



CSTA National Secondary School Computer Science Survey: Comparison of Results from 2005, 2007, 2009, 2011, and 2013 Surveys

This document provides the comparative results for the CSTA 2005, 2007, 2009, 2011, and 2013 National Secondary School Computer Science Surveys.

Methodology:

	2005	2007	2009	2011	2013
Survey size	14,000	13,000	14,000	19,280	12,510
Respondents	1047	1080	1153	1589	1286
Response Rate	7.5%	8.3%	8.2%	8.1%	10.3

Results:

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

	2005	2007	2009	2011	2013
Yes	78%	73%	65%	69%	74%
No	22%	27%	35%	31%	26%

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

	2005	2007	2009	2011	2013
CS/Computing Credit	30%	24%	34%	36%	40%
Math Credit	8%	9%	10%	11%	22%
Business Credit	NA	19%	21%	25%	23%
Elective Credit	53%	43%	24%	NA	NA
Science Credit	NA	NA	NA	3%	4%
Tech Credit	NA	NA	35%	39%	46%

3. Are students required to take introductory CS?

	2005	2007	2009	2011	2013
Yes	26%	33%	44%	31%	23%
No	74%	76%	56%	69%	77%

4. How many students are enrolled in introductory CS?

	2005	2007	2009	2011	2013
1-10	13%	7%	9%	10%	9%
11-25	26%	27%	17%	24%	25%
26-50	24%	26%	23%	25%	25%
51-100	20%	22%	20%	20%	21%
101+	18%	18%	30%	21%	20%

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

	2005	2007	2009	2011	2013
0% females	NA	5%	4%	4%	4%
1-20% females	42%	35%	32%	43%	53%
21-40% females	23%	21%	17%	22%	20%
41-60% females	29%	33%	42%	29%	21%
61-80% females	3%	5%	3%	2%	1.0%
81-99% females	1%	1%	1%	0.1%	0.3%
100% females	NA	1%	1%	0.2%	0.7%

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

	2007	2009	2011	2013
0% minority	11%	8%	7%	7%
1-20% minority	53%	57%	53%	52%
21-40% minority	15%	13%	20%	18%
41-60% minority	7%	10%	6%	9%
61-80% minority	7%	5%	5%	6%
81-99% minority	5%	6%	6%	5%
100% minority	2%	2%	2%	2%

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

	2005	2007	2009	2011	2013
Programming	68%	55%	52%	69%	81%
Problem solving	NA	62%	60%	65%	78%
Ethics & social issues	56%	55%	58%	54%	55%
Hardware	60%	57%	53%	49%	47%
Graphics	46%	58%	49%	46%	45%
Web Development	43%	35%	38%	37%	33%
Computer Security	14%	38%	47%	35%	33%
Game Programming	NA	NA	19%	32%	42%
Productivity software	NA	47%	39%	30%	23%
Databases	35%	41%	39%	27%	23%
Networks	21%	21%	21%	21%	19%
Logic	11%	16%	13%	16%	17%
Other	27%	18%	7%	13%	10%

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

	2011	2013
Java	38%	49%
Scratch	17%	34%
Alice	29%	30%
Visual Basic	25%	30%
JavaScript	13%	15%
C++ or C#	15%	18%
Python	9%	14%
AppInventor	NA	13%
Greenfoot	4%	6%
HTML	NA	4%
Game Maker	NA	3%
Jeroo	NA	2%

9. Are you planning to offer the AP Computer Science Principles course?

Not aware of course	38.2%
Currently offering it	4.3%
Plan to offer 2013-14 school year	4.8%
Plan to offer 2014-15 school year	6.2%
Plan to offer when official AP course	22.7%
Not planning to offer	23.8%

10. Does your school offer AP Computer Science?

	2005	2007	2009	2011	2013
Yes	40%	32%	27%	36%	46%
No	60%	68%	73%	64%	53%

11. How many students take AP CS?

	2005	2007	2009	2011	2013
1-10	43%	45%	41%	44%	34%
11-25	33%	32%	33%	36%	40%
26-50	15%	15%	14%	13%	16%
51-100	6%	4%	7%	6%	7%
101+	3%	4%	4%	2%	3%

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

	2005	2007	2009	2011	2013
0% females	NA	25%	23%	22%	23%
1-20% females	58%	48%	48%	53%	55%
21-40% females	24%	16%	15%	20%	16%
41-60% females	15%	8%	10%	5%	5%
61-80% females	1%	2%	3%	0.4%	1%
81-99% females	0%	<1%	1%	0.4%	0%
100% females	NA	1%	1%	0%	0.5%

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

	2007	2009	2011	2013
0% minority	27%	23%	15%	15%
1-20% minority	39%	45%	48%	48%
21-40% minority	13%	14%	17%	16%
41-60% minority	10%	8%	8%	11%
61-80% minority	5%	4%	4%	5%
81-99% minority	4%	3%	5%	3%
100% minority	3%	2%	2%	3%

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

	2007	2009	2011	2013
Yes	89%	74%	82%	82%
No	11%	26%	18%	18%

15. What kinds of courses?

	2007	2009	2011	2013
Web design	76%	68%	70%	66%
Computer graphics	53%	51%	50%	49%
Communications	43%	41%	40%	33%
Programming	41%	39%	38%	47%
Networking	24%	17%	15%	17%
Game design/development	0.6%	10%	15%	27%

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

	2007	2009	2011	2013
Yes	38%	27%	49%	47%
No	62%	73%	51%	53%

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

	2005	2007	2009	2011	2013
Increased	56%	23%	23%	23%	37%
Decreased	44%	27%	22%	31%	22%
Stayed about the same	NA	50%	50%	47%	42%

18. 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?

