Teaching Computer Science Discoveries (CSD) Workshop

Workshop #1: Teaching Computer Science Discoveries Sherri Johnston Alaina Tubman	Workshop Location: Fresno County Superintendent of Schools 1111 Van Ness Avenue, Fresno California 93721 Contact: Jessica Peterson jpeterson@fcoe.org Or Byanca Arredondo 265-3898 x4159

Workshop description

Computer Science Discoveries (CSD) is appropriate for 6-10th-grade students and can be taught as a semester or year-long introductory course (3-5 hours per week of instruction for 9+ weeks). The course takes a wide lens on computer science by covering topics such as programming, physical computing, HTML/CSS, and data. Students engage with computer science as a medium for creativity, communication, problem-solving, and fun. The course inspires students as they build their own websites, apps, games, and physical computing devices.

In this workshop series of 5 summer days (31.5 hours) and 4 follow up days through the year (28 hours) and homework (.5 hours), you will learn pedagogy strategies to teach computer science using the online units, unplugged activities, online dashboard, and computer science basics so that you can implement the CSD curriculum in your classroom and teach the new California Computer Science (CS) standards.

Primary Outcomes

1. Identify basic elements of computer science for students in grades 6-9
2. Gain content knowledge of the California State adopted computer science standards
3. Prepare and teach computer science using online materials by Code.org and current research-based pedagogical practices
4. Prepare and teach computer science concepts using unplugged activities

Materials

A CSD teaching manual, an online collection of related resources, and an online Code.org dashboard, teacher forum.

Workshop requirements

- Attend all 8 full class sessions
- In-class assignments include participation in all class discussions and class assignments.
- The Instructor will evaluate the participant's understanding of course objectives through evaluation of final projects: Presentations of the lessons, and reflections of implementation strategies.
- A score of 80% - 100% will equal a final grade of Credit. A score below 80% will result in a final grade of no credit.
- Homework: (approx .5 hours to be spread over the course) Implementation and reflections

Evaluation Criteria for Credit *(Credit/ no credit)*
Grading Criteria

Required: attendance and class participation, a passing grade on classroom assignments including instructor appraisal and/or assessment of student performance

Schedule of Topics and Assignments

Class Schedule Days 1-5:
In Class Assignments Include: Participation in class discussions and content instruction.

- Plan and teach:
  - A CS hands-on unplugged activity based on computer science standards and concepts.
  - A CS hands-on plugged activity.
    - Problem Solving and Web Development, and Animations and Games
- Create an implementation plan for teaching CSD
- Develop strategies for teaching CSD
- Create a recruiting strategies plan
- Develop equity strategies for engaging all students

Class Schedule Days 4-7:
In Class Assignments Include: Participation in class discussions and content instruction.

Develop implementation strategies for Computer Science Discoveries

- Develop strategies for classroom practices in teaching computer science
- Develop strategies for addressing roadblocks to implementation
- Develop plans for teaching:
  - Problem solving and computing, web development, animations and games, the design process, data and society, and physical computing

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