



## CSTA NATIONAL SECONDARY COMPUTER SCIENCE SURVEY (2005)

### Methodology:

This survey instrument was developed by CSTA’s Research Committee and was administered in fall 2004 to 14,000 high school teachers who defined themselves as: computer science, computer programming, or AP computer science teachers. Surveys were mailed to teachers across the United States using contact information provided by a market data company. A total of 1047 teachers responded to the survey (a response rate of 7.5%). Teachers were provided the option of submitting the survey by mail, fax, and online. By far, the greatest majority was submitted by mail. The results below represent the total percentage for those who answered each question. This study was made possible by funding from CSTA and The College Board.

### Results:

#### 1.

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

Yes	78%
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**(b) What type of credit is earned by the course?**

CS Credit	30%
Math Credit	8%
Elective Credit	53%
Other Credit	10%

**(c) Is this a required course?**

Yes	26%
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#### 2.

**(a) If you answered “Yes” to (1a) above, how many students are enrolled in introductory (pre-AP) CS?**

1-10	13%
11-25	26%
25-50	24%
51-100	20%
100+	18%

**Overall Average 74 students per school**

**(b) If you answered “Yes” to (1a) above, what content is covered in the course? Check all that apply.**

Hardware	60%
Programming	68%
Web Development	43%
Networks	21%
Graphics	46%
Databases	35%
Security	14%
Logic	11%
Ethics	56%
Other	27%

**3. If you answered “Yes” to (1a) above, what percentage of students enrolled in introductory CS are female?**

1-20% females	42% of schools
21-40% females	23% of schools
41-60% females	29% of schools
61-80% females	3% of schools
81-100% females	1% of schools
<b>Overall Average</b>	<b>32% females</b>

**4.**

**(a) Does your school offer AP Computer Science?**

Yes	40%
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**(b) If you answered to “Yes” to (4a) above, how many students take AP CS in an average academic year?**

1-10 students	43% of schools
11-25 students	33% of schools
25-50 students	15% of schools
51-100 students	6% of schools
100+ students	3% of schools
<b>Overall Average</b>	<b>24 students per school</b>

**5. If you answered “Yes” to (4a) above, what percentage of students enrolled in AP CS are female?**

1-20% females	58% of schools
21-40% females	24% of schools
41-60% females	15% of schools
61-80% females	1% of schools
81-100% females	0% of schools
<b>Overall Average</b>	<b>23% females</b>

**6. Have CS enrollments increased or decreased in your school over the past five (5) years?**

Increased	56% of schools
Decreased	44% of schools

*\* The researchers believe that these numbers may be somewhat misleading because the 5 year timeframe is too long to account for recent changes. A time frame of two years has been suggested for future surveys.*

**7. Under what department is CS offered in your school:**

Computing	28%
Technology	32%
Business	31%
Math	20%
Science	3%
Other	10%

**8.**

**(a) Does your district require you to teach a specific computer science course curriculum that includes specific content and outcomes?**

Yes	41%
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**(b) If YES, are these requirements enforced?**

Yes	53%
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*\* 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.**

**(a) Does your state consider CS a certified teachable?**

Yes	60%
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**(b) If you answered to yes to question (9a) above, are you required to hold this CS certification to teach CS in your state?**

Yes	58%
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**(c) Is there a web site that contains information about CS teaching certification in your state?**

Yes	42%
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*\* 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 teacher certification requirements for their state, or that policy awareness and enforcement varies so much from district to district that no conclusive answer is possible.*

**10. How does CS qualify as a major/minor subject field in your state, or is it treated as an endorsement to a license in another subject?**

Minor/Major	27%
Endorsed	20%
Not sure	53%

**11. What do you perceive as the greatest challenges in teaching CS? (Values Range from 1 Biggest Challenge to 9 Least Challenge.)**

Rapid Change	3.42
Lack of Curriculum	4.29
Lack of Hardware	4.39
Difficult	4.46
Lack Student Interest	4.64
Lack School Interest	4.78
Lack Student Knowledge	5.24
Lack Teacher Knowledge	5.31
Other	7.21

**12. What do you perceive as the greatest professional development need? (Values Range from 1 Biggest Need to 4 Least Need.)**

Time for Training	1.61
Training Opportunities	2.02
Training Facilities	2.59
Other	3.67

**13. If students are not taking CS courses in your school, why do you believe they're not? (Values Range from 1 Biggest Reason to 6 Least Reason.)**

No Room in Schedule	2.24
Greater Interest Elsewhere	3.02
Subject Too Difficult	3.09
Elective "Less Important"	3.26
Perceived as Geeky	4.07
Other	5.04

**14. What do you believe is the most effective method for delivering professional development to CS teachers? (Values Range from 1 Most Effective to 7 Least Effective.)**

Workshops	2.41
Computer Courses	3.06*
Online Resources	3.70
Professional Conferences	3.79
Networking	4.01
College Courses	4.14
Other	6.43

*\* The researchers believe that the designation “computer courses” may have been interpreted by some respondents as courses focusing on on computing content and by others as courses where the computer way the primary delivery mechanism for the course.*

**15. How many years have you been teaching?**

1-3 years	9% of respondents
4-7 years	16% of respondents
8-14 years	25% of respondents
15+ years	50% of respondents
<b>Overall Average</b>	<b>16 years</b>

**16. How many years have you been teaching CS?**

1-3 years	17% of respondents
4-7 years	27% of respondents
8-14 years	27% of respondents
15+ years	29% of respondents
<b>Overall Average</b>	<b>10 years</b>

**17. How many students attend your school?**

1-100 students	4% of schools
101-250 students	12% of schools
251-500 students	22% of schools
501-1000 students	24% of schools
1001-2000 students	26% of schools
2000+ students	12% of schools
<b>Overall Average</b>	<b>1007 students per school</b>