Ohio's Learning Standards and Model Curriculum for Technology: Glossary

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This glossary includes definitions for terms found in Ohio's Learning Standards and Model Curriculum for Technology. The glossary does not provide an exhaustive list of terms.

A-C

Glossary Term	Definition
Accessibility/Accessible	(1) When diverse users are afforded the opportunity to acquire the same information, engage in the same interactions and enjoy the same services in an equally integrated and equally effective manner, with substantially equivalent ease of use. (Adapted from the U.S. Department of Education, Office of Civil Rights, 2013) (2) Technology that has been designed in a way so that it can be accessed and used by members of a diverse population, providing the necessary accommodations to users. (3) (*see Digital Divide*)
Accessibility Principles	Principles that consider the needs of diverse users upfront to design products, devices, services, environments or facilities that can be accessed and used by as many people as possible, including people with disabilities. (*see Inclusive Design and Universal Design*)
Aesthetics	How humans perceive and judge the attractiveness of an object. (International Technology and Engineering Educators Association [ITEEA], 2020)
Artifact	A human-made object.
Asynchronous	Learning that occurs in elapsed time between two or more people. Examples include email, online discussion forums, message boards, blogs and podcasts. (EdReports.org, n.d.)
Boolean Operators	Searching that enables combining keywords and phrases to narrow, expand or limit search results. The words AND, OR and NOT are common Boolean operators used as conjunctions to combine or exclude keywords in a search (such as *John AND Glenn, Astronaut NOT Senator*).

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Glossary Term	Definition
CAD (Computer-aided Design or Computer-aided Drafting	(1) The use of a computer to assist in the process of designing a part, circuit, building or other system or artifact. (2) The use of a computer to assist in the process of creating, storing, retrieving, modifying, plotting and communicating a technical drawing. (ITEEA, 2020)
Closed Loop System	A system that uses feedback from the output to control the input and processes of the system. (ITEEA, 2020)
Communication Plan	A plan that lays out the approach to providing a target audience(s) with information. The plan defines who should be given specific information, when that information should be delivered and what communication channels will be used to deliver the information. A communications plan anticipates what information will need to be communicated to specific audience segments and how information will be disseminated (such as through email, websites, printed reports, and/or presentations). (TechTarget, 2015)
Complex System	A system consisting of many interconnected or interwoven parts that interact in such ways as to produce outputs that cannot always be predicted. (ITEEA, 2020)
Computational Thinking	A problem-solving process that involves formulating problems in a way that can be carried out by a computer. Using computational thinking to solve a problem includes breaking down the problem into manageable parts; recognizing patterns; excluding irrelevant details to abstract general principles that generate these patterns and developing step-by-step sequences or algorithms to solve the problem and similar problems.
Constraint	A limit to the design process. Constraints may concern such things as appearance, costs, time, space, materials and human capabilities.
Control	An arrangement of chemical, electronic, electrical and mechanical components that commands or directs the management of a system. (ITEEA, 2007)
Copyright	A body of exclusive rights granted by law to copyright owners for protection of original works of authorship. (U.S. Copyright Office, n.d.) Provides the exclusive legal right to reproduce, publish, sell or distribute original works, including literary, dramatic, musical and artistic works, and to authorize others to do the same.

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Glossary Term	Definition
Core Concepts of Technology	Concepts include systems, resources, requirements, optimization and trade-offs, processes and controls. *(see core concept terms, such as systems and resources, for their definitions)*
Creative Commons License	Licenses that provide a standardized way for creators to grant copyright permissions to their creative work. (Creative Commons, n.d.) A Creative Commons licensor can determine certain conditions of a license within the boundaries of copyright law, such as whether to allow commercial use and the sharing of work in adapted form.
Criterion/Criteria (pl.)	A desired specification (element or feature) of a product or system. (ITEEA, 2020)

