| **Required Course Numbers** | | | | | | | | | | | | | | | |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Test Content Categories** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| I. **Literature and Language Studies (25%)**  Focus is on literature, language, and components of written and oral communication. Literature includes both expository and narrative texts and the written materials of all disciplines. Language Studies includes the processes of language development and the uses of language in written and oral communication. Questions allow examinees to demonstrate their knowledge and understanding of literature and language as well as their ability to think critically about relevant problems and to apply the principles of the language arts within diverse contexts. |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| **A. Literature (35%)** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 1. Literary concepts, conventions, terminology |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 2. Assumptions and conventions of primary literary genres, including children’s literature |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 3. Social/historical contexts as they relate to literature |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 4. Approaches to reading and interpreting literature |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| **B. Language and linguistics (30%)** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 1. Basic stages of language development, including factors that enhance or inhibit this development |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 2. Historical and cultural influences on the evolution of standard American English |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 3. Principles of linguistics in analyzing various textual contexts |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 4. Integration of language across disciplines |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| **C. Oral and written communication (35%)** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 1. Application of communication skills to analysis and production of written text |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 2. Application of communication skills to analysis of oral discourse |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 3. Rhetorical conventions of narration, exposition, reflection, and argumentation |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 4. Retrieval of information from print and nonprint sources |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 5. Interpretation of the written reports of research |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| **II. Mathematics (25%)**  Focus is on the mathematical understandings that middle school teachers must have, the ability to communicate these understandings, and the ability to solve mathematical problems.  Because the emphasis is on assessing the examinee’s ability to reason logically, to use mathematical techniques in problem solving, and to communicate mathematical ideas effectively, examinees are not required to do much computation. Examinees may use non-programmable calculators while taking the test; a basic four-function calculator will be adequate.  The test questions do not require knowledge of advanced-level mathematics vocabulary but may require examinees to relate mathematics to real-life situations. Mathematics is conceptualized as an integrated field; therefore, a single problem may test several mathematical content areas.  Although few technical words are used in the test questions, terms such as area, perimeter, ratio, integer, factor, and prime number are used because it is assumed that these are commonly encountered in the mathematics that all examinees have studied. |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| **A. Number sense and numeration (20%)** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 1. Understand the meaning/implication of number and number concepts as they relate to problem solving, using cardinal and ordinal numbers, place value, ordering of fractions, decimals, whole numbers |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| **B. Geometry (20%)** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 1. Knowledge of relationships in both two and three dimensions |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 2. Ability to draw inferences based on precepts/concepts of parallelism, perpendicularity, congruence and similarity, angle measures, and polygons |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| **C. Measurement (5%)** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 1. Knowledge and application of standard units of both the English and metric systems, nonstandard units, estimation, perimeter, area, volume, mass, weight, angle measure, time, temperature |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| **D. Algebraic concepts (10%)** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 1. Recognize and apply algebraic concepts and properties |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 2. Describe patterns by writing or identifying a formula |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| **E. Number theory (10%)** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 1. Problem solving that demonstrates an understanding of prime and composite numbers, divisibility rules, least common multiple, greatest common divisor, and set theory |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| **F. The real number system and its subsystems (20%)** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 1. Solve real-world situational problems |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 2. Work with both standard and alternate algorithms |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| **G. Probability and statistics (15%)** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 1. Understand the organization, presentation, and interpretation of data in various forms |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 2. Recognize valid and invalid inferences |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 3. Solve basic problems |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 4. Make predictions involving probability and statistics |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| **III. History/Social Studies (25%)**  Focus is on essential understanding of important historical events and issues and basic social science concepts. Because history and the social sciences are best seen as mutually enriching, most questions will require knowledge of both history and the social sciences.  Since critical thinking skills are integral to essential understandings, most questions will require the exercise of such skills. In many instances, examinees will be asked to utilize these skills in demonstrating an understanding of original documents, such as maps, charts, graphs, cartoons, and short quotations.  **History:** all questions in the History/Social Studies area require knowledge of history except for one question that has a non-historical perspective. |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| **A. United States history (50%)** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 1. Native American civilizations |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 2. European exploration and colonization |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 3. The American revolution and the founding of the nation |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 4. Growth of the new republic |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 5. The Civil War and Reconstruction: causes and consequences |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 6. Industrialization of America |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 7. World War I: causes and consequences |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 8. Post-World War I America |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 9. World War II: causes and consequences |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 10. Post-World War II America |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| **B. World history (45%)** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 1. Prehistory and the development of early civilizations |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 2. Classical civilizations |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 3. Development of world religions |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 4. Feudalism in Japan and Europe |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 5. Chinese and Indian empires |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 6. Sub-Saharan kingdoms and cultures |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 7. Islamic civilization |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 8. Civilizations of the Americas |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 9. Rise and expansion of Europe |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 10. European developments |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 11. Nationalism and imperialism |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 12. 20th-century ideologies and conflicts |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| **C. Nonhistorical perspective (5%)** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 1. Social science questions not posed in historical context |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| **Social Sciences:** most questions in the History/Social Studies area require knowledge of social science as well as history. For those questions that require knowledge of both history and social science, the approximate percentages that require knowledge in each social science area are given below. |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| **D. Government and politics (20%)** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 1. Political concepts and theories |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 2. United States political system |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| **E. Geography (35%)** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 1. Map and globe skills |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 2. Physical geography |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 3. Cultural geography |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 4. Political geography |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 5. Economic geography |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 6. Regional geography |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| **F. Economics (25%)** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 1. Basic economic concepts |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 2. Government’s role in the economy |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| **G. Anthropology and sociology (20%)** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 1. Definitions, research methods, techniques of study |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 2. Human culture, social organization |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 3. How cultures change |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| **IV. Science (25%)**  Focus is on the ability to demonstrate an understanding of scientific concepts, apply those concepts, identify problems, formulate and test hypotheses, design experiments, analyze and evaluate data, use both theoretical and practical models, and use instruments. Also includes the impact of science and technology on society and the environment. Because science is viewed as an integrated field, a single question may assess understanding of several content areas. |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| **A. Life Science (33–34%)** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 1. Cellular biology: biologically important molecules, structure and function of cells and their organelles, energy sources and processes, and genes and gene function |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 2. Biology of organisms: life forms, structure and function of organ systems, and basic principles of heredity |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 3. Ecology, interrelationships in the biosphere: characteristics of ecosystems, energy flow in biological communities, and characteristics of biological communities |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 4. Evolution: evolutionary mechanisms, evolutionary patterns, evidence for evolutionary change, and history of life as related to the geological timeline |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| **B. Earth and Space Science (33–34%)** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 1. Astronomy: the solar system and planetary systems, stars and galaxies, and cosmology |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 2. Geology: earth materials, internal processes, landforms and external processes, and the history of the Earth and its life-forms |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 3. Meteorology: atmospheric composition and structure, atmospheric movement, and weather and climate |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 4. Oceanography: biological, chemical, geological, and physical processes and characteristics |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| **C. Physical Science (33–34%)** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 1. Matter: characteristics, structure, and physical and chemical properties |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 2. Reactions and interactions: kinetic theory, changes in state, chemical reactions, oxidation and reduction, acids and bases, catalysts, and chemical bonding |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 3. Macromechanics: straight line, projectile, circular, and periodic motion, Newton’s laws of motion, gravity, weight, mass, and conservation laws |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 4. Energy: sources and transformations, and heat |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 5. Electricity and magnetism: static and current electricity, circuits, magnetism, and applications |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 6. Wave phenomena: electromagnetic spectrum, mirrors, lenses, sound production, and applications |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 7. Modern physics/nuclear chemistry: relativity, radioactivity, fusion, and fission |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |