CE21-Maryland High School Computer Science Survey (2012)



1. How many students attend your school?			
	Response Percent	Response Count	
1-100	0.0%	0	
101-250	2.1%	2	
251-500	6.3%	6	
501-1000	19.8%	19	
1001-2000	57.3%	55	
2001+	14.6%	14	
	answered question	96	
	skipped question	1	

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

	Response Percent	Response Count
0%	6.5%	6
1-20%	64.5%	60
21-40%	18.3%	17
41-60%	3.2%	3
61-80%	4.3%	4
81-100%	3.2%	3
	answered question	93
	skipped question	4

3. What percentage of students at your school are African American?

	Response Percent	Response Count
0%	0.0%	0
1-20%	46.7%	43
21-40%	26.1%	24
41-60%	12.0%	11
61-80%	4.3%	4
81-100%	10.9%	10
	answered question	92
	skipped question	5

4. What percentage of students at your school are Hispanic/Latino?

	Response Percent	Response Count
0%	3.3%	3
1-20%	78.3%	72
21-40%	13.0%	12
41-60%	3.3%	3
61-80%	1.1%	1
81-100%	1.1%	1
	answered question	92
	skipped question	5

5. What percentage of students qualify for free or reduced lunch?

	Response Percent	Response Count
0%	1.1%	1
1-20%	34.4%	32
21-40%	30.1%	28
41-60%	25.8%	24
61-80%	7.5%	7
81-100%	1.1%	1
	answered question	93
	skipped question	4

6. In which Maryland public school district is your high school located?

	Response Percent	Response Count
Allegany County	0.0%	0
Anne Arundel County	6.2%	6
Baltimore City	7.2%	7
Baltimore County	11.3%	11
Calvert County	0.0%	0
Caroline County	1.0%	1
Carroll County	3.1%	3
Cecil County	6.2%	6
Charles County	4.1%	4
Dorchester County	1.0%	1
Frederick County	8.2%	8
Garrett County	0.0%	0
Harford County	9.3%	9
Howard County	8.2%	8
Kent County	1.0%	1
Montgomery County	18.6%	18
Prince Georges County	8.2%	8
Queen Anne's County	1.0%	1
Somerset County	0.0%	0
St. Mary's County	2.1%	2
Talbot County	0.0%	0
Washington County	1.0%	1
Wicomico County	2.1%	2

0	0.0%	Worcester County
97	answered question	
0	skipped question	

7. Which of the following best describes your school's location?			
	Response Percent	Response Count	
Urban	19.6%	19	
Suburban	57.7%	56	
Rural	22.7%	22	
Online	0.0%	0	
	answered question	97	
	skipped question	0	

8. Which of the following are offered at your high school? (Check all that apply.)

	Response Percent	Response Count
Keyboarding	38.1%	37
An introductory computer science course (pre-AP)	59.8%	58
Advanced Placement Computer Science (AP)	56.7%	55
Oracle Academy	3.1%	3
Cisco Academy	19.6%	19
Other CS/IT courses	41.2%	40
None of the above; My school does not offer CS/IT courses	8.2%	8
	answered question	97
	skipped question	0

9. Which of the following best describes CS/IT your school?

	Response Percent	Response Count
CS/IT courses have never been offered at my school	50.0%	4
CS/IT courses were offered in the past at my school, but have been discontinued	50.0%	4

Comments:

1

n 8	answered question	
n 89	skipped question	

10. What are some of the reasons why your school does not offer computer science courses? (Check all that apply.)

	Response Percent	Response Count
Insufficient student interest	62.5%	5
Budget restrictions	62.5%	5
Lack of qualified teachers	25.0%	2
CS is not a graduation requirement	25.0%	2
CS is not a priority for my high school	37.5%	3
CS is not a priority for the school system	25.0%	2
Other (please specify)	12.5%	1
	answered question	8
	skipped question	89

11. In your judgement, do you think that your school should offer CS courses?

	Response Percent	Response Count
Yes	87.5%	7
No	12.5%	1
	answered question	8
	skipped question	89

12. If your school offered CS/IT courses would you be interested in teaching them?

Response Count	Response Percent	
1	12.5%	Yes
3	37.5%	No
4	50.0%	Maybe
8	answered question	
89	skipped question	

13. Under what department(s) is CS offered in your school? (Check all that apply.)

		Response Percent	Response Count
Business		65.1%	54
Technology		47.0%	39
Computing		13.3%	11
Math		10.8%	9
Science		3.6%	3
Other (please specify)		9.6%	8
	answ	vered question	83
	skiį	pped question	14

