



CSTA NATIONAL SECONDARY COMPUTER SCIENCE SURVEY (2009)

Methodology:

This survey instrument was developed by CSTA's Research Committee and was administered in spring 2008 to 14,000 high school teachers who defined themselves as computer science, computer programming, or AP computer science teachers. Survey invitations, which directed respondents to a Survey Monkey online survey, were mailed to teachers across the United States using contact information provided by a market data company. In addition, CSTA's home page featured a request with a link to the survey. A total of 1153 people responded to the survey (a response rate of 8.2%). Of the original responses, 1094 were usable, the remainder having been eliminated because they were blank or submitted by high school students, college faculty, or people outside the US. The results below represent the percentages and averages for those who answered each question.

Results:

1-a. Does your school offer any introductory (or pre-AP) Computer Science (CS) courses?

Yes	65.1%
No	34.9%

1-b. What type of credit is earned by the course(s)?

Tech	35.2%
CS Credit	33.8%
Business Credit	20.6%
Math Credit	9.8%
Elective Credit	23.8%

1-c. Are students required to take introductory CS?

Yes	44.1%
No	55.9%

1-d. How many students are enrolled in introductory CS?

1-10	9.4%
11-25	17.2%
26-50	23.1%
51-100	20.1%
101+	30.3%

Overall Average 82 students per school

1-e. What percentage of students enrolled in introductory CS is female? (Skip if your school is single-sex.)

0% females	4.2% of schools
1-20% females	31.5% of schools
21-40% females	17.0% of schools
41-60% females	42.3% of schools
61-80% females	3.2% of schools
81-99% females	1% of schools
100% females	0.9% of schools

1-f. What percentage of students enrolled in introductory CS are members of an ethnic minority?

0% minority	7.7% of schools
1-20% minority	56.8% of schools
21-40% minority	12.6% of schools
41-60% minority	9.5% of schools
61-80% minority	5.2% of schools
81-99% minority	6.3% of schools
100% minority	2% of schools

1-g. What content is covered in introductory CS? Check all that apply.

Problem solving	59.7%
Ethics and social issues	57.9%
Hardware	53.2%
Programming	52.3%
Graphics	49.4%
Computer Security	46.7%
Productivity software	38.7%
Databases	38.7%
Web Development	37.6%
Networks	21.3%
Game programming	18.9%
Logic	13.4%
Other	7.0%

2-a. Does your school offer AP Computer Science?

Yes	27.0%
No	73.0%

2-b. How many students take AP CS?

1-10 students	41.2% of schools
11-25 students	33.3% of schools
26-50 students	14.4% of schools
51-100 students	7.2% of schools
101+ students	3.8% of schools

2-c. What percentage of students enrolled in AP CS are female? (Skip if your school is single-sex.)

0% females	23.3% of schools
1-20% females	47.7% of schools
21-40% females	14.5% of schools
41-60% females	9.5% of schools
61-80% females	2.5% of schools
81-99% females	1.1% of schools
100% females	1.4% of schools

2-d. What percentage of students enrolled in AP CS are members of an ethnic minority?

0% minority	22.6% of schools
1-20% minority	45.2% of schools
21-40% minority	14.4% of schools
41-60% minority	8.2% of schools
61-80% minority	4.1% of schools
81-99% minority	3.1% of schools
100% minority	2.4% of schools

3-a. Does your school offer computing courses other than introductory and AP Computer Science?

Yes	74.2%
No	25.8%

3-b. What kinds of courses?

Web design	67.9% of schools
Computer graphics	51.1% of schools
Computing communications/media	40.8 of schools
Programming	39.1% of schools
Networking	16.7% of schools
Applications	11.4% of schools
Game design	9.7% of schools
Media/Arts	4.8% of schools
Business IT	2.6% of schools
CAD	1.8% of schools
Certification	1.7% of schools
Robotics	1.3% of schools
Support/Repair	1.2% of schools
IB	0.3% of schools

4. Does your school have a math prerequisite for any CS course?

Yes 26.6%
 No 73.4%

5. Have CS enrollments increased or decreased in your school over the past three (3) years?

Increased 23% of schools
 Decreased 22% of schools
 Stayed about the same 55% of schools

6-a. In your judgment, are there a significant number of qualified students who are not taking the CS course(s) that your school offers?

