Dublin City Schools
STEAM
Graded Course of Study
2022

DCS STEAM Vision

Dublin City Schools is committed to providing purposeful STEAM learning experiences to students throughout their K-12 journey. These experiences will be in the form of integrated, interdisciplinary experiences as well as focused pathways in the areas of STEAM.

We commit to transforming STEAM into more than the integration of Science, Technology, Engineering, and Mathematics with vision to expand ownership to all disciplines and grade levels. By creating a culture of thinking, curiosity and creativity across content, students will engage in interest based learning that will help them develop the attitudes and skills that will support them in a variety of career and life pathways. These learning experiences will support students as lifelong, adaptable learners who can thrive in a quickly changing world.

We believe in STEAM learning for all students and commit to creating equitable access so that our STEAM classrooms are representative of our school populations and communities.

Instructional Agreements:

- We recognize the importance of early access and exposure to STEAM learning.
- We prioritize learning where students will identify and solve open-ended problems and engage in experiential learning.
- We will engage students through a lens of design thinking and promote opportunities for PBL.
- We will provide students with industry connections and experiences.
- We prioritize educating the whole child, in addition to our content. This includes a commitment to employability skills and emotional intelligence.
- We value students seeing themselves in STEAM fields.

MODERN LITERACY - Grade 6

Course Goals: Modern Literacy is designed to empower students to think critically, behave safely, and participate responsibly in our digital world. Students will engage with computer science as a medium for creativity, communication, problem solving, and engagement. Topics will include Digital Citizenship & Etiquette, News & Media Literacy and Coding with HTML and CSS.

News & Media Literacy		
Credible News & Resources		
Strand	**Topic**	**Content Statements**
Information & Communications Technology (OH Tech) The understanding and application of digital learning tools for accessing, creating, evaluating, applying and communicating ideas and information.	1. Identify and use appropriate digital learning tools and resources to accomplish a defined task.	6-8.ICT.1.c. Evaluate the use of digital learning tools and resources to support learning and productivity.
	2. Use digital learning tools and resources to locate, evaluate and use information.	6-8.ICT.2.a. Use advanced search techniques to locate needed information using digital learning tools and resources. 6-8.ICT.2.b. Use multiple criteria to evaluate the validity of information found with digital learning tools and resources. 6-8.ICT.2.c. Apply principles of copyright, use digital citation tools and use strategies to avoid plagiarism.
	3. Use digital learning tools and resources to construct knowledge.	6-8.ICT.3.a. Analyze and integrate textual, visual and quantitative information (e.g., images, diagrams, maps, graphs, infographics, videos, animations, interactives) from multiple digital learning tools and resources. 6-8.ICT.4.b. Select and use a variety of media formats to communicate information to a target audience.

		6-8.ICT.4.d. Evaluate the effectiveness of a digital tool to communicate information with multiple audiences.
Reading in Science & Technical Subjects (OH ELA)	Integration of Knowledge and Ideas	RST.6-8.8 Distinguish among facts, reasoned judgment based on research findings, and speculation in a text. RST.6-8.9 Compare and contrast the information gained from experiments, simulations, video, or multimedia sources with that gained from reading a text on the same topic.
Writing in Science & Technical Subjects (OH ELA)	Production and Distribution of Writing	WHST.6-8.6 Use technology, including the Internet, to produce and publish writing and present the relationships between information and ideas clearly and efficiently.
	Research to Build and Present Knowledge	WHST.6-8.8 Gather relevant information from multiple print and digital sources, using search terms effectively; assess the credibility and accuracy of each source; and quote or paraphrase the data and conclusions of others, while avoiding plagiarism and following a standard format for citation.

News & Media Literacy		
Media Bias		
Strand	**Topic**	**Content Statements**
Information & Communications Technology (OH Tech) The understanding and	2. Use digital learning tools and resources to locate, evaluate and use information.	6-8.ICT.2.b. Use multiple criteria to evaluate the validity of information found with digital learning tools and resources.

News & Media Literacy		
Media Bias		
Strand	**Topic**	**Content Statements**
application of digital learning tools for accessing, creating, evaluating, applying and communicating ideas and information.	3. Use digital learning tools and resources to construct knowledge.	6-8.ICT.3.a. Analyze and integrate textual, visual and quantitative information (e.g., images, diagrams, maps, graphs, infographics, videos, animations, interactives) from multiple digital learning tools and resources
Reading in Science & Technical Subjects (OH ELA)	Key Ideas and Details	RH.6-8.1 Cite specific textual evidence to support analysis of primary and secondary sources.
	Craft and Structure	RH.6-8.6 Identify aspects of a text that reveal an author's perspective or purpose (e.g., loaded language, inclusion or avoidance of particular facts)
Writing in Science & Technical Subjects (OH ELA)	Production and Distribution of Writing	WHST.6-8.6 Use technology, including the Internet, to produce and publish writing and present the relationships between information and ideas clearly and efficiently.
	Research to Build and Present Knowledge	WHST.6-8.9 Draw evidence from informational texts to support analysis, reflection, and research.