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

	Response Percent	Response Count
Yes	62.4%	53
No [37.6%	32
	Comments	7
	answered question	85
	skipped question	12

15. Are these requirements enforced?

	Response Percent	Response Count
Yes	50.6%	40
No	49.4%	39
	Comments	6
	answered question	79

skipped question

18

16. Does your school offer an introductory (pre-AP) Computer Science (CS) course?

	Response Percent	Response Count
Yes	60.5%	52
No	39.5%	34
	answered question	86
	skipped question	11

17. What is the title of the introductory CS course, offered at your school?		
		Response Count
		44
	answered question	44
	skipped question	53
18. Are students required to	take introductory CS?	
	Response Percent	Response Count
Yes	20.8%	10
No	79.2%	38
	Comments	8
	answered question	48
	skipped question	49
19. Does the CS introductor	ry course offered in your school have prerequisites?	
	Response Percent	Response Count
Yes	47.8%	22
No	52.2%	24
	If yes, what are the prerequisites?	22
	answered question	46
	skipped question	51

20. How many students enrolled in introductory CS this year at your high school?			
	Response Percent	Response Count	
1-10	4.3%	2	
11-25	34.8%	16	
26-50	28.3%	13	
51-100	17.4%	8	
101+	15.2%	7	
	answered question	46	
	skipped question	51	

21. What approximate percentage of students enrolled in introductory CS are female?			
	Response Percent	Response Count	
0%	8.7%	4	
1-20%	60.9%	28	
21-40%	26.1%	12	
41-60%	4.3%	2	
61-80%	0.0%	0	
81-99%	0.0%	0	
100%	0.0%	0	
	answered question	46	
	skipped question	51	

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

	Response Percent	Response Count
0%	2.2%	1
1-20%	52.2%	24
21-40%	26.1%	12
41-60%	10.9%	5
61-80%	0.0%	0
81-99%	8.7%	4
100%	0.0%	0
	answered question	46
	skipped question	51

23. What content is covered in introductory CS? (Check all that apply.)

	Response Percent	Response Count
Programming	97.8%	44
Problem solving	86.7%	39
Ethics and social issues	51.1%	23
Hardware	48.9%	22
Graphics	28.9%	13
Web development	17.8%	8
Computer security	15.6%	7
Game programming	26.7%	12
Productivity software	8.9%	4
Databases	2.2%	1
Networks	8.9%	4
Logic	64.4%	29
Information about computing/IT careers	48.9%	22
Information about computing/IT majors/programs at 2-year colleges	8.9%	4
Information about computing/IT majors at 4-year colleges	17.8%	8
Information about the Maryland computing/IT job market	8.9%	4
Information about employers' commitment to diversity in computing/IT	6.7%	3
	answered question	45
	skipped question	52

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

	Response Percent	Response Count
Java	84.4%	38
Alice	35.6%	16
Visual Basic	15.6%	7
Scratch	11.1%	5
java script	6.7%	3
C++	35.6%	16
Python	11.1%	5
Greenfoot	0.0%	0
C#	0.0%	0
HTML	15.6%	7
Other (please specify)	13.3%	6
	answered question	45
	skipped question	52

25. What type of credit is earned by the introductory CS (pre-AP) courses? (Check all that apply.)

	Response Percent	Response Count
Technology Education Credit	42.2%	19
Computing Credit	4.4%	2
Business Credit	8.9%	4
Math Credit	6.7%	3
Science Credit	2.2%	1
General Elective Credit	46.7%	21
Other Credit	6.7%	3
	Other (please specify)	4

answered question	45
skipped question	52

26. Does your school offer AP Computer Science?

	Response Percent	Response Count
Yes	60.5%	49
No	39.5%	32
	answered question	81
	skipped question	16

27. How many students take AP CS each year?

	Response Percent	Response Count
1-10	25.0%	12
11-25	52.1%	25
26-50	12.5%	6
51-100	10.4%	5
101+	0.0%	0
	answered question	48
	skipped question	49

28. What percentage of students enrolled in AP CS are female?

	Response Percent	Response Count
0%	10.4%	5
1-20%	77.1%	37
21-40%	10.4%	5
41-60%	2.1%	1
61-80%	0.0%	0
81-99%	0.0%	0
100%	0.0%	0
	answered question	48
	skipped question	49

