

K-12 Computer Science Plan for Burlington Community School District

Developed: October 2021-March 2022

Board Approved: March 28, 2022

Introduction

House File 2629, signed by Governor Reynolds on June 29, 2020, creates new requirements for Computer Science Instruction.

Computer science is the “study of computers and algorithmic processes, including their principles, their hardware and software designs, their applications, and their impact on society” (Tucker et al., 2003, p. 6). It means learning how to create new technologies rather than simply using them. Computer science is understanding how and why technologies work, exploring whether and how technology could solve real-life problems, investigating procedures, and creating solutions. Students learn about computing systems, programming, data, networks and the effects on society and the individual.

Iowa Department of Education, 2022

Information and guidance regarding these requirements can be found at <https://educateiowa.gov/pk-12/instruction/computer-science>

Vision, Mission, and Core Values

Vision Statement

The Burlington Community School District strives to have a profoundly positive impact on each students' adult quality of life brought about by their individual and collective educational experiences.

Mission Statement

Inspiring and challenging students through diverse opportunities.

Core Values

Quality Core Instruction

Culture of Mutual Respect and Learning

Collaboration

Effective and Efficient Operations

Computer Science Curriculum, Pathways, Scheduling, and Sequencing

Computer Science Standards

Iowa's computer science standards are the [CSTA K-12 Computer Science Standards](https://www.csteachers.org/page/standards), which were developed by the Computer Science Teachers Association.

<https://www.csteachers.org/page/standards>

Computer Science must be offered in at least one grade level, grades 1-6. (by 2023-2024 year)

BCSD currently teaches a Computer course as part of the regular exploratory curriculum taught in both 5th and 6th grades at Aldo Leopold Intermediate School.

BCSD computer science teachers, administrators, and TLC coaches are currently engaged in curriculum review and revision activities throughout the 2021-2022 and 2022-2023 school years to ensure alignment of these courses, at least in part, to Iowa's Computer Science Standards.

Computer Science must be offered in at least one grade level, grades 7-8. (by 2023-2024 year)

BCSD currently teaches a Computer course as part of the regular exploratory curriculum taught in both 7th and 8th grades at Aldo Leopold Intermediate School.

BCSD computer science teachers, administrators, and TLC coaches are currently engaged in curriculum review and revision activities throughout the 2021-2022 and 2022-2023 school years to ensure alignment of these courses, at least in part, to Iowa's Computer Science Standards.

At least one-half unit of Computer Science must be offered and taught at the high school level, grades 9-12. (by 2022-2023 year)

Burlington Community High School currently provides the following course options within the Program of Studies as part of the Information Sciences and Business Career Pathways.

- Computer Science Essentials (PLTW)
- Intermediate Computer Programming
- Cyber Security

Within our Program of Studies, Computer Science Essentials and Cyber Security are open to all students. Computer Science Essentials is a prerequisite course to Intermediate Computer Programming.

Burlington Community High School will offer and teach, at a minimum, one section of Computer Science Essentials or Cyber Security each year.

Computer Science Teacher Development

District and building administrators will ensure that Computer Science Teachers have access to necessary and appropriate professional development activities and collaboration opportunities. Teachers are encouraged to seek opportunities for Computer Science specific professional learning and bring these opportunities to administrators for consideration.

Computer Science Teachers may be assigned to attend certain professional learning activities based on the needs of the program and the District.

Teachers are responsible for engaging in the professional development activities necessary for regular renewal of their teaching license and any necessary endorsements for Computer Science Instruction (at this time, a specific Computer Science Endorsement is not required by the Board of Educational Examiners and Iowa Department of Education).

The Burlington Community School District has, and will continue, to work closely with Great Prairie Area Education Agency with regards to professional learning opportunities and supports related to Computer Science instruction.

Budget

The Burlington Community School District uses multiple funding sources to provide for Computer Science Instruction including General, Perkins, Teacher Quality/Professional Development, and Title IV-A Funds.

Equitable Access

In Grades 5-8, all students are scheduled to take the Computer Course as part of their rotation of exploratory courses.

In Grades 9-12, Computer Science Essentials and Cyber Security are open to any student as an elective course. Intermediate Computer Science is available to students who have successfully completed Computer Science Essentials.

Equity Reviews, including review of course enrollment data, are conducted annually.

Personnel to Support Computer Science

- District-level
 - The Director of Curriculum and Director of District Services will ensure that appropriate resources, support, and oversight are provided for Computer Science Programs.
- Building-level
 - School Principals are responsible for ensuring that courses are included in the course schedule each year and for providing regular support and evaluation for Computer Science teaching staff.
- Computer science teachers and technology specialists
 - Computer science teachers are responsible for designing and delivering instructional activities that are aligned with the Iowa Computer Science Standards and for collaborating with one another to coordinate alignment between courses.

Partners

- Business/Industry
 - Burlington Community School District IT Department
 - Drake Hardware
 - Southeast Iowa Regional Medical Center
 - Winegard
- Professional learning partners
 - Great Prairie Area Education Agency
 - Codelicious
- Higher education
 - Southeastern Community College
 - Indian Hills Community College

The District will seek to expand Work Experience opportunities in the area of Computer Science at the High School Level through our existing Multi-Occupations (MOC) Program.

District Computer Science Point of Contact

Director of Curriculum (Equity Coordinator for Educational Programs)

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Director of District Services (Including Career and Technical Education Programs)

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