Digital Citizenship & Etiquette		
Strand	**Topic**	**Content Statements**
ISTE 2 Digital Citizen Students recognize the rights, responsibilities and	Plagiarism, Copyright & Photorights	2.c Students demonstrate an understanding of and respect for the rights and obligations of using and sharing intellectual property.

opportunities of living, learning and working in an interconnected digital world, and they act and model in ways that are safe, legal and ethical.	Cyberbullying and Social Media Etiquette	2.b Students engage in positive, safe, legal and ethical behavior when using technology, including social interactions online or when using networked devices.
	Digital Safety	2.d Students manage their personal data to maintain digital privacy and security and are aware of data-collection technology used to track their navigation online.
	Digital Footprint	2.a Students cultivate and manage their digital identity and reputation and are aware of the permanence of their actions in the digital world.
Networks and the Internet (OH Comp Sci)	Cybersecurity	NI.C.6.a Identify cybersecurity concerns and measures needed to protect electronic information. NI.C.6.b Identify the different types of malware to understand threats to data security. NI.C.6.c Identify ways to protect private information.

<u>Coding Language</u> HTML/CSS Creation		
Strand	**Topic**	**Content Statements**
Algorithmic Thinking and Programming (OH Comp Sci)	Modularity	ATP.M.6.a Decompose problems into parts to facilitate the design, implementation and review of programs.
	Program Development	ATP.PD.6.a Write code that utilizes algorithms, variables and control structures to solve problems or as a creative expression.

		ATP.PD.6.b Test and trace to debug and refine code.
Information & Communications Technology (OH Tech) The understanding and application of digital learning tools for accessing, creating, evaluating, applying and communicating ideas and information.	1. Identify and use appropriate digital learning tools and resources to accomplish a defined task.	6-8.ICT.1.a. Develop criteria for selecting digital learning tools and resources to accomplish a defined task. 6-8.ICT.1.b. Select and use digital learning tools or resources to support planning, implementing and reflecting upon a defined task. 6-8.ICT.1.c. Evaluate the use of digital learning tools and resources to support learning and productivity.
	2. Use digital learning tools and resources to locate, evaluate and use information.	6-8.ICT.2.a. Use advanced search techniques to locate needed information using digital learning tools and resources. 6-8.ICT.2.b. Use multiple criteria to evaluate the validity of information found with digital learning tools and resources. 6-8.ICT.2.c. Apply principles of copyright, use digital citation tools and use strategies to avoid plagiarism.
	3. Use digital learning tools and resources to construct knowledge.	6-8.ICT.3.a. Analyze and integrate textual, visual and quantitative information (e.g., images, diagrams, maps, graphs, infographics, videos, animations, interactives) from multiple digital learning tools and resources. 6-8.ICT.3.c. Create artifacts using digital learning tools and resources to demonstrate knowledge. (portfolio)

	4. Use digital learning tools and resources to communicate and disseminate information to multiple audiences.	6-8.ICT.4.a. Use digital learning tools and resources to identify communication needs considering goals, audience and content. 6-8.ICT.4.b. Select and use a variety of media formats to communicate information to a target audience. 6-8.ICT.4.c. Discuss and identify ways to communicate and disseminate information so that users with varied needs can access information. 6-8.ICT.4.d. Evaluate the effectiveness of a digital tool to communicate information with multiple audiences.
Society and Technology (OH Tech) The interconnectedness of technology, self, society and the natural world, specifically addressing the ethical, legal, political and global impact of technology.	3. Explain how technology, society and the individual impact one another.	6-8.ST.3.e. Manage components of one's digital identity and one's digital footprint.
Reading in Science & Technical Subjects (OH ELA)	Craft and Structure (Coding as a Language)	RST.6-8.4 Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to grades 6–8 texts and topics.
		RST.6-8.5 Analyze the structure an author uses to organize a text, including how the major sections contribute to the whole and to an understanding of the topic.

Writing in Science & Technical Subjects (OH ELA)	Text Types and Purposes	WHST.6-8.2 Write informative/explanatory texts, including the narration of historical events, scientific procedures/ experiments, or technical processes. b. Introduce a topic clearly, previewing what is to follow; organize ideas, concepts, and information into broader categories as appropriate to achieving purpose; include formatting (e.g., headings), graphics (e.g., charts, tables), and multimedia when useful to aid comprehension.
	Production and Distribution of Writing	WHST.6-8.4 Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience. WHST.6-8.6 Use technology, including the Internet, to produce and publish writing and present the relationships between information and ideas clearly and efficiently.