Standards for Elementary Grades Teacher Candidates

Elementary teachers provide a foundation for K-6 students to become lifelong learners and critical thinkers who can successfully function, compete, and flourish in a global society. Therefore, effective 21st century elementary education teacher candidates must possess an overarching understanding and knowledge of the key concepts which drive all content instruction. These key concepts, connected with other core standards, include candidates’ knowledge of assessment and instruction, the nature of the learner, school governance and culture, theories of learning and development, critical use of technology and the understanding of how the arts affect and interact with all other content areas. While content knowledge is essential, elementary teacher candidates must also understand the dynamic relationships and connections between content, instructional design, and assessment in relation to all elementary children.

The elementary teacher candidate must understand the integrative and complex relationship between the following key concepts:

- Assessment and Instruction
- Nature of the Learner
- School Governance and Culture
- Theories of Learning
- Critical Use of Technology
- Classroom Learning Environment

In order to deliver content effectively, elementary teacher candidates must also have a broad understanding of 21st century literacy skills. The 21st century teacher candidate defines literacy as the ability to identify, understand, interpret, create, communicate and compute using a variety of auditory and visual formats and contexts. This includes, but is not limited to, print, visual images, online databases, internet, podcasting, etc. It is important for teacher candidates to understand that literacy involves a continuum of learning within each content area, which will enable individuals to achieve their goals through developing and expanding their knowledge and understanding. (UNESCO - United Nations Educational, Scientific and Cultural Organization)

It is critical that the 21st century teacher candidate possess an understanding of the content essential to meet the objectives of the North Carolina Standard Course of Study (NCSCOS) and the elementary education curriculum. Elementary teacher education candidates must possess a strong knowledge of the NCSCOS in order to deliver effectively the content associated with the following standards.

**Standard 1: Elementary grades teacher candidates have the knowledge and understanding of language and how language is used to develop effective communication in listening, speaking, viewing, reading, thinking, and writing. Reading/Language Arts**

In order to enhance the North Carolina Standard Course of Study, 21st century reading and language arts teacher candidates know and understand literacy processes to facilitate continuous growth in language arts. Teacher candidates must understand that the language arts are transactive processes that include the learner, the text, the learning goal, and the context in which learning occurs. Teacher candidates understand that literacy processes are integrative across content areas and instructional modalities. Teacher candidates must also have a broad knowledge of the foundations of reading and have the ability to use a wide range of reading assessments that inform instructional decisions for both individual students and groups of students. Teacher candidates must have the expertise to create literate environments that foster reading and writing in the 21st century in their classrooms and schools.
Elementary teacher candidates are knowledgeable in and are able to design and implement learning tasks that involve:

A. the function, the influence and the diversity of language.
B. integrated practices of multimodal literacies.
C. foundations of reading.
D. reading processes through a wide range of text.
E. a wide range of reading and writing assessment tools and results in order to provide developmentally appropriate instruction.
F. multiple composing processes.
G. best instructional practices and techniques in the language arts for all learners.

In order to enhance the North Carolina Standard Course of Study, 21st century teacher candidates know and understand mathematical content and process skills to facilitate continuous development in mathematics. These teacher candidates demonstrate knowledge of learners’ mental representations of the content, including learners’ typical pre-conceptions, misconceptions, errors, and learning trajectories. In addition mathematics teacher candidates demonstrate knowledge of the content as represented by instructional media and strategies, including sequencing of units and topics, various examples, metaphor, models, tasks, tools, and technologies used. Teacher candidates understand that problem solving, reasoning, communication, connection, and representation are integrative across content areas and instructional modalities.

In order to enhance the North Carolina Standard Course of Study, 21st century teacher candidates use conceptual and procedural knowledge to guide their students to inquisitively learn, reason, and think critically, logically, and creatively. Using this knowledge, candidates teach students to make informed decisions through analyzing problems in order to construct alternative explanations and communicate scientific arguments. Teacher candidates must have the knowledge of inquiry based science, effective use of science process skills, and the importance of debating issues involving science and technology from a global perspective. Teacher candidates realize that science content is constantly evolving.

Elementary teacher candidates are knowledgeable in and are able to design and implement science learning activities that:
A. demonstrate appropriate safety practices and procedures to ensure the welfare and safety of all students and living organisms in the learning environment, including proper maintenance and disposal of materials.
B. use the unifying concepts and processes in the life, physical, and earth sciences.
C. involve the nature of science, the historical development of scientific thought, the process of scientific inquiry, and the reciprocal relationship between science and society.
D. involve the application of science skills, equipment and processes, technological tools and mathematical knowledge and skills.
E. allow students to develop and apply content knowledge and critical thinking skills that lead to the development of scientific literacy.

