8.3 History of Science  
(1997 SSC: 1.2, 1.5, 1.6; NSES: M-G3; ETS 0439: I) |
|--------------------------------------|----------------------------------------------------------------------------------|
| The beginning teacher of science understands the history and nature of science as a human endeavor and uses this knowledge to make subject matter meaningful for students.  
(1997 SSC: 1.3, 4.3, 4.6, 5.1, 5.4-6, 6.1; NSTA [2001]: Standard 2.a & 2.b, 4; Standard 7; NSTA [1998], Standard 2.d, 4.b; NSES: E-G1, G2, G3; S 1-8; ETS 0439: I) |  
| Learning of all students.  
(1997 SSC: 1.3, 4.3, 4.6, 5.1, 5.4-6, 6.1; NSTA [2001]: Standards 4, 7; NSTA [1998], Standards 4, 7; NSES: M-F1, F2, F3, F4, F5; S 1, 3-5; ETS 0439: VI) |
The Professional Preparation Portfolio

Successful completion of a Professional Preparation Portfolio is required of all teacher education candidates at SMSU in order to be recommended for initial certification to teach. This portfolio is a graphic anthology of a student’s progress and performance in all coursework, practicum placements and student teaching experiences. The Professional Preparation Portfolio is also a medium by which the academic programs are evaluated for accreditation by the Missouri Department of Elementary and Secondary Education and the National Council for the Accreditation of Teacher Education.

Teacher education students will receive guidance throughout their program from the instructors of their courses to help answer questions and maintain quality of the portfolio. There are three checkpoints scheduled throughout the sequence of courses taken in the teacher education program. The checkpoints are individual conferences held between students and instructors to assure that everything is in order and progressing satisfactorily toward meeting the Missouri Standards for Teacher Education Program (MoSTEP) quality indicators and subject area competencies.

The first checkpoint occurs in SEC 302. PED 200, or MUS 200. The second will occur during the special methods courses or designated point in the degree program. The third and final checkpoint occurs during the student teaching semester. At that time the portfolio will be reviewed to determine if there is sufficient evidence to meet MoSTEP quality indicators and subject area competencies.

**Portfolio Checkpoint 1: ELE302/SEC 302/PED 200/MUS 200***
These artifacts are required and must be included within the portfolio at checkpoint 1:

- Professional Resume
- Clinical Placements Log
- Artifacts with cover sheets as assigned – minimum of lesson plan and appropriate artifact cover sheet
- Evaluation of uploaded materials by faculty

**Portfolio Checkpoint 2: Special Methods Courses or Designated Point in Program**
A summary of general expectations for Portfolio Checkpoint 2 follows:

- Artifacts and artifact cover sheets required by the specialty area that reflect knowledge, skills and professional dispositions aligned with standards
- Professional Resume further developed
- Clinical Placement form completed to reflect additional experiences and outcomes
- Educational Philosophy

**Portfolio Checkpoint 3: Supervised Student Teaching**
Artifacts may be required and reviewed by the specialty area faculty, University Student Teaching Supervisor and cooperating teacher. A summary of expected content follows:

- Additional artifacts and artifact cover sheets as required in order to meet MoSTEP quality indicators and subject area competencies
- Professional resume completed
- Clinical placement form completed to reflect culminating experiences and outcomes
- Complete section IV of your portfolio (Student Teaching Evaluations)

For additional help log on to the SMSU PEU Website at [http://education.smsu.edu/peu](http://education.smsu.edu/peu)

*Students must consult with their departmental advisors concerning special requirements for artifact cover sheets. Limited examples follow.*
Contents of portfolio at Checkpoint 2:

1. Completion of 4 of the Science specialty area quality indicators.
2. Completion of 5 of the 11 MoSTEP quality indicators.
   Note: Evidence for meeting the following MoSTEP quality indicators must include science artifacts: 1.2.1, 1.2.4, 1.2.5, 1.2.7, 1.2.8, 1.2.11
3. A Philosophy of Science Teaching and Learning (and/or #4)
4. Revision of the Philosophy of Education (This can include a separate, clearly marked section labeled: Philosophy of Science Teaching and Learning)
5. A sequence of consecutive lessons plans as an artifact from SCI 414 (your unit plan). You can use this unit plan to meet a Science specialty area indicator and/or one or two MoSTEP indicators.