	2007	2009	2011	2013
Yes	NA	77%	71%	87%
No	NA	23%	29%	13%

19. Why? Please rank each reason below:

	2005 Ranking	2007 Ranking	2009 Ranking	2011 Ranking	2013 Ranking
No room in timetable	1	1	1	1	1
Greater interest in other subjects	2	3	3	2	3
Elective courses less important	4	2	2	3	2
Subject matter too difficult	3	4	4	4	4
CS is perceived to be 'geeky'	NA	7	5	5	5
Perceived as male-dominated	5	5	6	6	6
Perception of limited job opportunities	NA	6	7	7	7

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

	2007	2009	2011	2013
Negative impact	37%	31%	35%	33%
No impact	58%	62%	63%	65%
Positive impact	5%	6%	3%	2%

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

	2005	2007	2009	2011	2013
Business	31%	NA	34%	37%	34%
Technology	32%	NA	45%	35%	34%
Computing	28%	NA	22%	19%	20%
Math	20%	NA	13%	15%	28%
Science	3%	NA	2%	2%	2%

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

	2005	2007	2009	2011	2013
Yes	41%	42%	42%	33%	31%
No	59%	58%	58%	77%	69%

23. (if Yes) Are these requirements enforced?

	2005	2007	2009	2011	2013
Yes	53%	75%	66%	73%	59%
No	47%	25%	44%	27%	41%

24. Do you use all or part of the standard curriculum as outlined in the CSTA K-12 Standards?

	2007	2009	2011	2013
Yes	19%	19%	19%	42%
No	81%	81%	81%	58%

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

	2005 Ranking	2007 Ranking	2009 Ranking	2011 Ranking	2013 Ranking
Lack of student interest/enrollment	4	2	5	1	1
Rapidly changing technology	1	1	1	2	3
Difficult subject matter	8	8	6	3	4
Lack of staff support / interest	7	3	2	4	2
Lack of student subject knowledge	5	6	7	5	5
Lack of curriculum resources	2	5	3	6	6
Lack of hardware / software resources	3	4	4	7	7
Lack of teacher subject knowledge	6	7	8	8	8

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

	2005 Ranking	2007 Ranking	2009 Ranking	2011 Ranking	2013 Ranking
Time for training	1	1	1	1	1
Training opportunities	2	2	3	2	3
Training cost	4	3	2	3	2
Facilities and resources	3	4	4	4	4

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

	2005 Ranking	2007 Ranking	2009 Ranking	2011 Ranking	2013 Ranking
Workshops / seminars	1	1	1	1	1
Online resources	2	4	3	2	3
Networking with others	4	2	2	3	2
Computer-based tutorials	NA	5	5	4	5
Professional conferences	3	3	4	5	4
College courses	5	6	6	6	6

28. How many students attend your school?

	2005	2007	2009	2011	2013
1-100 students	4%	3%	5%	4%	1%
101-250 students	12%	10%	11%	11%	6%
251-500 students	22%	20%	25%	21%	17%
501-1000 students	24%	24%	27%	23%	22%
1001-2000 students	26%	32%	22%	28%	37%
2001+ students	12%	11%	10%	13%	17%

29. Is your school public or private?

	2011	2013
Public	79%	84%
Private	21%	16%

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

	2011	2013
Single gender	5%	5%
Mixed gender	95%	95%

31. What grade levels?

	2007	2009	2011	2013
Ninth	91%	92%	94%	94%
Tenth	97%	92%	96%	97%
Eleventh	99%	94%	98%	99%
Twelfth	98%	95%	99%	99%

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

	2007	2009	2011	2013
0% students	12%	12%	10%	5%
1-20% students	65%	63%	64%	62%
21-40% students	13%	13%	14%	18%
41-60% students	5%	5%	6%	7%
61-80% students	3%	4%	4%	5%
81-100% students	3%	3%	2%	3%

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

	2007	2009	2011	2013
Urban	41%	37%	32%	25%
Suburban	39%	42%	46%	50%
Rural	20%	21%	21%	35%
Online	NA	NA	0.2%	0.3%

34. How many years have you been teaching?

	2005	2007	2009	2011	2013
1-3 years	9%	9%	9%	8%	6%
4-7 years	16%	16%	18%	19%	15%
8-14 years	25%	28%	25%	28%	31%
15+ years	50%	47%	48%	45%	49%

35. How many years have you been teaching CS?

	2005	2007	2009	2011	2013
0 years	NA	4%	6%	6%	4%
1-3 years	21%	17%	19%	19%	19%
4-7 years	27%	21%	22%	23%	20%
8-14 years	27%	30%	30%	27%	29%
15+ years	29%	28%	24%	26%	28%

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

	2011	2013
0-25%	29%	27%
25-50%	15%	16%
50-75%	14%	14%
75-100%	42%	43%

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

	2007	2009	2011	2013
Caucasian / White	91%	88%	89%	89%
African-American / Black	4%	5%	4%	3%
Asian-American / Asian	1%	2%	3%	3%
Hispanic	2%	3%	3%	4%
Native American / Indigenous	1%	2%	1%	1%
Other	2%	2%	2%	2%

38. What is your gender?

	2007	2009	2011	2013
Female	53%	55%	53%	47%
Male	47%	45%	47%	53%

39. What is your age?

	2007	2009	2011	2013
22-30 years	9%	8%	8%	5%
31-40 years	22%	19%	21%	19%
41-50 years	32%	33%	31%	33%
51-60 years	32%	33%	33%	33%
61+ years	4%	7%	7%	11%

40. Are you a CSTA member?

	2013
Yes	76%
No	24%

41. If you are not a CSTA member, would you like to join CSTA?

	2013
Yes	69%
No	31%