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

	Respo Perc		Response Count
0%		6.3%	3
1-20%	6	6.7%	32
21-40%	1	2.5%	6
41-60%		8.3%	4
61-80%		0.0%	0
81-99%		6.3%	3
100%		0.0%	0
	answered ques	stion	48
	skipped ques	stion	49

30. Does your school offer CS/IT courses other than introductory and AP Computer Science?

		esponse Percent	Response Count
Yes		64.6%	51
No		35.4%	28
	answered o	question	79
	skipped c	question	18

31. If your school offers other CS/IT courses, which of the following are offered? (Check all that apply.)

	Response Percent	Response Count
Keyboarding	37.9%	25
Web design	56.1%	37
Computer graphics	39.4%	26
Computing communications/media	16.7%	11
Programming	42.4%	28
Networking	34.8%	23
Game development	18.2%	12
Computer security	7.6%	5
Other (please specify)	18.2%	12
	answered question	66
	skipped question	31

32. How many years have you been teaching CS/IT?

	Response Percent	Response Count
0 years	12.7%	10
1-3 years	24.1%	19
4-7 years	16.5%	13
8-14 years	21.5%	17
15+ years	25.3%	20
	answered question	79
	skipped question	18

33. In a typical year, what percentage of the courses you teach are CS/IT courses?

	Response Percent	Response Count
0%-25%	38.5%	30
26%-50%	16.7%	13
51%-75%	12.8%	10
76%-100%	32.1%	25
	answered question	78
	skipped question	19

34. Which of the following courses have you taught in the past three years? (Check all that apply.)

	Resp Per	onse cent	Response Count
Keyboarding	1	4.3%	10
Introductory CS	5	64.3%	38
AP CS	4	10.0%	28
Web design	3	37.1%	26
Computer graphics	1	1.4%	8
Computing communications/media	1	0.0%	7
Programming	4	14.3%	31
Networking	1	4.3%	10
Game development	1	1.4%	8
Computer security		4.3%	3
Other (please specify)	3	32.9%	23
	answered que	stion	70
	skipped que	stion	27

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

	Response Percent	Response Count
Yes	18.4%	14
No, but I know about the ACM/CSTA Model Curriculum	31.6%	24
No, and I never heard of the ACM/CSTA Model Curriculum	50.0%	38
	answered question	76
	skipped question	21

36. Are the courses that you teach part of any of the following? (Check all that apply.)

	Respons Percent	
Oracle Academy	2.19	6 1
Cisco Academy	16.79	% 8
Other CTE IT courses	47.99	% 23
Locally developed CS/IT courses not part of CTE course offerings	52.19	% 25
	answered questio	n 48
	skipped questio	n 49

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

	Response Percent	Response Count
Increased	32.0%	24
Decreased	29.3%	22
Stayed about the same	38.7%	29
	Comments:	11
	answered question	75
	skipped question	22

38. In your judgement, do you think there are students who should be taking CS course(s) that your school offers, but who are not?

	Response Percent	Response Count
Yes	85.3%	64
No	14.7%	11
	answered question	75
	skipped question	22

39. Why are these students not taking the CS courses your school offers? (Rate each reason.)

	Very common	Somewhat common	Uncommon	Response Count
No room in timetable	58.2% (39)	35.8% (24)	6.0% (4)	67
Greater interest in other subjects	37.5% (24)	53.1% (34)	9.4% (6)	64
Elective courses are less important	50.7% (34)	38.8% (26)	10.4% (7)	67
Subject matter too difficult	23.9% (16)	50.7% (34)	25.4% (17)	67
CS is perceived to be "geeky"	23.8% (15)	49.2% (31)	27.0% (17)	63
Perceived as male-dominated	23.1% (15)	46.2% (30)	30.8% (20)	65
Perception of limited job opportunities	1.6% (1)	18.8% (12)	79.7% (51)	64
Lack of knowledge about careers in computing	28.8% (19)	48.5% (32)	22.7% (15)	66
Unaware of CS courses being offered by school	31.3% (20)	39.1% (25)	29.7% (19)	64
Don't understand importance of CS coursework	53.1% (34)	37.5% (24)	9.4% (6)	64
Rather take other enrichment classes such as music	30.2% (19)	47.6% (30)	22.2% (14)	63
Lack of knowledge about CTE programs of study	43.9% (29)	39.4% (26)	16.7% (11)	66
CTE courses perceived as not rigorous enough for college-bound students	22.4% (15)	32.8% (22)	44.8% (30)	67
			answered question	69
			skipped question	28