Yes 70.5%

6-b. Why? Please rank each reason below:

	Very common	Somewhat common	Uncommon
Greater interest in other subjects	32.2%	55.3%	9.5%
CS is perceived to be 'geeky'	17.7%	42.3%	40.0%
Elective courses less important	45.3%	39.0%	15.7%
Subject matter too difficult	24.4%	48.6%	27.0%
No room in timetable	66.7%	23.9%	9.4%
Perception of limited job opportunities	7.7%	23.0%	63.3%
Perceived as male-dominated	16.9%	36.2%	46.9%

7. What has been the impact of the No Child Left Behind (NCLB) legislation on your CS program?

Negative impact 31.4% of schools
 No impact 62.4% of schools
 Positive impact 6.2% of schools

8. Under what department is CS offered in your school?

Technology 44.5% of schools
 Business 34.1% of schools
 Computing 21.6% of schools
 Math 12.9% of schools
 Science 2.4% of schools

9-a. Does your district or state require you to teach a specific computer science course curriculum that includes specific content and outcomes?

Yes 42.3%
 No 57.7%

9-b. Are these requirements enforced?

Yes 65.8%
 No 32.4%

10. Do you use all or part of the standard curriculum as outlined in the ACM Model Curriculum for K-12 Computer Science?

Yes 19%

11. What do you perceive as the greatest challenges in teaching CS? Please rank each challenge below:

	Great challenge	Moderate challenge	Minor/no challenge
Rapidly changing technology	36.0%	46.6%	17.4%
Lack of student interest/enrollment	25.2%	44.8%	30.0%
Lack of support / interest by school staff	30.8%	40.5%	28.7%
Lack of hardware / software resources	29.4%	35.8%	34.8%
Difficult subject matter	18.2%	49.3%	32.5%
Lack of curriculum resources	27.1%	44.0%	28.9%
Lack of student subject knowledge	15.7%	55.9%	28.3%
Lack of teacher subject knowledge	15.6%	35.7%	48.7%

Among the participants who indicated that there were other significant challenges, those most predominantly mentioned included:

Budget and finding cuts: 1.5%
Lack of administrative support: 0.7%

12. What do you perceive as the greatest professional development needs? Please rank each need below:

	Great need	Moderate need	Minor/no need
Time for training	63.7%	30.7%	5.6%
Sufficient training opportunities	56.6%	36.9%	6.5%
Training cost (and lack of reimbursement)	63.4%	25.9%	10.7%
Training facilities and resources	43.8%	41.6%	14.6%
Other	22.7%	22.7%	54.6%

13. What do you believe to be the most effective methods for delivering professional development to CS teachers? Please rank each method below:

	Most effective	Somewhat effective	Least effective
Workshops / seminars	68.4%	29.6%	1.3%
Networking with others	50.2%	42.4%	7.4%
Professional conferences	43.2%	43.9%	12.9%
Online resources	46.9%	46.9%	6.2%
Computer-based tutorials	40.7%	51.2%	8.0%
College courses	31.2%	50.6%	18.2%
Other	13.4%	34.1%	52.5%

14-a. How many students attend your school?

1-100 students	5.2% of schools
101-250 students	11.0% of schools
251-500 students	25.3% of schools
501-1000 students	27.2% of schools
1001-2000 students	21.7% of schools
2001+ students	9.7% of schools

14-b. What grade levels?

Ninth	91.9% of schools
Tenth	92.3% of schools
Eleventh	94.4% of schools
Twelfth	95% of schools

15. What percentage of students at your school speak a language at home other than English?

0% of students	12.3% of schools
1-20% of students	62.5% of schools
21-40% of students	12.9% of schools
41-60% of students	5.1% of schools
61-80% of students	3.9% of schools
81-100% of students	3.3% of schools

16. Which of the following best describes your school's location?

Urban	36.9% of schools
Suburban	42.4% of schools
Rural	20.8% of schools

17. How many years have you been teaching?

1-3 years	8.8% of respondents
4-7 years	18.0% of respondents
8-14 years	25.2% of respondents
15+ years	48% of respondents

18. How many years have you been teaching CS?

0 years	5.6% of respondents
1-3 years	18.8% of respondents
4-7 years	21.9% of respondents
8-14 years	29.5% of respondents
15+ years	24.2% of respondents
Overall Average	10 years

19. How do you identify yourself? Please check all that apply:

Caucasian / White	88.2% of respondents
African-American / Black	4.6% of respondents
Asian-American / Asian	1.9% of respondents
Hispanic	3.2% of respondents
Native American / Indigenous	1.9% of respondents
Other	2.0% of respondents

20. What is your gender?

Female	55.1% of respondents
Male	44.9% of respondents

21. What is your age?

22-30 years	7.8% of respondents
31-40 years	18.8% of respondents
41-50 years	32.9% of respondents
51-60 years	33.3% of respondents
61+	7.2% of respondents