**Standard 4: Elementary grades teacher candidates have the necessary knowledge specific for producing knowledgeable, global citizens who are critical thinkers in a democratic society. Social Studies**

In order to enhance the North Carolina Standard Course of Study, 21st century teacher candidates use integrated content from the social sciences, as well as appropriate content from the humanities, mathematics, and natural sciences in order to promote civic competence. Teacher candidates understand the importance of preparing their students to become knowledgeable, global citizens who are critical thinkers and effective decision-makers in a democratic society. These essential concepts assume a global perspective on content and call for distinct and developmentally appropriate pedagogies for 21st century learners at the elementary grade levels.

Elementary teacher candidates are knowledgeable in and are able to design and implement learning activities that incorporate:
   A. culture and cultural diversity.
   B. time, continuity and change.
   C. economic, scientific, and technological development.
   D. individuals, groups and institutions.
   E. civic ideals and practices.

**Standard 5: Elementary grades teacher candidates have the knowledge and understanding of mental, emotional, physical, and social health to empower students to make healthy lifestyle choices. Healthful Living**

In order to enhance the North Carolina Standard Course of Study, 21st century teacher candidates are able to identify, articulate, and model healthy lifestyle choices that will impact student health. These teacher candidates demonstrate knowledge of best practices and laws (Healthy Active Child Mandate) that impact and promote health and well being. Teacher candidates make explicit connections to healthy choices that lead to the improvement of student learning, interpersonal and intrapersonal relationships, and overall quality of life.

Elementary teacher candidates are knowledgeable in and are able to design and implement learning tasks that demonstrate the:
   A. benefits of a physically active life.
   B. importance of proper nutrition.
   C. promotion of healthy relationships.
   D. consequences of substance abuse.
   E. prevention of accidents and injuries.
Standard 6: Elementary grades teacher candidates integrate art throughout the curriculum. The Arts

21st century teacher candidates create meaningful learning experiences which are relevant, rigorous, and enhance the content by providing alternate ways to think critically and communicate ideas.

Elementary teacher candidates are knowledgeable in and are able to design and implement learning tasks that demonstrate:

A. a general knowledge of the fundamentals of music, dance, theatre, and/or visual arts.
B. the ability to create interdisciplinary lessons/units that integrate the content areas with the arts to enhance classroom instruction and student learning.
Content Clarification for Elementary Standards

These clarifications may include but are not limited to the following examples of how teacher candidates might demonstrate proficiency in elementary content standards. These examples are for clarification purposes only. Teacher candidates are not expected to document evidence from each item on the clarification page.

The elementary teacher candidate must understand the integrative and complex relationship between the following key concepts:

**Assessment and Instruction**
- Diagnostic, Formative, and Summative Assessment
- Analysis of Assessment Data
- Assessment Guided/Driven Instruction
- Knowledge of instructional design
- Integrative curriculum, including the arts
- Content area specific pedagogy

**Nature of the Learner**
- Child Development and Growth
- Differentiation of instruction
- Diverse learners/societies/families
- Parental, family, community relationships
- Learning styles and modalities
- Responsive, unbiased instruction for all learners
- Appropriate tiered instructional strategies (e.g. Responsiveness To Instruction)
- Knowledge in ELL and EC content and instructional strategy

**School Governance and Culture**
- Basic knowledge of School Law
- Collaboration with teachers, resource professionals, etc.
- Teacher rights and responsibilities
- Continuing education and professional development
- Working effectively with administrators

**Theories of Learning**
- Educational Theory
- Learning Theory
- Development Theory
- Curriculum Theory

**Critical Use of Technology**
- Analysis of web page credibility
- Effective integration of technology
- Technology for teacher productivity
- Technology to increase student learning outcomes

**Classroom Learning Environment**
- Multiple components of the learning environment
- Student behavior and intervention
- Procedures and routines
- Time management
- Recordkeeping
- Creating a safe and orderly environment
Standard 1: Elementary grades teacher candidates have the knowledge and understanding of language and how language is used to develop effective communication in listening, speaking, viewing, reading, thinking, and writing.  

Reading/ Language Arts

A. The function, the influence and the diversity of language
- know and understand semantics, syntax, morphology, phonology, conventions of grammar, and effectively model that knowledge to teach their students to use language effectively.

B. Integrated practices of multimodal literacies.
- integrate non print based text options across content areas, such as, video, graphic, photographic, and other multimedia options to enhance learning.

