CS4RI High School Grant Webinar

Wednesday, January 29, 2020
3:00 pm – 4:00 pm
Introductions & Agenda

Introductions

• Holly Walsh, RIDE, CS4RI Project Manager
• Carol Giuriceo, RI STEAM Center, CS4RI Leadership Team
• Vic Fay-Wolfe, URI, CS4RI Project Lead
• Sarah Halberstadt, RIDE, Computer Science Fellow

Agenda

• Grant Overview, Benefits & Commitments
• Three-Course Sequence
• Work-Based Learning
• Research Study
• How to Apply
• Questions

Logistics
Grant Overview, Benefits & Commitments

- Grant awarded by US Department of Education
- $3.5M over 5 years, $2.5M over 3 years initially awarded
- Study the effect of Work Based Learning (WBL) on CS learning and attitudes
- Establish CS pathways in 20 schools
- Establish CS WBL in 10 of the 20 schools
- Provide framework for schools to build CTE Program in CS
- Broaden participation in CS education from students currently underrepresented in CS education including women, racial/ethnic minorities, and students with disabilities
Benefits for High Schools

- $20,000 to establish or improve CS teaching facilities
- Free professional development (PD) and stipends for high school teachers
- Potential for students to earn 12 college credits upon completion of a 3-course sequence
- RIDE coordination of WBL project for your school
- Aligned with Pathway Endorsements requirements, CTE program standards, and ESSA accountability components
• **$20,550 discretionary grant funds** to establish/improve CS teaching facilities (equipment, software, and/or classroom/lab space).

• **Some possible uses of funding** include purchase/upgrade computers, purchase/upgrade AV for the classroom(s), and materials for the CS classroom(s).

• **Expenses NOT allowed** include non-CS-education expenses, any professional development cost including course cost and travel (this is separately covered by RIDE for the CS courses of this project), any curriculum costs (the curriculum used in this project is free), and any cost not related to the instruction of this project (e.g. Maker Labs, robots, VR glasses, etc).
**Benefits**

**Teachers Attend Free PD and receive $2000 stipends for each course**
- Intro to CS
- AP CS Principles
- AP CS A
- WBL Course***
- Broadening Participation in Computing (BPC)

**Potential for students to earn 4 college credits for:**
- Intro to CS
- AP CS Principles
- AP CS A

**RIDE Staff to help coordinate and facilitate WBL project with industry partners**

**Alignment!**
- Pathway Endorsement
- CTE Board Standards
- ESSA requirements
Commitments

Commitment

- Instruct all three courses to cohorts of 20-30 students representative of the school demographics using defined curriculum
- Educators attend required PD
- Teachers and administrators participate in required quarterly meetings as part of the continuous improvement process
- Ensure the collection of research data through mechanisms such as CS4RI data in eRIDE, student and educator surveys, student focus groups, etc.
• **Instruct the three-course sequence:**
  • *Intro to Computing and Data Science (Intro to CS)*
  • *AP CS Principles (AP CS P)*
  • *AP Computer Science A (APCSA)*

• Have at least **20 of the students reflective of the demographic of the school** in each offering of *AP CS Principles* in the 11th grade with students completing the AP CS Principles exam.

• **Attend PD** – ($2000 stipends included for each course)
  • Intro to CS
  • AP CS Principles
  • AP CS A
  • WBL Course***
  • Broadening Participation in Computing (BPC)

• **Support the research project** by administering related exams and surveys, as well as collecting data using the following instruments:
  • CS attitude collection surveys
  • CS college/career intent surveys

• A **parental awareness** document & **data sharing** agreement

• Quarterly **continuous improvement meetings**
Three Course Sequence

Students in 20 schools take the same 3 course sequence beginning sophomore year

- Introduction to Computer & Data Science (1/2 year course)
- AP CS Principles (full year course)
- AP CS A (full year course)
Course Sequence and WBL

Sophomore Year
- Intro to CS (20 Schools)
- *WBL Course (10 Schools)

Junior Year
- AP Computer Science Principles (20 Schools)

Senior Year
- AP Computer Science A (20 Schools)
### Timeline For Course PD, Course Offerings, and WBL

