



CSTA NATIONAL SECONDARY COMPUTER SCIENCE SURVEY (2011)

Methodology:

This survey instrument was developed by CSTA's Research Committee and was administered in spring 2011 to 19,280 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 1561 people responded to the survey (a response rate of 8.1%). Of these responses, 1384 were usable, the remainder having been eliminated because they were submitted by college faculty, teachers of lower grades, or people outside the US. The results below represent the percentages and averages for those who answered each question.

Results:

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

Yes	69%
No	31%

2. What type of credit is earned by the course(s)? (Check all that apply.)

Technology	39%
Computing Credit	36%
Business Credit	25%
Math Credit	11%
Science Credit	3%
Other Credit	21%

3. Are students required to take introductory CS?

Yes	31%
No	69%

4. How many students are enrolled in introductory CS?

1-10	10%
11-25	24%
26-50	25%
51-100	20%
101+	21%

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

0% females	4% of schools
1-20% females	43% of schools
21-40% females	22% of schools
41-60% females	29% of schools
61-80% females	1.7% of schools
81-99% females	0.1% of schools
100% females	* 0.2% of schools

* Does not include 8 teachers at single-sex schools who specified 100%.

6. What percentage of students enrolled in introductory CS are members of an ethnic minority?

0% minority	7% of schools
1-20% minority	53% of schools
21-40% minority	20% of schools
41-60% minority	6% of schools
61-80% minority	5% of schools
81-99% minority	6% of schools
100% minority	2% of schools

7. What content is covered in introductory CS? Check all that apply.

Programming	69%
Problem solving	65%
Ethics and social issues	54%
Hardware	49%
Graphics	46%
Web Development	37%
Computer Security	35%
Game programming	32%
Productivity software	30%
Databases	27%
Networks	21%
Logic	16%
Other	13%

8. What programming languages / software tools are used in introductory CS? Check all that apply.

Java	38%
Alice	29%
Visual Basic	25%
Scratch	17%
JavaScript	13%
C++	12%
Python	9%
Greenfoot	4%
C#	3%
Other	22%

9. Does your school offer AP Computer Science?

Yes	36%
No	64%

10. How many students take AP CS?

1-10 students	44% of schools
11-25 students	36% of schools
26-50 students	13% of schools
51-100 students	6% of schools
101+ students	2% of schools

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

0% females	22% of schools
1-20% females	53% of schools
21-40% females	20% of schools
41-60% females	5% of schools
61-80% females	0.4% of schools
81-99% females	0.4% of schools
100% females	* 0% of schools

* Does not include 2 teachers at single-sex schools who specified 100%.

12. What percentage of students enrolled in AP CS are members of an ethnic minority?

0% minority	15% of schools
1-20% minority	48% of schools
21-40% minority	17% of schools
41-60% minority	8% of schools
61-80% minority	4% of schools
81-99% minority	5% of schools
100% minority	2% of schools

13. Does your school offer computing courses other than introductory and AP Computer Science?

Yes	82%
No	18%

14. What kinds of courses?

Web design	70% of schools
Computer graphics	50% of schools
Computing communications/media	40% of schools
Programming	38% of schools
Networking	15% of schools
Game development	15% of schools
Other	35% of schools

15. Do the CS courses offered in your school have prerequisites?

Yes 49%
 No 51%

16. How have CS enrollments changed in your school over the past three (3) years?

Increased 23% of schools
 Decreased 31% of schools
 Stayed about the same 47% of schools

17. In your judgment, do you think there are students who should be taking or would like to take the CS course(s) your school offers but who are not?

Yes 81%

18. Why? Please rank each reason below:

	Very common	Somewhat common	Uncommon
No room in timetable	73%	19%	5%
Greater interest in other subjects	33%	50%	10%
Elective courses are less important	48%	35%	11%
Subject matter too difficult	29%	44%	19%
CS is perceived to be 'geeky'	18%	39%	33%
Perceived as male-dominated	19%	38%	33%
Perception of limited job opportunities	6%	19%	64%

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

Negative impact 35% of schools
 No impact 63% of schools
 Positive impact 3% of schools

20. Under what department(s) is CS offered in your school?

Business 37% of schools
 Technology 35% of schools
 Computing 19% of schools
 Math 15% of schools
 Science 2% of schools

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

Yes 33%
 No 67%

22. (if Yes) Are these requirements enforced?

Yes 73%
 No 27%

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

Yes 19%

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

	Great challenge	Moderate challenge	Minor/no challenge
Lack of student interest/enrollment	34%	45%	20%
Rapidly changing technology	34%	45%	21%
Difficult subject matter	24%	52%	24%
Lack of support / interest by school staff	39%	35%	26%
Lack of student subject knowledge	22%	50%	28%
Lack of curriculum resources	23%	44%	33%
Lack of hardware / software resources	25%	36%	39%
Lack of teacher subject knowledge	18%	36%	45%

25. 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	60%	32%	8%
Sufficient training opportunities	53%	37%	10%
Training cost (and lack of reimbursement)	59%	27%	14%
Training facilities and resources	40%	41%	19%

26. 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	65%	30%	5%
Online resources	44%	48%	8%
Networking with others	49%	42%	9%
Computer-based tutorials	37%	52%	11%
Professional conferences	41%	45%	14%
College courses	32%	51%	17%

27. How many students attend your school?

1-100 students	4% of schools
101-250 students	11% of schools
251-500 students	21% of schools
501-1000 students	23% of schools
1001-2000 students	28% of schools
2001+ students	13% of schools

28. Is your school public or private?

Public	79% of schools
Private	21% of schools

29. Is your school a single gender or mixed-gender school?

Single gender	5% of schools
Mixed-gender	95% of schools

30. What grade levels?

Ninth	94% of schools
Tenth	96% of schools
Eleventh	98% of schools
Twelfth	99% of schools

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

0% of students	10% of schools
1-20% of students	64% of schools
21-40% of students	14% of schools
41-60% of students	6% of schools
61-80% of students	4% of schools
81-100% of students	2% of schools

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

Urban	32% of schools
Suburban	46% of schools
Rural	21% of schools
Online	0.2% of schools

33. How many years have you been teaching?

1-3 years	8% of respondents
4-7 years	19% of respondents
8-14 years	28% of respondents
15+ years	45% of respondents

34. How many years have you been teaching CS?

0 years	6% of respondents
1-3 years	19% of respondents
4-7 years	23% of respondents
8-14 years	27% of respondents
15+ years	26% of respondents

35. What percentage of the courses you teach are CS courses?

0-25%	29% of respondents
25-50%	15% of respondents
50-75%	14% of respondents
75-100%	42% of respondents

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

Caucasian / White	89% of respondents
African-American / Black	4% of respondents
Asian-American / Asian	3% of respondents
Hispanic	3% of respondents
Native American / Indigenous	1% of respondents
Other	2% of respondents

37. What is your gender?

Female	53% of respondents
Male	47% of respondents

38. What is your age?

22-30 years	8% of respondents
31-40 years	21% of respondents
41-50 years	31% of respondents
51-60 years	33% of respondents
61+ years	7% of respondents