Arkansas Computer Science and Computing Standards

High School Independent Study

2020

Arkansas Computer Science and Computing Standards for High School Independent Study

Introduction

A Computer Science and Computing Independent Study Program shall be designed to enrich the student's computer science educational experience. The student will be required to develop an educational plan, submit it to a local advisor or advisory board responsible for reviewing, monitoring, and approving the plan. The student will produce a final product for presentation.

Requirements for districts implementing a Computer Science and Computing Independent Study Program

A. The district school board must adopt a written policy outlining at minimum the following:
    a. Eligibility of students
    b. Independent Study Program admittance requirements
    c. Documentation, evaluation, and retention of Independent Study activities and hours
    d. Credit to be awarded to a student enrolled in a Computer Science and Computing Independent Study opportunity
        i. The district may decide to award credit to meet a Computer Science Flex Credit, Career Focus Credit, or local credit only
        ii. The district may award:
            1. 0.5 credit to a student completing a minimum of 60 independent study hours
            2. 1.0 credit to a student completing a minimum of 120 independent study hours
B. District policy and implementation of a Computer Science and Computing Independent Study Program must be in accordance with all applicable federal, state, and local laws and regulations.

A student's independent study plan must be tied directly to extending the computer science concepts found within:

- the most current revision of the Arkansas High School Computer Science and Computing Standards,
- College Board AP Computer Science Principles or College Board AP Computer Science A, and/or
- IB Computer Science SL or HL.

Implementation of the Arkansas Computer Science Standards for Independent Study begins during the 2021-2022 school year.

Course Titles:	Computer Science Independent Study
Course/Unit Credit:	1 credit per listed course code
Course Code:	465930
Teacher Licensure:	Please refer to the Course Code Management System (https://adedata.arkansas.gov/ccms/) for the most current licensure codes.
Grades:	9-12
Prerequisites:	There are no ADE established course prerequisites for any of the Arkansas Computer Science and Computing Initiative high school courses; it is up to the local district to determine placement based on student ability.

Computer Science and Computing Practices

Students exhibit proficiency in computer science and computing through:

Communication - Students effectively communicate, using accurate and appropriate terminology, when explaining the task completion or problem solving strategies used. They recognize that creating good documentation is an ongoing and important part of the communication process.

Collaboration - Students productively work with others while ensuring multiple voices are heard and considered. They understand that diverse thoughts may lead to creative solutions and that some problems may be best solved collaboratively.

Storytelling - Students creatively combine multimedia tools, such as graphics, animations, and videos with research, writing, and oral presentations to create ethical, data-driven stories.

Professionalism - Students embrace professionalism by demonstrating skills and behaviors necessary for success in technical careers.

Ethics and Impact - Students comprehend the ramifications of actions prior to taking them. They are aware of their own digital and cyber presence and its impact on other individuals and society.

Inclusion - Students encourage diversity in the field of computer science and computing regardless of race, ethnicity, gender, or other differences.

Learning by Failure - Students reflect upon and critique their work while embracing a willingness to seek feedback and constructive instruction from teachers and peers. They utilize the feedback to continually improve current projects, educational experiences, knowledge, and confidence.

Perseverance - Students expect difficulties and persist in overcoming challenges that occur when completing tasks. They recognize making and correcting mistakes is necessary for the learning process while problem solving.

Understanding - Students recognize patterns, utilize tools, and apply problem solving strategies to build understanding, find solutions, and successfully deliver high-quality work.

Patterns - Students understand and utilize the logical structure of information through identifying patterns and creating conceptual models. They decompose complex problems into simpler modules and patterns.

Problem Solving - Students exhibit proficiency through the process of identifying and systematically solving problems. They recognize problem solving is an ongoing process.

Research - Students purposefully gather information and seek to expand their knowledge through various methods and mediums. They embrace the practice of gaining knowledge to develop novel approaches for solving problems and addressing issues they have not previously encountered, in addition to merely searching for answers.

Tools - Students evaluate and select tools to be used when completing tasks and solving problems. They understand that appropriate tools may include, but are not limited to, their mind, pencil and paper, manipulatives, software applications, programming languages, or appropriate computing devices.

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