<table>
<thead>
<tr>
<th>Tasks</th>
<th>Year 1</th>
<th>Year 2</th>
<th>Year 3</th>
<th>Year 4</th>
<th>Year 5</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>Fall 2019</td>
<td>Spring 2020</td>
<td>Summer 2020</td>
<td>Fall 2021</td>
<td>Spring 2021</td>
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<td><strong>Intro PD for teachers (URI)</strong></td>
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<td></td>
<td>20 teachers for in preparation for Cohort [C]</td>
<td>2 teachers for C2</td>
<td>2 teachers for C3</td>
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<td>1 students</td>
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<tr>
<td><strong>WBL Course PD for teachers (URI)</strong></td>
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<tr>
<td></td>
<td>10 teachers for C1</td>
<td>1 teacher for C2</td>
<td>1 teacher for C3</td>
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<tr>
<td><strong>AP CS Principles PD for teachers (URI)</strong></td>
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<tr>
<td></td>
<td>20 teachers for C1</td>
<td>2 teachers for C2</td>
<td>2 teachers for C3</td>
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<tr>
<td><strong>AP CS A PD for teachers (TEALS)</strong></td>
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<tr>
<td></td>
<td>20 teachers for C1</td>
<td>2 teachers for C2</td>
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<td><strong>BPC PD for teachers (URI)</strong></td>
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<tr>
<td></td>
<td>30 teachers for C1</td>
<td>23 teachers for C1 &amp; C2</td>
<td>25 teachers for C1, C2 &amp; C3</td>
<td>4 teachers for C2 &amp; C3</td>
<td></td>
</tr>
<tr>
<td><strong>Intro CS course taught in 20 schools</strong></td>
<td>C1 Soph. Year</td>
<td>C2 Soph. Year</td>
<td>C3 Soph. Year</td>
<td></td>
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<tr>
<td><strong>CS WBL course taught in 10 schools</strong></td>
<td>Alpha Test WBL Project</td>
<td>C1 Soph. Year</td>
<td>C2 Soph. Year</td>
<td>C3 Soph. Year</td>
<td></td>
</tr>
<tr>
<td><strong>AP CS Principles course taught in 20 schools</strong></td>
<td>C1 Junior Year Full Year Course</td>
<td>C2 Junior Year Full Year Course</td>
<td>C3 Junior Year Full Year Course</td>
<td></td>
<td></td>
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<tr>
<td><strong>AP CS A course taught in 20 schools</strong></td>
<td>C1 Senior Year Full Year Course</td>
<td>C2 Senior Year Full Year Course</td>
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<td></td>
<td></td>
</tr>
</tbody>
</table>
1. Internship
2. Apprenticeship
3. Service-learning
4. School-based enterprise
5. **Industry project**: Individual, group, or class-wide projects in which students address a real-world, industry-focused question or problem with the guidance of industry professionals.
WBL Project

✓ **Rigorous:**
  Skill-based, and tied to measurable outcomes

✓ **Relevant:**
  Connected to a student’s interests and to the real world of work

✓ **Reflective:**
  Engages the student in reflection and analysis

✓ **Interactive:**
  Providing multiple and extended opportunities for students to interact with industry professionals

✓ **Integrated:**
  Connected with the student’s school-based curriculum and for academic credit
10 of 20 Schools will be selected to implement Work-Based Learning Course

- Spring semester course in 10th grade
- 26-30 students in each class
- The WBL course meets at least twice a week for an hour for 18 weeks or equivalent
- Students do Industry Project WBL in addition to class work
- 80 hrs. of WBL through an Industry Project as defined by RIDE/GWB
• We have a CS pathway already, do we have to use the sequence prescribed in this project?

• We teach AP Principles but do not use the code.org curriculum. Is this allowed in the research study?

