

Alignment of Texas Pre–Admission Content Test (PACT) Technology Applications: Early Childhood–Grade 12 (742) Framework with Texas Essential Knowledge and Skills

This alignment study identifies the Texas Essential Knowledge and Skills that are addressed in whole or in part by each competency of the exam framework. An indication of alignment does not necessarily imply complete congruence of the content of an exam competency with the relevant standard. The information in this document is subject to change if revisions are made to the exam framework. Any changes will fully supersede the information contained in this document.

Competencies		Texas Essential Knowledge and Skills
Field 742: TX PACT: Technology Applications: Early Childhood–Grade 12		Texas Essential Knowledge and Skills for Technology Applications
<u>Content Domain I</u>		
FOUNDATIONS OF COMPUTER–BASED TECHNOLOGY		
001	Demonstrate a broad and comprehensive understanding of operations and concepts related to computers and technology.	<p>Elementary: 126.6 b 6; 126.7 b 6 Technology operations and concepts. The student demonstrates knowledge and appropriate use of technology systems, concepts, and operations.</p> <p>Middle School: 126.14 c 6; 126.15 c 6; 126.16 c 6 Technology operations and concepts. The student demonstrates a thorough understanding of technology concepts, systems, and operations.</p> <p>High School: 126.32 c 6; 126.33 c 6; 126.34 c 6; 126.36 c 6 Technology operations and concepts. The student understands technology concepts, systems, and operations as they apply to computer science. 126.39 c 1; 126.40 c 2 Creativity and innovation. The student develops products and generates new understanding by extending existing knowledge. 126.42 c 1; 126.43 c 1; 126.46 c 1; 126.47 c 1; 126.48 c 1; 126.49 c 1; 126.50 c 1 Creativity and innovation. The student demonstrates creative thinking, constructs knowledge, and develops innovative products and processes using technology. 126.42 c 6; 126.43 c 6; 126.46 c 6; 126.47 c 6; 126.49 c 6 Technology operations and concepts. The student demonstrates a sound understanding of technology concepts, systems, and operations.</p>

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002	Demonstrate a broad and comprehensive understanding of the management of hardware and software resources.	Elementary: n/a
		Middle School: 126.14 c 6; 126.15 c 6; 126.16 c 6 Technology operations and concepts. The student demonstrates a thorough understanding of technology concepts, systems, and operations.
		High School: 126.33 c 6; 126.34 c 6; 126.36 c 6 Technology operations and concepts. The student understands technology concepts, systems, and operations as they apply to computer science. 126.42 c 6; 126.46 c 6; 126.47 c 6; 126.48 c 6; 126.49 c 6; 126.50 c 6 Technology operations and concepts. The student demonstrates a sound understanding of technology concepts, systems, and operations. 126.43 c 3 Research and information fluency. The student applies digital tools to gather, evaluate, and use information.
<u>Content Domain II</u>		
USE OF COMPUTER–BASED TECHNOLOGY		
003	Demonstrate a broad and comprehensive understanding of concepts and skills related to the use of technology resources.	Elementary: 126.6 b 2; 126.7 b 2 Communication and collaboration. The student collaborates and communicates both locally and globally using digital tools and resources to reinforce and promote learning. 126.6 b 6; 126.7 b 6 Technology operations and concepts. The student demonstrates knowledge and appropriate use of technology systems, concepts, and operations.

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		<p>Middle School:</p> <p>126.14 c 4; 126.15 c 4; 126.16 c 4 Critical thinking, problem solving, and decision making. The student makes informed decisions by applying critical-thinking and problem-solving skills.</p> <p>126.14 c 6; 126.15 c 6; 126.16 c 6 Technology operations and concepts. The student demonstrates a thorough understanding of technology concepts, systems, and operations.</p> <p>High School:</p> <p>126.32 c 6; 126.33 c 6; 126.34 c 6; 126.35 c 6; 126.36 c 6; 126.37 c 6; 126.38 c 3; 126.39 c 6; 126.40 c 7 Technology operations and concepts. The student understands technology concepts, systems, and operations as they apply to computer science.</p> <p>126.41 c 6 Technology operations and concepts. The student uses technology concepts, systems, and operations as appropriate for a project.</p> <p>126.42 c 6; 126.43 c 6; 126.46 c 6; 126.47 c 6; 126.48 c 6; 126.49 c 6; 126.50 c 6 Technology operations and concepts. The student demonstrates sound understanding of technology concepts, systems, and operations.</p> <p>126.45 c 9 Technology operations and concepts. The student develops a basic understanding of the history, current practice, future trends, and procedural protocols in the use of audio and video production.</p> <p>126.45 c 10 Technology operations and concepts. The student understands the post-production process.</p>
004	Demonstrate a broad and comprehensive understanding of the design, development, and uses of computer–based learning resources, tools, and environments.	<p>Elementary:</p> <p>126.6 b 3; 126.7 b 3 Research and information fluency. The student acquires and evaluates digital content.</p> <p>126.6 b 4; 126.7 b 4 Critical thinking, problem solving, and decision making. The student applies critical–thinking skills to solve problems, guide research, and evaluate projects using digital tools and resources.</p> <p>Middle School:</p>

