

Connecticut State Department of Education

# Mathematics Crosswalk Common Core State Standards aligned to Computer Information Systems Standards

*The high school standards specify the mathematics that all students should study in order to be college and career ready. Below is a list of Mathematics standards and the Computer Information Systems Concept that could be utilized to teach the specific CCCS standard. For more information about high school conceptual following [http://www.sde.ct.gov/sde/lib/sde/PDF/CCSS/CCSS\\_Math\\_Overview\\_HS.pdf](http://www.sde.ct.gov/sde/lib/sde/PDF/CCSS/CCSS_Math_Overview_HS.pdf).*

*Please Note: Spreadsheet software, such as Microsoft Excel can be used to illustrate many mathematical concepts to add a visual component to the concept being presented by having students create formulas, as well as, utilize the charts and graphs features of the software.*

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**Content Standard 1: Impact on Society**

**Develop a mastery of technology tools required to enhance academic, business, and personal performance for success.**

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**1.0 Assess the impact of information technology in a global society.**

CT Accounting FRAMEWORKS PERFORMANCE STANDARDS 1-7	Mathematics Crosswalk Common Course State Standard 9-12
<b>Beginning</b>	
<ul style="list-style-type: none"><li>Identify uses of information technology that meets human needs and affects quality of life in the home, school, and work.</li></ul>	
<ul style="list-style-type: none"><li>Use information technology skills for lifelong learning.</li></ul>	
<b>Intermediate</b>	
<ul style="list-style-type: none"><li>Describe the impact of technology on the knowledge and skills needed for success in the workplace.</li></ul>	
<ul style="list-style-type: none"><li>Evaluate how information technology transforms business processes and relationships.</li></ul>	
<b>Advanced</b>	
<ul style="list-style-type: none"><li>Analyze how developments in information technology affect the supply/demand characteristics of the global job market.</li></ul>	
<ul style="list-style-type: none"><li>Illustrate how information technology changes organization structures.</li></ul>	

**Content Standard 2: Hardware**

**Describe current and emerging hardware; configure, install, and upgrade; diagnose and repair.**

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**2.0 Identify hardware components appropriate for specific tasks.**

CT Accounting FRAMEWORKS PERFORMANCE STANDARDS 1-7	Mathematics Crosswalk Common Course State Standard 9-12
<b>Beginning</b>	
<ul style="list-style-type: none"><li>Identify the purpose and care of all types of computers and components.</li></ul>	
<ul style="list-style-type: none"><li>Identify, connect, and explain the operation of peripheral devices.</li></ul>	
<b>Intermediate</b>	
<ul style="list-style-type: none"><li>Explain and evaluate the purpose and care of computer components including capabilities for specific tasks.</li></ul>	

<ul style="list-style-type: none"> <li>Evaluate hardware device options including vendors and warranties to make sound consumer decisions.</li> </ul>	
<ul style="list-style-type: none"> <li>Compare and contract various storage options (e.g., local, removable, remote).</li> </ul>	
<ul style="list-style-type: none"> <li>Identify examples of emerging hardware technologies.</li> </ul>	
<ul style="list-style-type: none"> <li>Obtain hardware certification(s) needed for a chosen career path.</li> </ul>	
<b>Advanced</b>	
<ul style="list-style-type: none"> <li>Evaluate and recommend hardware to solve specific problems.</li> </ul>	
<ul style="list-style-type: none"> <li>Analyze cost benefits and life cycle of hardware.</li> </ul>	<b>CC.9-12.A.SSE.1:</b> Interpret expressions that represent a quantity in terms of its context.

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**Content Standard 3: Operating Systems and Utilities**  
**Identify and evaluate various types of operating systems and utilities.**

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**3.0 Describe various types of operating systems and utilities.**

CT Personal Finance FRAMEWORKS PERFORMANCE STANDARDS 1-7	Mathematics Crosswalk Common Course State Standard 9-12
<b>Beginning</b>	
<ul style="list-style-type: none"> <li>Navigate operating systems.</li> </ul>	
<ul style="list-style-type: none"> <li>Manage folders and files.</li> </ul>	
<ul style="list-style-type: none"> <li>Identify and use appropriate help resources (e.g., help tasks, on-line help, manuals) to install, configure, upgrade, diagnose, and repair operating systems and utilities.</li> </ul>	
<b>Intermediate</b>	
<ul style="list-style-type: none"> <li>Compare and contrast the functions, features, and limitations of different operating systems and utilities (e.g., open source, mobile, and proprietary operating systems).</li> </ul>	
<ul style="list-style-type: none"> <li>Install and customize operating systems and utilities.</li> </ul>	
<ul style="list-style-type: none"> <li>Obtain operating system certifications(s) needed for chosen career path.</li> </ul>	

<b>Advanced</b>	
<ul style="list-style-type: none"> <li>• Install and customize operating systems and utilities.</li> </ul>	
<ul style="list-style-type: none"> <li>• Diagnose and repair installation and operational problems of operating systems and utilities.</li> </ul>	

**Content Standard 4: Input Technologies**  
**Develop proper input techniques.**

**4.0 Use various input technologies to enter and manipulate information appropriately.**

CT Personal Finance FRAMEWORKS PERFORMANCE STANDARDS 1-7	Mathematics Crosswalk Common Course State Standard 9-12
<b>Beginning</b>	
<ul style="list-style-type: none"> <li>• Use input technology skills to enter and manipulate text and data.</li> </ul>	
<b>Intermediate</b>	
<ul style="list-style-type: none"> <li>• Develop proper input techniques (e.g., 10-key touch pad, scanning, digital cameras, and recognition of developing technologies, the use of touch screen mouse or stylus, speech recognitions, student response systems, digital inking, and any new emerging technology).</li> </ul>	
<ul style="list-style-type: none"> <li>• Use a variety of input technologies to maximize productivity.</li> </ul>	
<ul style="list-style-type: none"> <li>• Compose and integrate documents using a variety of input techniques.</li> </ul>	
<b>Advanced</b>	
<ul style="list-style-type: none"> <li>• Explore translation and digital language input tools and resources for effective global communication.</li> </ul>	