• Does the course sequence in the research study meet CTE Board Standards?
Establish CS pathways in high schools and…

study the effect of work-based learning (WBL) on students’ understanding of CS, and their attitudes towards pursuing a CS career.
Key measures in the study and how the information will be gathered:
- CS Attitude Collection Surveys
- CS College/Career Intent Surveys
- Student demographic information and student report card grade information
- CS AP exam scores

20 students take the AP CS Principles exam – PLAN AHEAD
- The grant will cover the cost of both CS AP exams for up to 20 students

Quarterly Continuous Improvement Meetings
Purpose is to make improvements to the 3 program components:
- Establish High Quality CS Course In High Schools
- Establish Uniform WBL Programs
- Ensure Support for Underrepresented Groups
Further details are found in the FAQs document.
### Short-Term Timeline & Logistics

<table>
<thead>
<tr>
<th>Process</th>
<th>Important Dates</th>
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</thead>
<tbody>
<tr>
<td>Grant Application Release:</td>
<td>Friday, January 24, 2020</td>
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<tr>
<td></td>
<td><a href="https://www.cs4ri.org/hsgrant">https://www.cs4ri.org/hsgrant</a></td>
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<tr>
<td>Q&amp;A Webinars:</td>
<td>Wednesday, January 29, 2020 – 3:00 PM</td>
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<td></td>
<td>OR</td>
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<td></td>
<td>Wednesday, February 12, 2020 – 12:00 PM</td>
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<td>Register for either webinar at:</td>
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<tr>
<td></td>
<td><a href="https://attendee.gotowebinar.com/rt/98203285242016781">https://attendee.gotowebinar.com/rt/98203285242016781</a></td>
</tr>
<tr>
<td>Deadline for Application Submission:</td>
<td>Tuesday, February 25, 2020 – 5:00 PM</td>
</tr>
<tr>
<td>RIDE Announces Grant Recipients:</td>
<td>March 2020</td>
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<tr>
<td>Schools Plan SY 2020-2021 course offerings:</td>
<td>January-March 2020</td>
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<td></td>
<td>Schools should begin planning, community awareness, and seek necessary approvals</td>
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<tr>
<td></td>
<td>immediately rather than waiting for grant award announcements in March.</td>
</tr>
<tr>
<td>Teachers From Selected Schools Attend PD(s):</td>
<td>Beginning July 2020</td>
</tr>
</tbody>
</table>
How to Apply

https://www.cs4ri.org/hsgrant
Grant Application – http://cs4ri.org/hsgrant

APPENDIX A: HIGH SCHOOL GRANT APPLICATION
Schools may use this template to prepare their CS4RI High School Grant application. The application must be submitted online at http://www.cs4ri.org/Hsgrant no later than 5:00PM – Tuesday, February 25, 2020. Save and upload the Appendix A document as District/Name_HsGrantApplication.PDF

FY20 CS4RI HIGH SCHOOL GRANT APPLICATION COVER SHEET

Project Period: March 2, 2020 – June 30, 2024

Grant Checklist:

☐ Demonstration of Title I Eligibility

☐ Yes/No indication of interest in participating in the WBL component of the research study

☐ Teacher contact information for Intro to CS and CS WBL (if applicable) courses

☐ Budget and compelling narrative on use of grant funds to establish/improve teaching facilities

☐ Compelling narrative describing the plan for ensuring that at least 20 students take the CS course sequence and take AP CS Principles exam

☐ Compelling narrative illustrating alignment to other initiatives and why the school is a good fit for the research study

☐ Signed letter of application from Superintendent or equivalent - Save and upload as a District/Name_HsGrant_Letter.PDF

REQUIRED SIGNATURES

<table>
<thead>
<tr>
<th>Name</th>
<th>Signature</th>
<th>Date</th>
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</thead>
<tbody>
<tr>
<td>Superintendent</td>
<td></td>
<td></td>
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<tr>
<td>Principal(s)</td>
<td></td>
<td></td>
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<tr>
<td>Contact Person(s)</td>
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</tbody>
</table>

http://www.cs4ri.org/Hsgrant

TITLE I ELIGIBILITY ACCORDING TO FEDERAL GUIDELINES

(See the KDE website for further information and resources - https://www.cs4ri.org/StudentFamilies/educationprograms/Title1Supports.aspx)

INTEREST IN PARTICIPATION IN WBL COMPONENT OF THE RESEARCH STUDY

☐ Yes indication on your application represents your willingness to participate as a CS4RI High School grant recipient regardless of that decision.

☐ No indication means that you are interested only in establishing the CS coursework without the WBL provided in this project. Schools may still implement their own WBL opportunities for students in 11th and/or 12th grade.