Instructions concerning Artifact Coversheets

- You must list the MoSTEP, CF and Science Area quality indicators on the coversheet by number. You do not have to write out the quality indicator on the cover sheet.
- Your reflective narrative needs to be more than a summary of the artifact. You must convince the reviewer that you have mastered the competencies. Use the following format to compose your reflective narratives:
  - **Description** – write a descriptive statement to convey an image of what the artifact entails. What is it? What is its content? How and when did you use it?
  - **Significance** - why does the artifact have meaning or an influence to you? Explain the significant learning experience and why it is important to you as a teacher, to the educational environment and/or to your students.
  - **Justification** – why is this artifact worthy of selection? Explain how it demonstrates the quality indicators. Below are beginning statements that you can use to begin your paragraphs of justification: “This artifact aligns with Mo-STEP Quality Indicator # __________ because ________________________________.”
    “This artifact aligns with Science Specialty Area Quality Indicator # ______________ because ________________________________.”
Appendix 1: Portfolio Content and Requirements

- Access the portfolio website for further details at: http://education.smsu.edu/peu/student_portfolios
- Candidates (students) starting the program in fall 2001 semester will be expected to develop the portfolio in an electronic format (web-based and/or zip disk or CD).
- There are four sections to the portfolio as noted below.
- Candidates that wish to maintain a hard copy of the portfolio, along with a copy in an electronic format, may purchase tabs that correspond to the following section at the University bookstore (Spring, 2002).
- The number and type of artifacts will correspond to the program assessment plan. See program faculty for guidance.
- Candidates should record progress toward meeting professional standards on the Portfolio Guide (see downloadable forms).

Portfolio Sections

Section I. Introduction

Section I contains the professional education candidate’s:
- Educational Philosophy
- Resume'
- Log of Clinical Placements assigned during the program (downloadable form)

Section II. Professional Practice

Section II includes artifacts that represent performances aligned to the Conceptual Framework (CF) MoSTEP and specialty area standards.
- Download a copy of the Portfolio Guide (replaces the old Table of Contents) specific to your area of study. The Portfolio Guide should be kept in Section II of the portfolio with artifacts reflecting the required standards placed after the guide. Candidates are expected to monitor progress toward standards on the Portfolio Guide (downloadable form).
- Artifacts that reflect the SMSU (CF) Learner Outcomes, the MoSTEP Standards and the specialty area standards will be placed in Section II of the portfolio. Artifacts must be accompanied by an Artifact Cover Sheet that documents the nature of the project as well as performances related to standards. (See downloadable forms to access the Artifact Cover Sheet and corresponding Directions for the Artifact Cover Sheet.)

Section III. Showcase

Section III is the student Showcase Section. This is optional for students who elect to include items that will further illustrate their experiences in the professional education program as well as showcase mastery of professional standards and the Conceptual Framework general outcomes.

Section IV. Field Evaluations

This section should include practicum and student teaching field evaluations. See your program faculty for guidance regarding practicum materials and evaluations. For student teaching, include the evaluation of the cooperating teacher and the University supervisor of all placements in the student teaching semester.
APPENDIX 2: ABOUT THIS ARTIFACT
DIRECTIONS FOR THE ARTIFACT COVER SHEET

Cover sheets should be attached to artifacts within the Professional Preparation Portfolio as directed by program faculty. The purpose of the cover sheet is to ensure reflection and review regarding performances related to the SMSU Professional Education Unit (PEU) Conceptual Framework (CF), the MoSTEP standards and your Specialty Area standards. Information provided on the cover sheet yields evidence of your progress in meeting professional education standards.