C. Foundations of reading.
- Analyze foundational reading theories to inform instructional practices and critique current theories to aid in development of new understandings and practices.
- Use appropriate practices and materials grounded in reading research to evaluate the impact of teaching practices on student learning in light of reading research, histories of reading and connections to writing.
- Use knowledge of developmental aspects of oral language and its relationship to reading and writing when making classroom and instructional decisions.
- Demonstrate how cultural and linguistic diversity impact literacy learning.

D. Reading processes through the use of a wide range of text.
- help students to analyze, interpret, evaluate, and appreciate text as it relates to their prior knowledge, sociocultural backgrounds, and the individual and social interest of their students.
- facilitate instruction to build the background knowledge and vocabulary using a wide range of text.

E. A wide range of reading and writing assessment tools and results in order to provide developmentally appropriate instruction.
- Choose, administer, and interpret a variety of formal and informal reading and writing assessments such as standardized diagnostic reading tests, informal reading inventories, running records, and reading/writing conferences.
- Use reading and writing assessment results to determine appropriate instructional intervention.
- Match instructional strategies and interventions to assessment results to promote continuous reading and writing improvement.
- Collaborate with other school professionals and families to plan and implement appropriate reading and writing instruction and services for students.

F. Use of multiple composing processes.
- facilitate instruction using multiple composing processes, such as, oral, visual, written, technical forms, to effectively communicate for a variety of audiences and purposes.
- know and understand instructional options that allow students choices to demonstrate their growth as writers.

G. Best instructional practices and techniques in the reading process for all learners.
- Provide evidence-based rationale for diagnostic reading instructional decisions.
- Employ appropriate instructional grouping options for reading.
- Employ a variety of instructional practices, approaches, and methods to improve reading and writing outcomes for students.
- Employ strategies appropriate to the teaching of phonemic awareness, word identification, fluency, vocabulary, and comprehension.
Standard 2: Elementary grades teacher candidates have the knowledge and understanding of mathematical conventions and processes skills relative to: Number sense, numeration, numerical operations, and algebraic thinking; spatial sense, measurement and geometry; patterns, relationships, and functions; and data analysis, probability and statistics. Mathematics

A. Problem solving, reasoning and proof, communication, connection, and representation.
- help students develop problem solving skills that involve building new mathematical knowledge, applying and adapting a variety of appropriate strategies in order to monitor and reflect on the process of mathematical problem solving.
- facilitate instruction using reasoning and proof which involves making and investigating mathematical conjecture, developing and evaluating mathematical arguments and proofs, and selecting and using various types of reasoning and methods of proof.
- help students communicate mathematical thinking coherently and clearly, analyzing and evaluating mathematical thinking and strategies of others, and using the language of mathematics to express mathematical ideas precisely
- help students make connections regarding how mathematics ideas interconnect and build on one another to produce a coherent whole and recognizing and applying mathematics in context outside of mathematics.
- help students develop representations which involves selecting, applying, and translating among mathematical representations to solve problems and using representations to organize, record, and communicate mathematical ideas.

B. Number sense, numeration, and numerical operations
- understand numbers, ways of representing numbers, relationships among numbers and number systems
- understand meanings of operations and how they relate to one another
- compute fluently and make reasonable estimates
- understand place value and its use throughout computation, alternative computational algorithms, and knowledge of fractions.

C.Spatial sense, measurement and geometry
- understand and analyze the characteristics and properties of two- and three-dimensional geometric shapes and develop mathematical arguments about geometric relationships
- understand how to specify locations and describe special relationships using coordinate geometry and other representational systems.
- understand and apply transformations and use symmetry to analyze mathematical situations
- understand how to use visualization, spatial reasoning, and geometric modeling to solve problems.
- understand measurable attributes of objects and the units, systems, and processes of measurement
- understand how to apply appropriate techniques, tools, and formulas to determine measurement.

D. Patterns, relationships, and functions and algebraic thinking
- understand patterns, relations and functions
- understand how to represent and analyze mathematical situations and structures using algebraic symbols
- understand how to use mathematical models to represent and understand quantitative relationships
- are able to analyze change in various contexts
E. **Data analysis, probability and statistics**
   - understand how to formulate questions that can be addressed with data and collect, organize, and display relevant data to answer them
   - understand how to select and use appropriate statistical methods to analyze data
   - know how to develop and evaluate inferences and predictions that are based on data
   - understand and apply basic concepts of probability

F. **Mathematical instructional strategies and tools**
   - understand ways to use technology to explore mathematical concepts.
   - use appropriate math manipulatives and representations