TEACHER CONTACT INFORMATION

List the contact information for the educator who will be taking PD in the Summer of 2020 to instruct Intro to CS in Fall 2020, and the educator taking PD in the Summer of 2020 to instruct CS4RI WBL in Spring 2021. The name of the teacher for CS4RI WBL is necessary only if your school is interested in being one of the 10 schools that offer CS4RI WBL. Additionally, list the contact information for the anticipated teachers who will be teaching AP CS Principles and AP CS A. It is not required that the same teacher teach all courses in the sequence.

<table>
<thead>
<tr>
<th>Able to Attend PD</th>
<th>Course to be Taught</th>
<th>First Name</th>
<th>Last Name</th>
<th>Email</th>
<th>Certification Area</th>
</tr>
</thead>
<tbody>
<tr>
<td>Summer 2020</td>
<td>Intro to CS Course - Fall 2020, 2021, 2022</td>
<td></td>
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<tr>
<td>Summer 2020</td>
<td>WBL Course - Spring 2020, 2021, 2022 (if applicable)</td>
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<tr>
<td>On or before Summer 2021</td>
<td>AP CS Principles - Yearlong course 2021, 2022, 2023</td>
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<tr>
<td>On or before Summer 2022</td>
<td>AP CS A – Yearlong course 2022, 2023, 2024</td>
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The educators listed above are required to also take the Broadening Participation in Computing online course that is offered each beginning Fall 2020.

http://www.cs4ri.org/Hsgrant

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### BUDGET AND NARRATIVE

Information about how the grant funds of up to $20,000 will be used to establish/improve computing facilities that are adequate to teach the above courses. Minimally, the school should demonstrate 1:1 computers in the classroom for students to use during each of the CS classes. (Limit 750 words)

### Budget Expense Categories:

#### Mandatory Grant Items

- **Professional and Technical Services ($5,000)**

<table>
<thead>
<tr>
<th>Category</th>
<th>Item Description and Price Breakdown</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Training for Intro to CS PD</td>
<td>1 instructor x $2,000.00</td>
<td>$2,000.00</td>
</tr>
<tr>
<td>2. Training for AP CS Principles PD</td>
<td>1 instructor x $2,000.00</td>
<td>$2,000.00</td>
</tr>
<tr>
<td>3. Training for AP CS A PD</td>
<td>1 instructor x $2,000.00</td>
<td>$2,000.00</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td><strong>$6,000.00</strong></td>
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</table>

- **Software and Materials ($5,000)**

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<thead>
<tr>
<th>Category</th>
<th>Item Description and Price Breakdown</th>
<th>Total</th>
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</thead>
<tbody>
<tr>
<td>1. Software and Materials</td>
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<td>$5,000.00</td>
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</table>

- **Equipment ($10,000)**

<table>
<thead>
<tr>
<th>Category</th>
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</thead>
<tbody>
<tr>
<td>1. Equipment</td>
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<td>$10,000.00</td>
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</table>

#### Discretionary Grant Items (Not to exceed $20,000.00)

<table>
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<tr>
<th>Category</th>
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</thead>
<tbody>
<tr>
<td>1. Other Purchased Services ($5,000)</td>
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<td>$5,000.00</td>
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<tr>
<td>2. Supplies and Materials ($5,000)</td>
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<td>$5,000.00</td>
</tr>
<tr>
<td>3. Property and Equipment ($5,000)</td>
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<td>$5,000.00</td>
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</table>

#### NARRATIVE – PLAN FOR ENSURING STUDENT PARTICIPATION

RISD recognizes the need to maintain students who continue with in-depth courses after an introductory course and that not all schools encourage students to take the AP exams. Twenty (20) students must take the AP CS Principles exam who have passed both previous courses to ensure validity of the research study. RISD wants to understand the thinking about how the school plans to ensure that at least 20 students take the CS course sequence and take AP CS Principles exam in 11th grade (limit 750 words).

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![Image](http://www.cs4ri.org/hsgrant)
Appendix A: Grant Application Template

https://www.cs4ri.org/hsgrant
FAQs can be found at [https://www.cs4ri.org/hsgrant](https://www.cs4ri.org/hsgrant)

Additional Questions?
Email [Sarah.Halberstadt@ride.ri.gov](mailto:Sarah.Halberstadt@ride.ri.gov) or [Holly.Walsh@ride.ri.gov](mailto:Holly.Walsh@ride.ri.gov)