IT FUNDAMENTALS
COURSE CODE: 5025
Academic Standards and Indicators (Alignment Reference)

English and Language Arts

SC Standard A1. Reading: Literary Text
Reading-Literary Text: Principles of Reading (P)
Standard 1: Demonstrate understanding of the organization and basic features of print.
Standard 2: Demonstrate understanding of spoken words, syllables, and sounds.
Standard 3: Know and apply grade-level phonics and word analysis skills when decoding words.
Standard 4: Read with sufficient accuracy and fluency to support comprehension.
Reading-Literary Text: Meaning and Context (MC)
Standard 5: Determine meaning and develop logical interpretations by making predictions, inferring, drawing conclusions, analyzing, synthesizing, providing evidence, and investigating multiple interpretations.
Reading-Literary Text: Language, Craft, and Structure (LCS)
Standard 9: Interpret and analyze the author's use of words, phrases, and conventions, and how their relationships shape meaning and tone in print and multimedia texts.
Standard 10: Apply a range of strategies to determine and deepen the meaning of known, unknown, and multiple-meaning words, phrases, and jargon; acquire and use general academic and domain-specific vocabulary.
Reading-Literary Text: Range and Complexity (RC)
Standard 13: Read independently and comprehend a variety of texts for the purposes of reading for enjoyment, acquiring new learning, and building stamina; reflect and respond to increasingly complex text over time.

SC Standard A2. Reading: Informational Text (RI)
Reading-Informational Text: Principles of Reading (P)
Standard 1: Demonstrate understanding of the organization and basic features of print.
Standard 2: Demonstrate understanding of spoken words, syllables, and sounds.
Standard 3: Know and apply grade-level phonics and word analysis skills when decoding words.
Standard 4: Read with sufficient accuracy and fluency to support comprehension.
Reading-Informational Text: Meaning and Context (MC)
Standard 5: Determine meaning and develop logical interpretations by making predictions, inferring, drawing conclusions, analyzing, synthesizing, providing evidence, and investigating multiple interpretations.
Standard 6: Summarize key details and ideas to support analysis of central ideas.

Reading-Informational Language, Craft, and Structure (LCS)
Standard 9: Apply a range of strategies to determine and deepen the meaning of known, unknown, and multiple-meaning words, phrases, and jargon; acquire and use general academic and domain-specific vocabulary.

SC Standard A3. Reading: Building Vocabulary
Reading-Informational Text: Principles of Reading (P)

Standard 2: Demonstrate understanding of spoken words, syllables, and sounds
Standard 3: Know and apply grade-level phonics and word analysis skills when decoding words.

SC Standard A4. Writing: Developing Written Communications (W)
Writing: Meaning, Context, and Craft (MCC)
Standard 1: Write arguments to support claims with clear reasons and relevant evidence.
Standard 2: Write informative/explanatory texts to examine and convey complex ideas and information clearly and accurately through the effective selection, organization, and analysis of content.

SC Standard A5. Writing: Producing Written Communications in a Variety of Forms
Writing: Meaning, Context, and Craft (MCC)
Writing: Language (L)
Standard 4: Demonstrate command of the conventions of standard English grammar and usage when writing and speaking.
Standard 5: Demonstrate command of the conventions of standard English capitalization, punctuation, and spelling when writing.

SC Standard A6. Researching: Applying the Skills of Inquiry and Oral Communication
Inquiry-Based Literacy Standards (I)
Communication: Meaning and Context (MC)
Standard 1: Interact with others to explore ideas and concepts, communicate meaning, and develop logical interpretations through collaborative conversations; build upon the ideas of others to clearly express one's own views while respecting diverse perspectives.
Standard 2: Articulate ideas, claims, and perspectives in a logical sequence using information, findings, and credible evidence from sources.
Standard 3: Communicate information through strategic use of multiple modalities and multimedia to enrich understanding when presenting ideas and information.
Language, Craft, and Structure (LCS)
Standard 4: Critique how a speaker addresses content and uses stylistic and structural craft techniques to inform, engage, and impact audiences.
Standard 5: Incorporate craft techniques to engage and impact audience and convey messages.

MATHEMATICS ACADEMIC STANDARDS

SC Standard A8. The student will demonstrate through the mathematical processes an understanding of relationships and functions. **(SCEA-3)**
Building Functions
FBF.1* Write a function that describes a relationship between two quantities.
b. Combine functions using the operations addition, subtraction, multiplication, and division to build new functions that describe the relationship between two quantities in mathematical and real-world situations.
Interpreting Functions
FIF.2* Evaluate functions and interpret the meaning of expressions involving function notation from a mathematical perspective and in terms of the context when the function describes a real-world situation.

GEOMETRY-NONE

Pre-Calculus-NONE

Probability and Statistics-NONE

SCIENCE ACADEMIC STANDARDS

Biology-None

Chemistry

SC Standard A20. The student will demonstrate an understanding of the structure and behavior of matter. **(SC C-2)**
C-PS2-6. Communicate scientific and technical information about why the molecular structure determines the functioning of designed materials.

SC Standard A21. The student will demonstrate an understanding of the conservation of energy and energy transfer. **(SC C-3)**
C-PS3-4. Plan and conduct an investigation to provide evidence that the transfer of thermal energy when two components of different temperatures are combined within a closed system results in a more uniform energy distribution among the components in the system (second law of thermodynamics).
C-PS4-5. Communicate technical information about how some technological devices use the principles of the electromagnetic spectrum to cause matter to transmit and capture information and energy.