D-F

Glossary Term	Definition
Design	An iterative decision-making process that produces plans by which resources are converted into products or systems that meet perceived human needs and wants or solve problems. (ITEEA, 2020)
Design Principles	Design rules regarding rhythm, balance, proportion, variety, emphasis and harmony used to evaluate existing designs and guide the design process. (ITEEA, 2007)
Design Process	*(see Engineering Design Process)*
Digital Citation Tools	Digital tools to help organize, manage and format citations for research.
Digital Content	Electronic media that allows students to seek and manipulate information. Includes primary and secondary sources such as images, sound, video and other artifacts converted to digital format.
Digital Divide	Refers to the gap between individuals, households, demographics and regions regarding both their opportunities to access information and communications technology (ICT) and to their use of the internet for a wide variety of activities. (Organization for Economic Co-operation and Development [OECD], 2006)
Digital Etiquette	The personal responsibility all users have to conduct themselves online appropriately and with integrity.

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Glossary Term	Definition
Digital Footprint	A trail of data a person creates while using the internet, such as the websites visited, web searches conducted, emails sent, posts to social media and information submitted to online services. Digital data shared online may likely remain online permanently (TechTerms.com, 2014)
Digital Identity	How an individual is represented online in the public domain, based on activities, connections or tagging, such as social media posts, photos and public online comments. (International Society for Technology in Education [ISTE], 2016)
Digital Learning Tool	A digital tool, such as an app, device, simulation or program people use to accomplish learning objectives and support learning.
Digital Tattoo	*(see Digital Footprint)*
Efficient (Efficiency)	Operating or performing in an effective and competent manner with a minimum of wasted time, energy or waste products. (ITEEA, 2007)
Engineering	The profession of or work performed by an engineer. Engineering involves the knowledge of the mathematical and natural sciences (biological and physical) gained by study, experience and practice that are applied with judgment and creativity to develop ways to use the materials and forces of nature for the benefit of humankind. (ITEEA, 2007)
Engineering Design Process	A systematic problem-solving strategy, with criteria and constraints, used to develop many possible solutions to a problem and to narrow down the possible solutions to one final choice. (ITEEA, 2007, 2020) Typical steps include identifying a need, researching, generating alternative solutions, modeling the best idea, testing and evaluation, and redesigning.
Ethical	Conforming to an established set of principles or accepted professional standards of conduct. (ITEEA, 2020) Ethical use includes using resources legally and with respect to copyright and other limitations on use. It also includes protocols and restrictions placed on the use of computers and networks.
Evaluation	The collection and processing of information and data to determine how well a design meets its requirements and to provide direction for improvements. (ITEEA, 2020)

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Glossary Term	Definition
Fair Use	A legal doctrine that promotes freedom of expression by permitting the unlicensed use of copyright-protected works in certain circumstances. Determination of fair use is based on four factors: purpose and character of the use, the nature of the copyrighted work, the amount or substantiality of the portion used and the effect of the use on the potential market for or value of the work. (U.S. Copyright Office, 2021)
Filtering (a search)	Enables limiting search results to a reduced set that matches the selected filter(s), such as document type, publication year and language.
Forecast	A statement about future trends, usually as a probability, made by examining and analyzing available information. A forecast also is a prediction about how something will develop, usually as a result of study and analysis of available pertinent data. (ITEEA, 2020)
Form Follows Function	A design principle suggesting that the end use or purpose of an item or product should help set the criteria for the design and fabrication of the item or product produced.
Functional Element	The functional element considers if the product fulfills the intended purpose.