### Standard 3: Elementary grades teacher candidates have the knowledge and understanding of scientific inquiry, process skills, concepts and applications relative to the life, physical, and earth sciences.  **Science**

#### A. Demonstrate appropriate safety practices and procedures to ensure the welfare and safety of all students and living organisms in the learning environment, including proper maintenance and disposal of materials.
   - Ensure that safety precautions and procedures are included in instruction and provide supervision during science activities.
   - Analyze the lab/activities for safety and research materials/chemicals, including use of MSDS (Material Safety Data Sheets), to identify safety concerns before they are used.
   - Have a working knowledge of, and comply with, science safety laws, codes, standards, and procedures.
   - Model and enforce appropriate safety behaviors.
   - Collaborate with colleagues to develop a short- and long-term plan for improvement of science safety.

#### B. Use the unifying concepts in the life, physical, and earth sciences.
   - Systems, Order and Organizations
   - Evidence, Models and Explanation
   - Constancy Change and Measurement
   - Evolution and Equilibrium
   - Form and Function

#### C. Involve the nature of science, the historical development of scientific thought, the process of scientific inquiry, and the reciprocal relationship between science and society.
   - Science is universal, multidisciplinary, cumulative and self-revising
   - Science represents a way to answer questions based on observations, confirmable evidence and logical thinking
   - The development of scientific thought is not necessarily linear
   - Modern science is based on contributions, both past and present, from diverse cultures
   - Scientific knowledge and applications affect and change human society
   - Science progresses through communication within the scientific community, as well as with the public, allowing for feedback, challenges, and peer review

#### D. The application of scientific skills, equipment and processes, technological tools and mathematical knowledge and skills.
   - Demonstrate proficiency in using measurement tools to perform investigations and gather accurate information
   - Employ principles and applications of mathematics appropriate to the science content they teach
   - Demonstrate proficiency in using scientific equipment commonly used in a given grade level
E. Allow students to develop and apply content knowledge and critical thinking skills that lead to the development of scientific literacy.

- Plan for acquisition, dissemination and management of materials and equipment
- Incorporate appropriate field investigations and field trips
- Identify ‘real world’ questions and facilitate scientific investigations of these questions to teach science content
- Incorporate appropriate authentic assessment techniques to gauge student progress through inquiry based instruction

Standard 4: Elementary grades teacher candidates have the necessary knowledge specific for producing knowledgeable, global citizens who are critical thinkers in a democratic society. Social Studies

A. Culture and cultural diversity.
- A multitude of cultures and their diversities at the local, state, national and global levels.
- How rules, laws, and policies protect people and their environments
- Understand and apply the Five Themes of Geography

B. Time, continuity and change
- Major historical events that have profoundly affected and impacted local, state, national and global levels.
- How people in different times and places view the world differently
- Historic cause and effect and how it informs prediction and decision making

C. Economic, scientific, and technological development
- How local, state, national and global levels vary in terms of their access to and use of scientific and technological resources.
- How interdependence accounts for needs, wants, supply and demand.
- How science and technology changed the lives of people.
- Have a knowledge of financial literacy

D. Individuals, groups and institutions.
- How individuals, groups and institutions interact.
- Heroes, famous people, and historical figures.
- The development, purpose, and influence of communities.

E. Design and implement learning activities that incorporate civic ideals and practices.
- Forms and structures of government that exist at the local, state, national and global levels.
- How rules, laws, and authority protect people.
- The rights and responsibilities of citizenship

Standard 5: Elementary grades teacher candidates have the knowledge and understanding of mental, emotional, physical, and social health to empower students to make healthy lifestyle choices. Healthful Living

A. Benefits of a physically active life
- Classroom practices that promote kinesthetic engagement
- Structured and unstructured recess
- Integrating physical activity into classroom content
B. Importance of proper nutrition
- food choices according to the current food pyramid
- relationship between physical activity, caloric intake, and personal health
- awareness of the use of media that influence food choices

C. Promotion of healthy relationships
- interpersonal (i.e., friends, teachers, family, strangers, conflict resolution [bullying])
- intrapersonal (i.e., self confidence, self esteem, self control, positive self talk)

D. Consequences of substance abuse
- tobacco
- alcohol
- illicit drugs, over the counter, and prescription drugs

E. Accident/Injury Prevention
- school safety
- water safety
- community safety
- home safety

Standard 6: Elementary grades teacher candidates integrate art throughout the curriculum. The Arts

A. General knowledge of the fundamentals of music, dance, theatre, and/or visual arts.
B. Create interdisciplinary lessons/units that integrate the content areas with the arts to enhance classroom instruction and student learning.