Washington Office of Superintendent of
PUBLIC INSTRUCTION

Increase AP CS Course Capacity

1. Purpose:

The Advanced Placement (AP) Computer Science (CS) competitive grant is provided to school districts so they may increase the capacity of their high schools to offer AP CS courses.

2. Description of services provided:

OSPI administers the funding of the AP CS grant. Funding may be used to purchase hardware or equipment needed for CS instruction and/or costs related to CS professional development for teachers.

3. Criteria for receiving services and/or grants:

All high schools and districts are eligible. Priority is given to schools and districts in rural areas, with substantial enrollment of low-income students, and that do not offer AP Computer Science Principles or AP Computer Science A.

Beneficiaries in the 2022-23 School Year:

Number of School Districts:	6
Number of Schools:	9
Number of Students:	800 (approximately)
Number of Educators:	12
Other:	N/A

4. Are federal or other funds contingent on state funding?

☒ No

5. State funding history:

Fiscal Year	Amount Funded	Actual Expenditures
2023	$62,000	$61,786
2022	$62,000	$62,000
2021	$62,000	$60,056
2020	$62,000	$62,000
2019	$62,000	$58,739

6. Number of beneficiaries (e.g., school districts, schools, students, educators, other) history:

Fiscal Year	Number of Schools
2022	4
2021	9
2020	10
2019	14
2018	10
2017	9
2016	8
2015	7
2014	7

7. Programmatic changes since inception (if any):

N/A

8. Program evaluation or evaluation of major findings:

This is the longest standing annual state CS education grant managed by OSPI, first awarded in FY 2014. AP Computer Science courses (AP CS Principles and AP CS A) are attractive options for some schools because of the broad understanding and advantageousness of AP coursework and credit. As of 2022, 47% of high schools in Washington do not offer a CS elective, so funding directed toward establishing AP CS programs is beneficial in increasing that percentage. Grantees consistently show an increase in students participating in CS coursework as a result of funding usage.

9. Major challenges faced by the program:

Awareness and Funding

Compared to the larger CS Education grant, the AP CS grant has had two major challenges: lack of awareness and a lower total funding amount. $62,000 annually specifically for AP CS programs is more limiting of an option for schools and districts than $1M in broader K–12 CS education funding from the other grant. This likely accounts for both challenges faced by the AP CS grant.

CS Curriculum Options

OSPI began publishing annual data reports on CS education in Washington in 2019. That year, roughly 24% of CS courses offered in high schools were AP CS. As of the latest report in 2022, that percentage has decreased to 18%. Whether this signals a negative evaluation of AP curriculum requires further educator feedback. Regardless, the growing number of CS course options and increased popularity of certain courses such as Exploring Computer

Science (representing 2% of CS courses in 2019 compared to 7% in 2022) have made AP CS a relatively less prominent option.

Teacher Capacity
The ongoing struggle with CS education generally is a lack of educators. Attracting new teachers is difficult due to the appeal of higher-paying tech jobs for qualified CS instructors as well as lower resourced schools lacking the funding in the first place. Existing teachers may not have the capacity to teach another subject area, and if they do, they may find the professional learning of college-level CS coursework to be challenging. Moreover, CS teacher retention has been difficult for many years and some schools may elect to forego CS in favor of required or more popular subjects.

10. Future opportunities:

Any funding targeted to high school CS education is not only beneficial but needed in order to meet RCW 28A.230.300 requiring all high schools to offer a CS elective. This grant could be expanded in a few ways that may address some of the challenges facing CS education currently:

1. Increase Funding: $62,000 is a relatively small grant allocation when all high schools in Washington's 295 school districts are eligible and many need the financial assistance; our requests consistently outpace the available resource.

2. Extend Beyond AP CS: While AP CS is a relatively popular choice, it is not the only choice of CS coursework. With so many high schools lacking CS in the first place, the more options provided to schools in getting *any* CS electives, the more easily the state will meet the CS elective mandate.

3. Offer Alternative Means of Application: This may be something OSPI can handle without legislative action, but it is worth noting that competitive grant applications managed entirely within iGrants present an equity issue. Small schools and districts that do not have grant writing staff will not be notified of the grant's availability in the system and have greater overhead in applying because of these logistics. Yet, these are the schools that are generally most in need. Financial support for CS education is provided entirely through two grants via OSPI, so finding ways of meeting school needs given the grant application process is critical.

11. Statutory and/or budget language:

$62,000 of the general fund—state appropriation for fiscal year 2022 and $62,000 of the general fund—state appropriation for fiscal year 2023 are provided solely for competitive grants to school districts to increase the capacity of high schools to offer AP computer science courses. In making grant allocations, the office of the superintendent of public

instruction must give priority to schools and districts in rural areas, with substantial enrollment of low-income students, and that do not offer AP computer science. School districts may apply to receive either or both of the following grants:

(i) A grant to establish partnerships to support computer science professionals from private industry serving on a voluntary basis as coinstructors along with a certificated teacher, including via synchronous video, for AP computer science courses; or
(ii) A grant to purchase or upgrade technology and curriculum needed for AP computer science, as well as provide opportunities for professional development for classroom teachers to have the requisite knowledge and skills to teach AP computer science.

12. Other relevant information:

Over the decade that the AP CS grant has been annually offered, 53 unique applicant entities (schools and districts) have received funding through this grant. As of 2022, 53% of high schools in Washington do not have a CS course offering, yet RCW 28A.230.300 proposes a deadline of FY 2023 to meet this requirement. The CS Education grant is the only other state funding direct to schools for this effort which has yielded positive results, but the fact remains that the rate of progress toward meeting the CS elective mandate is far behind the projected timeline.

Ever persistent in CS education is a lack of diversity in all categories, most noticeably gender and race. The misconceptions and stereotypes on "who CS is for" are fully present by the time students reach high school. It is at the middle and ideally elementary level where CS concepts and computational thinking must be introduced in order to mitigate the preconceptions preventing underrepresented students from engaging in CS coursework in high school. Moreover, there is, unlike for high school, a distinct lack of data in K–8 CS education, making progress tracking untenable. AP CS courses can be an excellent opportunity for high school students, but enrollment in these courses may not be well facilitated without addressing needs at earlier grade levels.

13. Schools/districts receiving assistance:

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14. Program Contact Information:

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