Wisconsin's Approach to Standards for Computer Science (CS)

The learning priorities and performance indicators contained within each set of CS standards consists of knowledge and skills specific to each of the five strands:

● **Algorithms and Programming**
Standard: AP1: Students will recognize and define computational problems using algorithms and
        programming.
        AP1.a: Develop algorithms

Standard: AP2: Students will create computational artifacts using algorithms and programming.
        AP2.a Develop and implement an artifact

Standard: AP3: Students will communicate about computing ideas
        AP3.a Recognize and cite sources
        AP3.b Communicate about technical and social issues
        AP3.c Document code

Standard: AP4: Students will develop and use abstractions.
        AP4.a Create and use abstractions (representations) to solve complex computational problems

Standard: AP5: Students collaborate with diverse teams.
        AP5.a Work together to solve computational problems using a variety of resources.
        AP5.b Fostering an inclusive computing culture

 Standard: AP6: Students test and refine computational solutions.
        AP6.a Test and debug computational solutions
        AP6.b Develop and apply success criteria

● **Computing Systems**
Standard: CS1: Students will communicate about computing systems.
        CS1.a: Identify hardware and software components
        CS1.b: Understand how the components of a computer system work together

Standard: CS2: Students will test and refine computing systems.
        CS2.a: Problem solve and debug

Standard: CS3: Students will develop and use abstractions in computing systems.
        CS3.a: Generalize in computer systems

Standard: CS4: Students will create and modify computing systems.
        CS4.a: Modify and create computational artifacts

● **Data and Analysis**

Standard: DA1: Students will create computational artifacts using data and analysis

      DA1.a: Represent and manipulate data

Standard: DA2: Students will recognize and define data in computational problems

      DA2.a: Gather data to support computational problem solving

      DA2.b: Categorize and analyze data

Standard: DA3: Students will communicate about data in computing

      DA3.a: Communicate about data

Standard: DA4: Students will develop and use data abstractions

      DA4.a: Model with data

      DA4.b: Identify patterns

● **Impacts of Computing**

Standard: IC1: Students will understand the impact and effect computing technology has on our everyday lives

      IC1.a: Understand the impact technology has on our everyday lives and the effects of computing on the economy and culture.

      IC1.b: Understand the effects of computing on communication and relationships

Standard: IC2: Students will experience learning within a collaborative, inclusive computing culture and explain the steps needed to ensure that all people have access to computing.

      IC2.a Understand the effects of the digital divide

      IC2.b: Test and refine digital artifacts for accessibility

      IC2.c: Collaborate ethically in the creation of digital artifacts

Standard: IC3: Students will understand the importance of proper use of data and information in a computing society.

      IC3.a Understand intellectual property and fair use

      IC3.b Assess the practice of digital privacy

      IC3.c: Assess interrelationship between computing and society

● **Networks and the Internet**

Standard: NI1: Students will understand the importance of security when using technology.

      NI1.a: Use secure practices for personal computing

      NI1.b: Understand the importance of institutional security

Standard: NI2: Students will understand how information is sent by the internet.

      NI2.a: Demonstrate how the internet works at the physical layer

      NI2.b: Demonstrate how the internet works at the protocol layer

      NI2.c: Demonstrate how the internet works at the addressing layer

      NI2.d: Demonstrate and explain encryption methods