

CompuScholar, Inc.

Alignment to New York Computer Science and Digital Fluency Standards

9th - 12th Grade

New York Standards Information:

CS Page	New York Computer Science Education Page
Standards Link:	See above for link to latest standards draft (to be finalized Aug 2021)

CompuScholar Courses in this Grade Band:

Course Title:	Digital Savvy , ISBN 978-0-9887070-8-5 Course Description and Syllabus
Course Title:	Web Design , ISBN 978-0-9887070-3-0 Course Description and Syllabus
Course Title:	Python Programming , ISBN 978-1-946113-00-9 Course Description and Syllabus
Course Title:	Java Programming (Abridged) , ISBN 978-0-9887070-4-7 Course Description and Syllabus
Course Title:	Java Programming (AP) , ISBN 978-0-9887070-2-3 Course Description and Syllabus
Course Title:	Windows Programming with C# , ISBN 978-0-9887070-0-9 Course Description and Syllabus
Course Title:	Unity Game Programming , ISBN 978-0-9887070-7-8 Course Description and Syllabus

New York's Computer Science and Digital Fluency standards are broken into grade bands that list skills that should be mastered by the end of the band. They may be taught in any order over any combination of courses.

This document describes the CompuScholar course(s) that can be used to meet each standard. The citations DS, WD, PP, JP, WP, UGP correspond to the courses listed above, with JP including both "Abridged" and "AP" versions. For example, "DS, PP" means the skill is covered in our Digital Savvy and Python Programming

NOTE: This document is based on the January 2020 draft, which may be subject to change.

New York Computer Science and Digital Fluency Standards (High School)

Impacts of Computing	COMPUSCHOLAR COURSES
Society	
9-12.IC.1 - Evaluate the impact of computing technologies on equity, access, and influence in a global society.	DS
9-12.IC.2 - Debate laws and regulations that impact the development and use of computing technologies and digital information.	DS, WD, PP, JP, WP

Ethics	
9-12.IC.3 - Debate issues of ethics related to real world computing technologies.	DS, WD, PP, JP, WP
9-12.IC.4 - Assess personal and societal trade-offs related to computing technologies and privacy.	DS, WD, PP, JP, WP
9-12.IC.5 - Describe ways that complex computer systems can be designed for inclusivity and to mitigate unintended consequences.	DS, WD, PP, JP, WP
Accessibility	
9-12.IC.6 - Create accessible computational artifacts that meet standard compliance requirements or otherwise meet the needs of users with disabilities.	DS, WD
Career Paths	
9-12.IC.7 - Investigate the use of computer science in multiple fields	DS, PP, JP, WP

Computational Thinking	COMPUSCHOLAR COURSES
Modeling and Simulation	
9-12.CT.1 - Create a simple digital model that makes predictions of outcomes.	DS, JP, WP
Data Analysis and Visualization	
9-12.CT.2 - Collect data from multiple sources for use in a computational artifact.	DS, JP, WP
9-12.CT.3 - Refine and visualize a large data set using an appropriate tool in order to persuade an audience.	DS, JP, WP
Abstraction and Decomposition	
9-12.CT.4 - Decompose a program into parts in order to understand how the program should be organized and written.	PP, JP, WP, UGP
9-12.CT.5 - Create or remix one or more abstraction(s) utilizing multiple existing abstractions	PP, JP, WP, UGP
Algorithms	
9-12.CT.6 - Demonstrate how at least two classic algorithms work.	JP, WP, UGP
9-12.CT.7 - Analyze trade-offs related to two or more algorithms for completing the same task.	JP, WP
9-12.CT.8 - Identify a relevant module, library, or API and use it in a computer program to add a feature or functionality.	PP, JP, WP, UGP
Programming	
9-12.CT.9 - Design or remix a program that utilizes data structures to store and modify a set of related data.	PP, JP, WP, UGP
9-12.CT.10 - Develop a program that effectively uses control structures in order to create a computer program for practical intent, personal expression, or to address a societal issue.	DS, PP, JP, WP, UGP
9-12.CT.11 - Systematically test and refine programs using a range of test cases, based on anticipating common errors and user behavior.	DS, WD, PP, JP, WP, UGP

9-12.CT.12 - Collaboratively design and develop a program or computational artifact for a specific audience and create documentation outlining implementation features to inform collaborators and users.	DS, WD, PP, JP, WP, UGP
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Network and Systems Design	COMPUSCHOLAR COURSES
Hardware & Software	
9-12.NSD.1 - Design a solution to a problem that utilizes embedded systems.	N/A
9-12.NSD.2 - Explain the levels of interaction existing between the application software, system software, and hardware of a computing system.	DS, JP, WP
9-12.NSD.3 - Develop and communicate multi-step troubleshooting strategies others can use to identify and fix problems with computing devices and their components.	DS, WD, PP, JP, WP, UGP
Networks and the Internet	
9-12.NSD.4 - Describe the design characteristics that allow data and information to be moved, stored and referenced over the Internet.	DS, WD, JP, WP
9-12.NSD.5 - Describe how emerging technologies are impacting networks and how they are used.	DS, WD

Cybersecurity	COMPUSCHOLAR COURSES
Risks	
9-12.CY.1 - Determine the types of personal and organizational information and digital resources that an individual may have access to that needs to be protected.	DS, WD, PP, JP, WP
Safeguards	
9-12.CY.2 - Describe physical, digital, and behavioral safeguards that can be employed to protect the confidentiality, integrity, and accessibility of information	DS, WD, JP, WP
9-12.CY.3 - Explain specific trade-offs when selecting and implementing security recommendations.	DS, WD, JP, WP
9-12.CY.4 - Evaluate applications of cryptographic methods.	DS, WD
Response	
9-12.CY.5 - Recommend multiple potential actions to take in response to various types of digital security breaches.	DS

Digital Literacy	COMPUSCHOLAR COURSES
Digital Use	
9-12.DL.1 - Type proficiently on a keyboard.	DS
9-12.DL.2 - Communicate and work collaboratively with others using digital tools to support individual learning and contribute to the learning of others.	DS, WD, PP, JP, WP, UGP

9-12.DL.3 - Online searching	(mastery reached by grade 8)
9-12.DL.4a - Independently select advanced digital tools and resources to create, revise, and publish complex digital artifacts or collection of artifacts.	DS
9-12.DL.4b - Transfer knowledge of technology operations in order to use new and emerging technologies on multiple platforms.	DS, WD, PP, JP, WP, UGP
Digital Citizenship	
9-12.DL.5 - Actively manage digital presence and footprint to reflect an understanding of the permanence and potential consequences of actions in online spaces.	DS, PP, JP, WP
9-12.DL.6 - Design and implement strategies that support safety and security of digital information, personal identity, property, and physical and mental health when operating in the digital world.	DS, PP, JP, WP