H-I

Glossary Term	Definition
Human-Designed World	Technological products, processes and systems reflecting the modifications that humans have made to the natural world to satisfy their own perceived needs and wants.
Inclusive Design	Applying the principles of inclusive design requires considering the needs of diverse users from the start of the design process. Inclusive design focuses on the diversity and uniqueness of each individual user, as well as the range of disabilities for which access needs to be developed. This means including and learning from people with a range of perspectives.
Infrastructure	1) The basic framework or features of a system or organization. (2) The basic physical systems that support a country or a community's population, including transportation and utilities. (ITEEA, 2020)

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Glossary Term	Definition
Innovation	An improvement of an existing technological product, system or method of doing something. (ITEEA, 2020)
Input	Something put into a system, such as a resource(s), to achieve a result. (ITEEA, 2020)
Intellectual Property	Any intellectual creation (such as musical works, inventions, designs, images, literary works and computer code) that the law protects from unauthorized use by others.
Invention	A new product, system or process that has never existed before, created by study and experimentation. (ITEEA, 2020)
Iterative	Describes the repetition of a procedure or process, usually until some condition is satisfied. In design, iteration refers to revisiting stages in the process to achieve improved design outcomes. (ITEEA ,2020)

M-P

Glossary Term	Definition
Machine	A device with fixed and moving parts that modifies mechanical energy to do work. (ITEEA, 2007)
Material	The tangible substance (physical, chemical, biological or composite) that goes into the makeup of a physical object. One of the basic resources used in a technological system. (ITEEA, 2020)
Media	Refers to various means of communication. Types of media can include electronic materials and interactive audio and visual media as well as more traditional media, such as newspapers, magazines, television, radio and movies.
Model	A visual, mathematical or three-dimensional representation of an object or design in detail, often smaller than the original. A model is often used to test ideas, make changes to a design and learn more about what would happen to a similar, real object. (ITEEA, 2007)
Multimedia	Information that is mixed and transmitted from a number of formats, such as video, audio and data. (ITEEA, 2020)

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Glossary Term	Definition
Nested Search	A search technique that uses parentheses to clarify relationships between search terms. Nesting uses parentheses to keep concepts that are alike together, instructing the database to look for search terms in the parentheses first.
Open Loop System	A control system that has no means for comparing the output with input for control purposes. Control of open loop systems often requires human intervention. (ITEEA, 2020)
Optimization	(1) An act, process or methodology used to make a design or system as effective or functional as possible within the given criteria and constraints. (2) An engineering practice whose goal is to find the most effective solution to a problem and use the fewest resources to create the best product. (ITEEA, 2020)
Output	The results of the operation of any system. (ITEEA, 2020)
Patent	A government authority or license giving inventors the right to exclude all others from making, using or selling their inventions.
Piracy	The act of illegally reproducing or disseminating copyrighted material, such as computer programs, books, music and films. (Encyclopedia Britannica, 2014)
Plagiarism	The act of taking the work or ideas of another person and passing them off as one's own.
Process	A systematic sequence of actions that combines resources to produce an output. (ITEEA, 2020)
Product	A tangible artifact produced by means of either human or mechanical work or by biological or chemical processes. (ITEEA, 2020)
Prototype	A full-scale working model used to test a design concept by making observations and necessary adjustments. (ITEEA, 2020)
Proximity Search	Enables a search for two or more search terms that occur within a set number of words from each other.

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R-U

Glossary Term	Definition
Real-Time	*(see Synchronous)*
Requirements	The parameters placed on the development of a product or system. Requirements may include safety needs, physical laws that will limit the development of an idea, available resources, cultural or societal norms and functional criteria and constraints. (ITEEA, 2020)
Resources	The things needed to get a job done. In a technological system, the basic technological resources are energy, capital, information, machines and tools, materials, people and time. (ITEEA, 2020)
Speech-to-Text	Technology that enables recognizing and translating spoken words into text. (*see Text-to-Speech*)
Subsystem	A division of a system that, in itself, has the characteristics of a system. (ITEEA, 2020)
Synchronous	Real-time learning in which participants interact at the same time and in the same space, such as virtual meetings and chats. (Adapted from the International Association for K-12 Online Learning [iNACOL], 2011)
System	A group of interacting, interrelated or interdependent elements or parts that function together as a whole to accomplish a goal. (ITEEA, 2020)
System Dynamics	The potential for change in a system and its subsystems.
Systems Theory	The study of how systems interact, providing tools and methods for understanding and solving complex problems.
Systems Thinking	A technique for looking at a problem in its entirety, looking at the whole as distinct from each of its parts or components. Systems thinking attempts to consider all the variables affecting, and affected by, a system, including both its social and technological characteristics. (ITEEA, 2020)
Technology	(1) The modification of the natural environment, through human-designed products, systems and processes, to satisfy perceived needs and wants. (2) A broad reference to the tools, machines or systems that result from this modification. (ITEEA, 2020)
Technology Systems	System categories include energy and power technologies, transportation technologies, manufacturing technologies, construction technologies, information and communication technologies, medical technologies and agricultural and related biotechnologies.

