### Standard 1: Creativity and Innovation

*Students demonstrate creative thinking, construct knowledge, and develop innovative products and processes using technology.*

**Students will be able to:**

- **APCSA.1.1** Apply existing knowledge to create original Java source code to solve a variety of programming problems.
- **APCSA.1.2** Create original solutions for a presented problem as a means of personal or group derived solution.
- **APCSA.1.3** Use a procedural process to solve complex programming problems (Analyze, Design, and Implement).
- **APCSA.1.4** Identify and analyze possible solutions for a variety of possible outcomes form presented problems.

### Standard 2: Communication and Collaboration

*Students use digital media and environments to communicate and work collaboratively, including at a distance, to support individual learning and contribute to the learning of others.*

**Students will be able to:**

- **APCSA.2.1** Interact, collaborate, and publish with peers employing a variety of digital environments and media to solve proposed problems.
- **APCSA.2.2** Communicate solutions and required processes used in problem solving effectively to multiple audiences.
- **APCSA.2.3** Exercise sensitivity to other cultures during the development of source code and to ensure results are non-offensive to other cultures.
- **APCSA.2.4** Contribute to project teams to produce original programs (software) to solve problems.

### Standard 3: Research and Information Fluency

*Students apply digital tools to gather, evaluate, and use information.*

**Students will be able to:**

- **APCSA.3.1** Plan strategies to guide analysis, develop a design, and create software for problem.
- **APCSA.3.2** Locate, organize, analyze, evaluate, synthesize, and ethically use information from a variety of sources and media.
- **APCSA.3.3** Evaluate and select information sources and digital tools to solve the specific tasks.
- **APCSA.3.4** Process data, generate source code, and create a final product that meets the proposed requirements.

Adapted from the ISTE National Educational Technology Standards (NETS•S) and Performance Indicators for Student 2007

*Singapore American School, September 28, 2010*
## Standard 4: Critical Thinking, Problem Solving, and Decision Making

*Students use critical thinking skills to plan and conduct research, manage projects, solve problems, and make informed decisions using appropriate digital tools and resources.*

**Students will be able to:**

- **APCSA.4.1** Identify and define original solutions for assigned tasks.
- **APCSA.4.2** Plan and manage activities to develop a solution or complete a programming project.
- **APCSA.4.3** Collect and analyze data to identify solutions and/or make informed decisions in creating a refined Java program.
- **APCSA.4.4** Use multiple processes and diverse perspectives to explore alternative solutions to solve proposed programming problem.

## Standard 5: Digital Citizenship

*Students understand human, cultural, and societal issues related to technology and practice legal and ethical behavior.*

**Students will be able to:**

- **APCSA.5.1** Advocate and practice safe, legal, ethical, and responsible use of intellectual properties.
- **APCSA.5.2** Exhibit a positive attitude toward using technology that supports collaboration, learning, and productivity.
- **APCSA.5.3** Demonstrate personal responsibility for lifelong learning and career options.
- **APCSA.5.4** Exhibit leadership for digital citizenship.

## Standard 6: Technology Operations and Concepts

*Students demonstrate a sound understanding of technology concepts, systems, and operations.*

**Students will be able to:**

- **APCSA.6.1** Understand and properly use an Integrated Development Environment (IDE) to edit, compile, and execute original code.
- **APCSA.6.2** Select and use the proper application to effectively create source code to solve tasks.
- **APCSA.6.3** Troubleshoot source and compiled code to ensure results meets or exceeds client’s instruction.
- **APCSA.6.4** Transfer current knowledge to learning other methods and procedures to solve a variety of similar problems or issues.