40. In your judgement, do you think that your school should offer more CS courses?				
	Response Percent	Response Count		
Yes	67.5%	52		
No	32.5%	25		
	answered question	77		
	skipped question	20		
41. If yes, what CS courses	should be added?			
		Response Count		
		45		
	answered question	45		
	skipped question	52		

42. What are some of the reasons why your school does not offer more computer science courses? (Check all that apply.)

	Response Percent	Response Count
Insufficient student interest	48.1%	37
Budget restrictions	51.9%	40
Lack of qualified teachers	40.3%	31
CS is not a graduation requirement	62.3%	48
CS is not a priority for my high school	42.9%	33
CS is not a priority for the school system	50.6%	39
Other (please specify)	11.7%	9
	answered question	77
	skipped question	20

43. What do you perceive as the greatest challenges in teaching CS? (Please rate each challenge.)

	Great Challenge	Moderate challenge	Minor/no challenge	Response Count
Lack of student interest/enrollment	37.2% (29)	48.7% (38)	14.1% (11)	78
Rapidly changing technolgy	33.8% (26)	49.4% (38)	16.9% (13)	77
Difficult subject matter	27.6% (21)	47.4% (36)	25.0% (19)	76
Lack of support/interest by school staff	39.7% (31)	38.5% (30)	21.8% (17)	78
Lack of student subject knowledge	27.6% (21)	55.3% (42)	17.1% (13)	76
Lack of curriculum resources	34.7% (26)	34.7% (26)	30.7% (23)	75
Lack of hardware/software resources	38.2% (29)	27.6% (21)	34.2% (26)	76
Lack of teacher subject knowlege	16.9% (13)	39.0% (30)	44.2% (34)	77
			answered question	80
			skipped question	17

44. Challenges continued. (Please rank each of the following.)

	Great challenge	Moderate challenge	Minor/no challenge	Response Count
Lack of student math preparation	28.9% (22)	59.2% (45)	11.8% (9)	76
Lack of support/interest by school leadership	35.5% (27)	38.2% (29)	26.3% (20)	76
Lack of computer lab space	23.7% (18)	27.6% (21)	48.7% (37)	76
Lack of computer lab/IT support personnel	18.4% (14)	34.2% (26)	47.4% (36)	76
Lack of guidance staff knowledge about importance of CS	45.5% (35)	42.9% (33)	11.7% (9)	77
Lack of parental encouragement for students to take CS	39.2% (31)	49.4% (39)	11.4% (9)	79
Lack of parental knowlege about the importance of CS	46.2% (36)	41.0% (32)	12.8% (10)	78
Lack of a professional community of other CS instructors	24.7% (19)	46.8% (36)	28.6% (22)	77
Lack of professional development opportunities	17.3% (13)	48.0% (36)	34.7% (26)	75
Understanding state curriculum standards	14.5% (11)	42.1% (32)	43.4% (33)	76
Creating a curriculum that satisfies district and state standards	19.7% (15)	43.4% (33)	36.8% (28)	76
Being asked to teach multiple CS related courses in the same classroom at the same time	36.8% (28)	36.8% (28)	26.3% (20)	76
Teacher lack of knowledge of Maryland job market	7.9% (6)	36.8% (28)	55.3% (42)	76
Teacher lack of knowledge of CS career paths	6.6% (5)	31.6% (24)	61.8% (47)	76
Inability to attact women and minorities to CS classes	27.6% (21)	47.4% (36)	25.0% (19)	76
Lack of internships for students	21.1% (16)	47.4% (36)	31.6% (24)	76

answered question	79
skipped question	18

45. What do you perceive as the greatest professional development needs?

	Great need	Moderate need	Minor/no need	Response Count
Time for training	63.2% (48)	26.3% (20)	10.5% (8)	76
Sufficient training opportunities	54.7% (41)	32.0% (24)	13.3% (10)	75
Training cost (and lack of reimbursement)	60.5% (46)	25.0% (19)	14.5% (11)	76
Training facilities and resources	44.7% (34)	34.2% (26)	21.1% (16)	76
Sufficient training opportunities nearby	45.3% (34)	38.7% (29)	16.0% (12)	75
Readily available information about upcoming training opportunities	32.0% (24)	45.3% (34)	22.7% (17)	75
Timely information about training opportunities	35.5% (27)	39.5% (30)	25.0% (19)	76
More training at convenient times during school year	42.1% (32)	50.0% (38)	7.9% (6)	76
More training offered during the summer	46.1% (35)	34.2% (26)	19.7% (15)	76
			answered question	77
			skipped question	20

46. What do you believe to be the most effective methods for delivering professional development to CS teachers? (Please rank each.)