**Content Standard 5: Productivity Software**  
**Use emerging application software appropriate for special tasks.**

**5.0 Identify, evaluate, select, install, use, upgrade, and customize productivity software; diagnose and solve software problems.**

CT Personal Finance FRAMEWORKS PERFORMANCE STANDARDS 1-7	Mathematics Crosswalk Common Course State Standard 9-12
<b>Beginning</b>	
<ul style="list-style-type: none"> <li>• Create and present multi-media using word processing and presentation software.</li> <li>• Create projects collaboratively.</li> </ul>	
<b>Intermediate</b>	
<ul style="list-style-type: none"> <li>• Use word processing, desktop publishing, database, spreadsheet, presentation, and multi-media software to improve academic achievement across the curriculum.</li> <li>• Select and apply the appropriate productivity software to complete tasks.</li> <li>• Use help features and reference materials to learn software and solve problems.</li> <li>• Design, create, and publish pages incorporating multi-media using various on-line template resources.</li> <li>• Identify terminology and structure for database development to sort and extract information.</li> <li>• Create and utilize multi-media delivery tools (e.g., blogs, podcasting, webcasting).</li> <li>• Obtain software industry certifications(s) needed for a chosen career path.</li> <li>• Design, develop, and deliver advance web content and applications using web design programs.</li> </ul>	
<b>Advanced</b>	
<ul style="list-style-type: none"> <li>• Use advance word processing, desktop publishing, database, spreadsheet, presentation, and multi-media software features for professional applications.</li> <li>• Obtain software industry certifications(s) needed for a chosen career path.</li> <li>• Analyze cost benefit and life cycle of software.</li> </ul>	<b>CC.9-12.A.SSE.1:</b> Interpret expressions that represent a quantity in terms of

	its context.
<ul style="list-style-type: none"> <li>• Design, develop, and deliver advance web content and applications using web design programs.</li> </ul>	
<ul style="list-style-type: none"> <li>• Plan and develop a database schema that explores industry standards for cross-platform interface development.</li> </ul>	

**Content Standard 6: Programming and Application Development  
Design, Develop, Test, and Implement Programs**

**6.0 Demonstrate the ability to code**

CT Personal Finance FRAMEWORKS PERFORMANCE STANDARDS 1-7	Mathematics Crosswalk Common Course State Standard 9-12
<b>Beginning</b>	
<ul style="list-style-type: none"> <li>• Identify and explain programming structures.</li> </ul>	
<b>Intermediate</b>	
<ul style="list-style-type: none"> <li>• Choose the appropriate language or application development tool for specific tasks.</li> <li>• Apply design principles to programming tasks.</li> <li>• Test, debug, and document code.</li> </ul>	
<b>Advanced</b>	
<ul style="list-style-type: none"> <li>• Maintain and reengineer existing code.</li> <li>• Create a project to solve a business problem integrating mobile platforms.</li> <li>• Obtain programming industry certification(s) needed for a chosen career path.</li> </ul>	

**Content Standard 7: Networking Infrastructure and Security  
Develop skills for networking and security.**

**6.0 Develop skills to design, deploy, and administer networking and security procedures for IT.**

CT Personal Finance FRAMEWORKS PERFORMANCE STANDARDS 1-7	Mathematics Crosswalk Common Course State Standard 9-12
<b>Beginning - Strand 1</b>	
<ul style="list-style-type: none"> <li>• Identify and use basic networking resources.</li> </ul>	
<b>Intermediate – Strand 1</b>	

<ul style="list-style-type: none"> <li>Identify network devices, including connectivity hardware, and describe their functions.</li> </ul>	
<ul style="list-style-type: none"> <li>Distinguish among network environments (e.g., peer-to-peer, client server, thin client, n-tier, INTERNETWORKS, intranets, extranets).</li> </ul>	
<ul style="list-style-type: none"> <li>Compare and contrast the OSI model with protocols (e.g., TCP/IP, IPX/SPX). Apply path determination, routing, and addressing schemes to administer networks.</li> </ul>	
<ul style="list-style-type: none"> <li>Install and configure routers to simulate LAN/WAN environment.</li> </ul>	
<b>Advanced – Strand 1</b>	
<ul style="list-style-type: none"> <li>Design hardware and software network security solutions (e.g., VPN, SSL, and Firewall).</li> </ul>	
<ul style="list-style-type: none"> <li>Obtain the networking industry certification needed in a chosen career path.</li> </ul>	
<b>Beginning – Strand 2</b>	
<ul style="list-style-type: none"> <li>Adhere to privacy, safety and security policies and legislation.</li> </ul>	
<ul style="list-style-type: none"> <li>Identify and discuss privacy issues within an organization.</li> </ul>	
<b>Intermediate – Strand 2</b>	
<ul style="list-style-type: none"> <li>Implement the procedures used to recover information from failures and security breaches.</li> </ul>	
<ul style="list-style-type: none"> <li>Implement controls to prevent loss of integrity of data and other information resources.</li> </ul>	
<b>Advanced – Strand 2</b>	
<ul style="list-style-type: none"> <li>Design and implement a security plan for an information system.</li> </ul>	
<ul style="list-style-type: none"> <li>Develop and implement disaster prevention and recovery policies and procedures.</li> </ul>	