Physics

SC Standards A24. Students will demonstrate an understanding how energy is transferred and used send and store information. (**SC P-3)**
P-PS3-1. Create a computational model to calculate the change in the energy of one component in a system when the following are known: 1) the change in energy of the other component(s) and 2) the energy flowing in and out of the system.
P-PS3-5. Develop and use a model to illustrate the forces between two objects and the changes in energy of the objects due to their interaction through electric or magnetic fields.
P-PS4-2. Design, evaluate, and refine a solution for improving how digital devices store and transmit information.
P-PS-4-5. Communicate technical information about how some technological devices use the principles of wave behavior and wave interactions with matter to transmit and capture information and energy.

Earth and Space Science

SC Standard A26. The student will demonstrate an understanding of the impact of human activity on natural resources and Earth's systems. (**SC ESPS-2)**
E-ESS3-4. Evaluate or refine a technological solution that reduces impacts of human activities on natural systems.

SOCIAL STUDIES ACADEMIC STANDARDS

Economics and Personal Finance
SC Standard A27. The student will demonstrate an understanding of fundamental economic concepts at an individual, business, and governmental level. (**SC ECON-1)**
EPF.1.ER Examine how scarcity of time and resources necessitates decision-making.
EPF.1.IN Research and utilize evidence to explain how various economic systems address the basic economic questions regarding distribution of resources.
EFP.1.IP Evaluate how short-term goals allow individuals and institutions to make rational decisions using marginal analysis.

United States Government - NONE

TECHNOLOGY STANDARDS -

Empowered Learner
SC Standard A41. Students leverage technology to take an active role in choosing, achieving and demonstrating competency in their learning goals, informed by the learning sciences. **(ISTE-1)**

- Articulate and set personal learning goals, develop strategies leveraging technology to achieve them and reflect on the learning process itself to improve learning outcomes.
- Build networks and customize their learning environments in ways that support the learning process.
- Use technology to seek feedback that informs and improves their practice and to demonstrate their learning in a variety of ways.
- Understand the fundamental concepts of technology operations, demonstrate the ability to choose, use and troubleshoot current technologies and are able to transfer their knowledge to explore emerging technologies.

Digital Citizen
SC Standard A42. Students recognize the rights, responsibilities, and opportunities of living, learning and working in an interconnected digital world, and they act and model in ways that are safe, legal and ethical. **(ISTE-2)**

- Cultivate and manage their digital identify and reputation and are aware of the permanence of their actions in the digital world.
- Engage in positive, safe, legal and ethical behavior when using technology, including social interactions online or when using networked devices.
- Demonstrate an understanding of and respect for the rights and obligations of using and sharing intellectual property.

- Manage their personal data to maintain digital privacy and security and are aware of data-collection technology used to track their navigation online.

Knowledge Constructor
SC Standard A43. Students critically curate a variety of resources using digital tools to construct knowledge, produce creative artifacts and make meaningful learning experiences for themselves and others. **(ISTE-3)**

- Plan and employ effective research strategies to locate information and other resources for their intellectual or creative pursuits.
- Evaluate the accuracy, perspective, credibility and relevance of information, media, data or other resources.
- Curate information from digital resources using a variety of tools and methods to create collections of artifacts that demonstrate meaningful connections or conclusions.
- Build knowledge by actively exploring real-world issues and problems, developing ideas and theories and pursuing answers and solutions.

Innovative Designer
SC Standards A44. Students develop and employ strategies for understanding and solving problems in ways that leverage the power of technological methods to develop and test solutions. **(ISTE-4)**

- Know and use a deliberate design process for generating ideas, testing theories, creating innovative artifacts or solving authentic problems.
- Select and use digital tools to plan and manage a design process that considers design constraints and calculated risks.
- Develop, test, and refine prototypes as part of a cyclical design process.
- Exhibit a tolerance for ambiguity, perseverance and the capacity to work with open-ended problems.

Computational Thinker
SC Standard A45. Students develop and employ strategies for understanding and solving problems in ways that leverage the power of technological methods to develop and test solutions. **(ISTE-5)**

- Formulate problem definitions suited for technology-assisted methods such as data analysis, abstract models and algorithmic thinking in exploring and finding solutions.
- Collect data or identify relevant data sets, use digital tools to analyze them, and represent data in various ways to facilitate problem-solving and decision-making.
- Break problems into component parts, extract key information, and develop descriptive models to understand complex systems to facilitate problem-solving.
- Understand how automation works and use algorithmic thinking to develop a sequence of steps to create and test automated solutions.

Creative Communicator
SC Standard A46. Students communicate clearly and express themselves creatively for a variety of purposes using the platforms, tools, styles, formats, and digital media appropriate to their goals. **(ISTE-6)**

- Choose the appropriate platforms and tools for meeting the desired objectives of their creation or communication.
- Create original works or responsibly repurpose or remix digital resources into new creations.
- Communicate complete ideas clearly and effectively by creating or using a variety of digital objects such as visualizations, models, or simulations.
- Publish or present content that customizes the message and medium for their intended audiences.

Global Collaborator
SC Standard A47. Students use digital tools to broaden their perspectives and enrich their learning by collaborating with others and working effectively in teams locally and globally. **(ISTE-7)**

- Use digital tools to connect with learners from a variety of backgrounds and cultures, engaging with them in ways that broaden mutual understanding and learning.
- Use collaborative technologies to work with others, including peers, experts, or community members, to examine issues and problems from multiple viewpoints.
- Contribute constructively to project teams, assuming various roles and responsibilities to work effectively toward a common goal.
- Explore local and global issues and use collaborative technologies to work with others to investigate solutions.