Directions for completing the sections of the cover sheet follow.

1. “Title of artifact”: Typically, an artifact will have a designated title. If it does not, provide a brief description or name.

2. “Date this artifact was collected”: When was the item completed, graded, or made available for inclusion in the portfolio? If necessary, give a more general time, e.g. “Fall Semester 2001.”

3. “Course or experience where the artifact was developed”: Provide both the course code and course title. If the item was not developed for a course, describe the experience corresponding to development.

4. “Quality indicators addressed by this artifact”: Identify the quality indicators/learner outcomes that are represented within the artifact. Example:

   CF (add learner outcome and #)
   MoSTEP (add # and description)
   Specialty Area: Science Education (add # and description)

Since there is commonality between the CF, the MoSTEP, and the Specialty Area Standards, it is typically appropriate to reference all three sets of standards on the cover sheet. See your program faculty for guidance if you have questions.

5. “Reflective Narrative”: This section includes a summary of candidate performances that correspond to the quality indicator and learner outcomes listed. Use the performance indicators corresponding to each quality indicator as a guide. This section requires analysis and synthesis of performances related to standards and should be written as a narrative summary rather than a list. The narrative should document that you have demonstrated performances consistent with the CF Learner Outcomes, the MoSTEP and the Specialty Area standards noted above.

Examples of completed Artifact Cover Sheets follow; however, you must seek guidance from program faculty regarding requirements specific to your area of study. (Attach examples from IMT 365)
ARTIFACT COVER SHEET
ABOUT THIS ARTIFACT

Student Name: ________________________________________________

Major/Certification Area: ________________________________________

Title of the Artifact:

Date this artifact was collected:

Course or experience where artifact was developed:

Quality indicators addressed by this artifact - Include MoSTEP and Specialty Area Indicator(s) as well as PEU CF Learner Outcome(s) as appropriate:

Reflective narrative – How this artifact reflects performances specific to MoSTEP, PEU CF Learner Outcomes and/or Specialty Area performance indicators as appropriate. What do I know and what am I able to do?

Instructor Signature: __________________________ Date: ________________

Instructor Comments and Recommendations:
(Note that signatures are optional. Cover Sheets may be scanned to facilitate the electronic format.)
Appendix 3: CF General Learning Outcomes

The curricula of professional education programs at Southwest Missouri State University reflect our commitment to these beliefs. Further, they reflect and are aligned with the professional standards specified by state, national and professional accreditation organizations. Our initial and advanced programs are designed to develop candidate knowledge, skills, and dispositions associated with successful professional educational practice.

**SMSU professional education graduates will demonstrate competence in:**

1. **Foundations**: knowledge of the historical development of the profession, and foundational issues and arguments underlying its practices, as well as understanding of the importance of integrated learning across disciplines.
2. **Subject Matter**: knowledge of subject matter discipline content and the ability to integrate content with pedagogy appropriate to the candidate’s field of study.
3. **Learning and Development**: knowledge of human development and motivation, theories of learning, pedagogy and assessment.
4. **Reflective skills**: communication skills, critical and creative thinking abilities and other skills crucial to reflective decision-making.
5. **Technology**: knowledge and skills in the use of technology appropriate to the candidate’s field of study.
6. **Professional Skills**: the practical abilities to implement the skills, techniques, and strategies associated with student learning and development in the educational context in which they practice.
7. **Assessment Skills**: the skills to conduct valid and reliable assessments of their students’ learning, and use that assessment to improve learning and development for their students.
8. **Dispositions**: the intellectual, social, ethical, and other personal attributes and beliefs previously ascribed to reflective decision-makers in a variety of professional settings, including a commitment to their own lifelong learning and professional development.
9. **Diversity**: the ability to skillfully facilitate and promote the learning of all students, including those from diverse cultural, racial and economic backgrounds, and those with disabilities.
10. **Collaboration and Leadership**: the ability and skills to foster and maintain collaborative, empowering relationships with other professionals within schools and the community.