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Glossary Term	Definition
Technology Transfer	The process by which an invention or innovation developed for a specific purpose within one application can be used for a different purpose(s) in another application.
Text-to-Speech	Technology that can take digital text and convert it to synthesized speech. This is the opposite of speech to text, where a technology translates spoken words into text. (*see Speech-to-Text*)
Tool	A device that is used by humans to complete a task. (ITEEA, 2020)
Trade-Off	An exchange of one thing in return for another; especially, relinquishment of one benefit or advantage for another regarded as more desirable.
Trademark	Words, names, symbols, designs or slogans used by manufacturers or merchants to identify their goods or services and distinguish them from those manufactured or sold by others.
Universal Design	Design of products and environments based on principles of equitable use, flexibility in use, simple and intuitive use, perceptible information, tolerance for error, low physical effort and size and space for approach and use. Applying the principles of universal design requires considering the needs of diverse users from the start of the design process.

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References

Creative Commons. (n.d.). *About the licenses.* https://creativecommons.org/licenses/

EdReports.org. (n.d.). *Key terms to better understand remote learning and education technology*. https://www.edreports.org/resources/article/key-terms-to-better-understand-remote-learning-and-education-technology

Hosch, W. L. (2014, May 2). *Piracy*. Encyclopedia Britannica. https://www.britannica.com/topic/piracy-copyright-crime.

International Association for K-12 Online Learning (iNACOL). (2011, October). *The online learning definitions project*. Aurora Institute. https://aurora-institute.org/wp-content/uploads/iNACOL_DefinitionsProject.pdf

International Society for Technology in Education (ISTE). (2016). *ISTE standards for students.* https://www.iste.org/standards/iste-standards-for-students

International Technology and Engineering Educators Association (ITEEA). (2020). *Standards for technological and engineering literacy: The role of technology and engineering in STEM education.* https://www.iteea.org/STEL.aspx.

International Technology and Engineering Educators Association (ITEEA). (2007). *Standards for technological literacy: Content for the study of technology.* https://www.iteea.org/Activities/2142/STEL/get-stel.aspx.

Organization for Economic Co-operation and Development (OECD). (2006, January 4). *Glossary of statistical terms.* https://stats.oecd.org/glossary/detail.asp?ID=4719

TechTarget. (2015). Communication plan. In *Whatis.com*. https://whatis.techtarget.com/definition/communication-plan

TechTerms. (2014.). Digital footprint. In *TechTerms.com computer dictionary*. http://www.techterms.com/definition/digital_footprint

U.S. Copyright Office. (2021, May). *More information on fair use*. https://www.copyright.gov/fair-use/more-info.html

U.S. Copyright Office. (n.d.). *U.S. Copyright Office definitions*. https://www.copyright.gov/help/faq/definitions.html

U.S. Department of Education, Office of Civil Rights. (2013, February 28). *Resolution agreement: South Carolina Technical College System OCR compliance review no. 11-11 6002.* https://www2.ed.gov/about/offices/list/ocr/docs/investigations/11116002-b.html

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