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Preparing Grades K-12 Computer Science Educators in Iowa

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Preparing Grades K-12 Computer Science Educators in Iowa

Dr. Ben Schafer

Department of Computer Science

As we start

- Slides, links, explanations, etc. for everything in this talk can be found at

csed.uni.edu/SciEd/

Outline

- History and current status of CS Education in Iowa
 - SF 274
- Getting trained in Computer Science
- Current Curricula in Computer Science

History

In 2017 the Iowa Senate passed SF 274

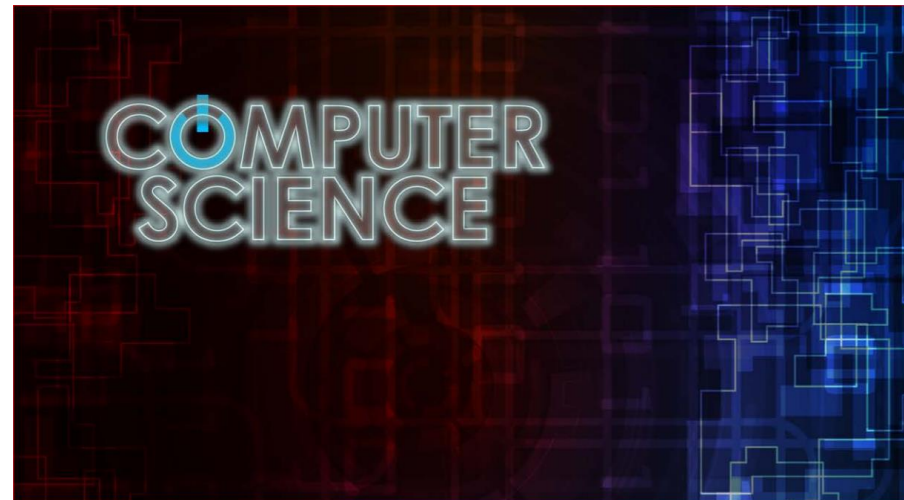
“An act relating to computer science education by providing for education standards by the state board of education, for instructor endorsements and authorizations issued by the BoEE, for establishment of a computer science PD incentive fund, and for the establishment of a computer science education work group.”

The goal of SF 274 is that by July 1, 2019, every elementary school will offer instruction in the fundamentals of computer science; every middle school will offer exploratory computer science; and every high school will offer at least one high-quality computer science course.

Working Group #1 – Defining CS in Iowa

Formed to address critical issues in expanding computer science opportunities for students statewide

- Met from May-October 2017
- Released Final Report Nov. 1, 2017



Recommendations

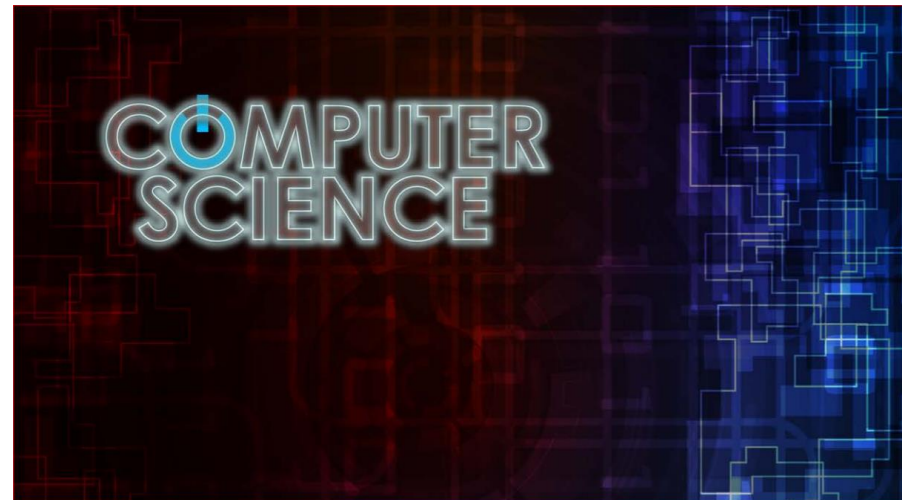
In accordance with SF 274, the Computer Science Education Work Group developed recommendations to address the following five issues stated in the legislation:

- How computer science courses could satisfy graduation requirements for math or science.
- How these courses could be integrated into a career and technical education pathway.
- The settings in which courses could be delivered (including in traditional high school settings, concurrent enrollment classes, and online).
- Guidelines for an appropriate scope and sequence of computer science instruction at each grade level.
- How the computer science professional development fund created in the legislation could be used to meet the goals of the law.

Working Group #2 – Scope and Sequence

Formed to review and recommend voluntary computer science academic standards to the Iowa State Board of Education, and identify professional learning needs.

- Meets January – May, 2018
- Initial recommendations are currently open for public comment.



Initial Recommendation



[ABOUT](#) [STANDARDS](#) [PRINTABLE](#) [PROGRESSION CHART](#) [GLOSSARY](#) [AUTHORS](#) [ATTRIBUTION](#)

CSTA K-12 Computer Science Standards, Revised 2017

Currently in Public Comment Phase



Computer Science Standards

Welcome

Thank you for taking time to provide feedback on the recommended Computer Science Standards. This survey is designed to obtain the opinions and comments of educators, parents, students, and the public in adopting the recommended Computer Science Standards, the Computer Science Teachers Association Standards. To review the complete set of CSTA standards, [click here](#).

NOTE: Use the buttons at the bottom of each screen to advance to the next screen, or to go back to the previous screen. Do not hit the back button on your browser control. Doing so will cause you to lose your progress.

This survey is designed to take between 5-30 minutes, depending upon the number of standards you wish to review.

Dates to know

- Public comment open through April 13
- Public discussions
 - April 10 – Johnston, Cedar Falls, and Bettendorf
 - April 12 – Iowa City, Council Bluffs, Fairfield, and Ida Grove

CS Endorsement for Iowa licenses

- Effective March 21, 2018 the Iowa BoEE offers a teaching endorsement for Iowa teaching licenses.
 - Currently NOT required to teach a CS course
 - Available for both K-8 and 5-12
 - Can be added as a secondary endorsement with 12 hours of specified content and 3 hours of methods
 - Can be earned as a primary endorsement with 24 hours of content and 3 hours of methods
 - “During the first year of implementation, the coursework requirements may be waived if the practitioner demonstrates relevant content knowledge mastery teaching experience in this endorsement area through criteria established by the board of educational examiners.”

PD Incentive Fund

- SF 274 included language for \$500,000 a year for a PD incentive fund.
- Schools/districts wishing to tap in to this fund to train their teachers would be required to meet state CS standards.
- This fund was included in the Governor's original budget this session.
- Current status???

Getting Trained in Computer Science

- University of Northern Iowa
 - csed.uni.edu
 - Starting a 2-year cohort summer 2018
 - Partially funded by the NSF
 - \$265 per course or FREE to partner school districts
 - Will complete 4 of the 5 courses required for the CS endorsement
- University of Nebraska-Omaha – Mostly on-campus coursework. 15 credit CORE and full 30 hour degree.
- College of St. Scholastica (Duluth, MN) – Masters Certificate, 4 online courses.

Current Computer Science Curricula

- Exploring Computer Science
- CS Discoveries
- CS Principles (with or without AP credit)
- AP Computer Science A in Java

CS Principles Curricula

- Code.org
- PLTW
- BJC
- Mobile CSP
- UTeach CSP
- CS50
- Code HS
- EarSketch
- CS Matters

Questions and Discussion

- These slides and all links are at:
 - cse.uni.edu/SciEd/