	Most effective	Somewhat effective	Least effective	Response Count
Workshops/seminars	67.1% (51)	27.6% (21)	5.3% (4)	76
Online resources	43.2% (32)	47.3% (35)	9.5% (7)	74
Networking with others	52.1% (38)	38.4% (28)	9.6% (7)	73
Computer-based tutorials	41.7% (30)	44.4% (32)	13.9% (10)	72
Professional conferences	42.7% (32)	45.3% (34)	12.0% (9)	75
College courses	53.4% (39)	37.0% (27)	9.6% (7)	73
		Other effective me	ethods (please specify)	7
			answered question	77
			skipped question	20

47. Please rank your preference/the convenience of each of the following times for your participation in professional development activities?

	Most prefer/most convenient	Prefer slightly/Somewhat convenient	Definitely not/Not convenient	Response Count
After school-4:30-6:00 pm	34.2% (25)	27.4% (20)	38.4% (28)	73
Saturday morning during school year	14.9% (11)	25.7% (19)	59.5% (44)	74
Saturday afternoon during school year	11.0% (8)	16.4% (12)	72.6% (53)	73
Summer-weekdays in June immediately after school ends	58.2% (46)	25.3% (20)	16.5% (13)	79
Summer-weekdays in July	37.8% (28)	35.1% (26)	27.0% (20)	74
Summer-weekdays in early August	33.3% (25)	40.0% (30)	26.7% (20)	75
Summer-Saturdays	9.7% (7)	15.3% (11)	75.0% (54)	72
			answered question	79
			skipped question	18

48. Which of the following certifications do you currently hold? (Check all that apply)

	Response Percent	Response Count
Professional Eligibility Certificate (PEC)	0.0%	0
Standard Professional Certificate I (SPC I)	21.0%	17
Standard Professional Certificate II (SPCII)	2.5%	2
Advanced Professional Certificate (APC)	75.3%	61
Resident Teacher Certificate (RTC)	1.2%	1
Conditional Certificate (COND)	0.0%	0
	answered question	81
	skipped question	16

49. In which of the following areas are you certified to teach in Maryland?

	Response Percent	Response Count
Agriculture/Agribusiness and Renewable Natural Resources	1.2%	1
Biology	4.8%	4
Business Education	31.0%	26
Chemistry	4.8%	4
Computer Science	40.5%	34
Data Processing	1.2%	1
Earth/Space Science	0.0%	0
English	4.8%	4
Family and Consumer Sciences	6.0%	5
Family and Consumer Sciences/Career Technology Education	3.6%	3
Foreign Language: Classical	1.2%	1
Foreign Language: Modern	1.2%	1
Geography	1.2%	1
Health Occupations Education	0.0%	0
History	2.4%	2
Marketing Education - Teacher- Coordinator	2.4%	2
Mathematics	27.4%	23
Physical Science	1.2%	1
Physics	2.4%	2
Social Studies	6.0%	5
Speech Communication	0.0%	0

Technology Education	42.9%	36
Theater	0.0%	0
Trades and Industry	4.8%	4
Work-Based Learning Coordinator (endorsement only)	0.0%	0
Other (please specify)	13.1%	11
	answered question	84
	skipped question	13

50. How many years have you been teaching? Response Response Percent Count 1-3 years 3 3.5% 4-7 years 21.2% 18 8-14 years 29.4% 25 15+ years 45.9% 39 answered question 85 skipped question 12

51. How do you identify yourself? (Check all that apply.)

	Response Percent	Response Count
African American/Black	13.1%	11
Asian American/Pacific Islander	3.6%	3
Caucasian/White	79.8%	67
Hispanic	0.0%	0
Native American/Indigenous	0.0%	0
Other (please specify)	4.8%	4
	answered question	84
	skipped question	13

52. Sex:

Response Count	Response Percent	
39	46.4%	Female
45	53.6%	Male
84	answered question	
13	skipped question	

53. What is your age? Response Response Percent Count 22-30 6.0% 5 31-40 20.5% 17 41-50 31.3% 26 51-60 33.7% 28 7 61+ 8.4% answered question 83 skipped question 14