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		<p>126.14 c 3; 126.15 c 3; 126.16 c 3 Research and information fluency. The student acquires, analyzes, and manages content from digital resources.</p> <p>High School:</p> <p>126.32 c 3; 126.33 c 3; 126.34 c 3; 126.36 c 4; 126.38 c 3; 126.39 c 3; 126.40 c 4 Research and information fluency. The student locates, analyzes, processes, and organizes data.</p> <p>126.41 c 2 Communication and collaboration. The student understands professional digital media communications strategies.</p> <p>126.42 c 3; 126.46 c 3; 126.47 c 3; 126.48 c 3; 126.49 c 3 Research and information fluency. The student applies digital tools to gather, evaluate, and use information.</p> <p>126.43 c 2; 126.47 c 2; 126.48 c 2; 126.49 c 2; 126.50 c 2 Communication and collaboration. The student uses digital media and environments to communicate and work collaboratively, including at a distance, to support individual learning and contribute to the learning experience of others.</p> <p>126.43 c 4; 126.46 c 4; 126.47 c 4; 126.48 c 4; 126.49 c 4; 126.50 c 4 Critical thinking, problem solving, and decision making. The student uses critical-thinking skills to plan and conduct research, manage projects, solve problems, and make informed decisions using appropriate digital tools and resources.</p> <p>126.44 c 1 Creativity and innovation. The student demonstrates the ability to analyze, evaluate, and adapt during the creative problem-solving process and demonstrates creative thinking in developing solutions to real-world issues using digital tools.</p> <p>126.44 c 4 Communication and collaboration. The student uses digital tools to facilitate collaboration and communication in the design, development, and evaluation of products offering solutions to real-world issues.</p> <p>126.44 c 6 Research and information fluency. The student uses a variety of digital tools to synthesize information related to real-world issues in student-created materials.</p> <p>126.44 c 11 Technology operations and concepts. The student makes decisions regarding the selection, acquisition, and use of digital tools in a</p>

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		<p>multimedia classroom/lab, taking into consideration the quality, appropriateness, effectiveness, and efficiency of the tools.</p> <p>126.45 c3 Creativity and innovation. The student applies information technology applications.</p> <p>126.46 c 3 Research and information fluency. The student applies digital tools to gather, evaluate, and use information.</p> <p>126.50 c 3 Research and information fluency. The student applies digital tools to gather, evaluate, and use information. The student uses a variety of strategies to acquire information from electronic resources, with appropriate supervision.</p>
005	Demonstrate a broad and comprehensive understanding of concepts and skills related to computer programming.	<p>Elementary: n/a</p> <p>Middle School: n/a</p> <p>High School: 126.32 c 4; 126.33 c 4; 126.34 c 4; 126.35 c 4; 126.36 c 4; 126.37 c 4; 126.38 c 4; 126.39 c 4; 126.40 c 5 Critical thinking, problem solving, and decision making. The student uses appropriate strategies to analyze problems and design algorithms.</p>
<u>Content Domain III</u>		
COMPUTER–BASED TECHNOLOGY IN SOCIETY		
006	Demonstrate a broad and comprehensive understanding of the appropriate use of computer technology and the interrelationships between technology and society.	<p>Elementary: 126.6 b 2; 126.7 b 2 Communication and collaboration. The student collaborates and communicates both locally and globally using digital tools and resources to reinforce and promote learning.</p> <p>126.6 b 5; 126.7 b 5 Digital citizenship. The student practices safe, responsible, legal, and ethical behavior while using digital tools and resources.</p>

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		<p>Middle School:</p> <p>126.14 c 2; 126.15 c 2; 126.16 c 2 Communication and collaboration. The student collaborates and communicates both locally and globally to reinforce and promote learning.</p> <p>126.14 c 5; 126.15 c 5; 126.16 c 5 Digital citizenship. The student practices safe, responsible, legal, and ethical behavior while using technology tools and resources.</p> <p>High School:</p> <p>126.32 c 5; 126.33 c 5; 126.34 c 5; 126.35 c 5; 126.36 c 5; 126.37 c 5; 126.38 c 5; 126.39 c 5; 126.40 c 6 Digital citizenship. The student explores and understands safety, legal, cultural, and societal issues relating to the use of technology and information.</p> <p>126.41 c 5 Digital citizenship. The student complies with standard practices and behaviors and upholds legal and ethical responsibilities.</p> <p>126.42 c 5; 126.43 c 5 Digital citizenship. The student understands human, cultural, and societal issues related to technology and practices legal and ethical behavior.</p> <p>126.45 c 8 Digital citizenship. The student applies ethical decision making and complies with laws regarding the use of technology in audio and video production.</p> <p>126.46 c 5; 126.47 c 5; 126.48 c 5; 126.49 c 5; 126.50 c 5 Digital citizenship. The student understands human, cultural, and societal issues related to technology and practices legal and ethical behavior.</p> <p>126.42 c 3; 126.43 c 3; 126.46 c 3; 126.47 c 3; 126.48 c 3 Research and information fluency. The student applies digital tools to gather, evaluate, and use information.</p> <p>126.46 c 1; 126.47 c 1 Creativity and innovation. The student demonstrates creative thinking, constructs knowledge, and develops innovative products and processes using technology.</p>