



CSTA NATIONAL SECONDARY COMPUTER SCIENCE SURVEY (2007)

Methodology:

This survey instrument was developed by CSTA’s Research Committee and was administered in spring 2007 to 13,000 high school teachers who defined themselves as computer science, computer programming, or AP computer science teachers. Survey invitations, which directed respondents to the survey page on CSTA’s Web site, 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 1080 people responded to the survey (a response rate of 8.31%). Of the original responses, 950 were usable, the remainder having been eliminated because they were blank or submitted by high school students, college faculty, or people outside the US. Respondents were provided the option of taking the survey online or printing and returning it by mail or fax. 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	73%
-----	-----

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

CS Credit	24%
Math Credit	9%
Business Credit	19%
Elective Credit	43%
Other Credit	6%

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

Yes	33%
-----	-----

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

1-10	7%
11-25	27%
26-50	26%
51-100	22%
101+	18%

Overall Average 82 students per school

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

0% females	5% of schools
1-20% females	35% of schools
21-40% females	21% of schools
41-60% females	33% of schools
61-80% females	5% of schools
81-99% females	1% of schools
100% females	1% of schools
Overall Average	32% females

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

0% minority	11% of schools
1-20% minority	53% of schools
21-40% minority	15% of schools
41-60% minority	7% of schools
61-80% minority	7% of schools
81-99% minority	5% of schools
100% minority	2% of schools
Overall Average	24% minority

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

Problem solving	62%
Graphics	58%
Hardware	57%
Ethics and social issues	55%
Programming	55%
Productivity software	47%
Databases	41%
Computer Security	38%
Web Development	35%
Networks	21%
Logic	16%
Other	18%

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

Yes	32%
-----	-----

2-b. How many students take AP CS?

1-10 students	45% of schools
11-25 students	32% of schools
26-50 students	15% of schools
51-100 students	4% of schools
101+ students	4% of schools
Overall Average	23 students per school

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

0% females	25% of schools
1-20% females	48% of schools
21-40% females	16% of schools
41-60% females	8% of schools
61-80% females	2% of schools
81-99% females	<1% of schools
100% females	1% of schools
Overall Average	17% females

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

0% minority	27% of schools
1-20% minority	39% of schools
21-40% minority	13% of schools
41-60% minority	10% of schools
61-80% minority	5% of schools
81-99% minority	4% of schools
100% minority	3% of schools
Overall Average	22% minority

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

Yes	89%
-----	-----

3-b. What kinds of courses?

Web design	76% of schools
Computer graphics	53% of schools
Computing communications/media	43% of schools
Programming	41% of schools
Networking	24% of schools
Applications	17% of schools
Media/Arts	6.8% of schools
Certification	4.6% of schools
Support/Repair	3.4% of schools
Robotics	0.8% of schools
Game design	0.6% of schools
International Baccalaureate (IB)	0.4% of schools

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

Yes	38%
-----	-----

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

Increased 23% of schools
 Decreased 27% of schools
 Stayed about the same 50% of schools

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

Yes 77%

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

	Very common	Somewhat common	Uncommon
Greater interest in other subjects	39	49	8
CS is perceived to be 'geeky'	16	40	37
Elective courses less important	43	38	16
Subject matter too difficult	26	44	24
No room in timetable	73	19	7
Perception of limited job opportunities	7	23	63
Perceived as male-dominated	18	39	38

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

Negative impact 37% of schools
 No impact 58% of schools
 Positive impact 5% of schools

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

Yes 42%

8-b. Are these requirements enforced?

Yes 75%

** Review of the results by state show marked inconsistencies in answers to this question. The researchers believe that this is a possible indication either that teachers are not well informed of the curriculum requirements for their state, or that policy awareness and enforcement varies so much from district to district that no conclusive answer is possible*

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

Yes 19%

10. 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	41	43	16
Lack of student interest/enrollment	33	44	22
Lack of support / interest by school staff	31	37	31
Lack of hardware / software resources	24	37	39
Difficult subject matter	23	50	27
Lack of curriculum resources	21	44	34
Lack of student subject knowledge	20	51	30
Lack of teacher subject knowledge	15	36	49
Other	11	22	66

11. 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	65	31	4
Sufficient training opportunities	61	34	6
Training cost (and lack of reimbursement)	60	28	12
Training facilities and resources	47	39	14
Other	3	20	67

12. 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	66	30	5
Networking with others	47	45	8
Professional conferences	40	44	16
Online resources	39	52	9
Computer-based tutorials	32	57	11
College courses	29	53	18
Other	2	6	16

13-a. How many students attend your school?

1-100 students	3% of schools
101-250 students	10% of schools
251-500 students	20% of schools
501-1000 students	24% of schools
1001-2000 students	32% of schools
2001+ students	11% of schools
Overall Average:	1077 students

13-b. What grade levels?

Ninth	91% of schools
Tenth	97% of schools
Eleventh	99% of schools
Twelfth	98% of schools

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

0% of students	12% of schools
1-20% of students	65% of schools
21-40% of students	13% of schools
41-60% of students	5% of schools
61-80% of students	3% of schools
81-100% of students	3% of schools
Overall Average	15% of students

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

Urban	41% of schools
Suburban	39% of schools
Rural	20% of schools

16. How many years have you been teaching?

1-3 years	9% of respondents
4-7 years	16% of respondents
8-14 years	28% of respondents
15+ years	47% of respondents
Overall Average	16 years

17. How many years have you been teaching CS?

0 years	4% of respondents
1-3 years	17% of respondents
4-7 years	21% of respondents
8-14 years	30% of respondents
15+ years	28% of respondents
Overall Average	10 years

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

Caucasian / White	91% of respondents
African-American / Black	4% of respondents
Asian-American / Asian	1% of respondents
Hispanic	2% of respondents
Native American / Indigenous	1% of respondents
Other	2% of respondents

19. What is your gender?

Female	53% of respondents
Male	47% of respondents

20. What is your age?

22-30 years	9% of respondents
31-40 years	22% of respondents
41-50 years	32% of respondents
51-60 years	32% of respondents
61+	4% of respondents
Overall Average	46 years