## CE21-Maryland High School Computer Science

SurveyMonkey Survey (2012)

## 1. How many students attend your school?

|  |  | Response <br> Percent | Response <br> Count |
| ---: | :--- | ---: | :--- |
| $1-100$ |  | $\square$ | $0.0 \%$ |

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


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


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


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

$\left.\begin{array}{rlrl} & \begin{array}{c}\text { Response } \\ \text { Percent }\end{array} & \begin{array}{c}\text { Response } \\ \text { Count }\end{array} \\ \hline 1-20 \% & \square & 1.1 \%\end{array}\right)$

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

|  |  | Response <br> Percent | Response <br> Count |
| ---: | :--- | ---: | :--- |
| Allegany County |  |  | $0.0 \%$ |


| Worcester County |  | 0.0\% | 0 |
| :---: | :---: | :---: | :---: |
|  |  | answered question | 97 |
|  |  | skipped question | 0 |
| 7. Which of the following best describes your school's location? |  |  |  |
|  |  | Response Percent | Response Count |
| Urban | $\square$ | 19.6\% | 19 |
| Suburban | $\square$ | 57.7\% | 56 |
| Rural | $\square$ | 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.)

$\left.\begin{array}{rrrr}\text { Keyboarding } & & & \begin{array}{c}\text { Response } \\ \text { Percent }\end{array} \\ \text { Response }\end{array}\right)$

## 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 | $\qquad$ | 50.0\% | 4 |
|  |  | Comments: | 1 |
|  |  | answered question | 8 |
|  |  | skipped question | 89 |

10. What are some of the reasons why your school does not offer computer science courses? (Check all that apply.)
$\left.\begin{array}{rlrl}\hline \text { Insufficient student interest } & & & \begin{array}{c}\text { Response } \\ \text { Percent }\end{array} \\ \text { Response } \\ \text { Count }\end{array}\right)$
11. In your judgement, do you think that your school should offer CS courses?

|  |  |  | Response <br> Percent | Response <br> Count |
| :---: | :---: | :---: | :---: | :---: |
| Yes | $\square$ | $87.5 \%$ | 7 |  |
| No | $\square$ | $12.5 \%$ | 1 |  |

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

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

|  |  | Response <br> Percent | Response <br> Count |
| ---: | :--- | ---: | :--- |
| Business | $\square$ | $65.1 \%$ |  |

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

|  |  |  | Response <br> Percent | Response <br> Count |
| :--- | :--- | :--- | ---: | ---: |
| Yes | $\square$ | $62.4 \%$ | 53 |  |
| No | $\square$ | $37.6 \%$ | 32 |  |

Comments
15. Are these requirements enforced?
answered question 85
skipped question 12

|  |  |  |  | Response <br> Percent |
| :--- | :--- | :--- | ---: | ---: |
| Yes | $\square$ | Response <br> Count |  |  |
| No | $\square$ | $50.6 \%$ | 40 |  |

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

|  |  |  | Response <br> Percent | Response <br> Count |
| :--- | :--- | :--- | ---: | ---: |
| Yes | $\square$ | $60.5 \%$ | 52 |  |
| No | $\square$ | $39.5 \%$ | 34 |  |

17. What is the title of the introductory CS course, offered at your school?

Response
Count

|  | answered question | 44 |
| :--- | :--- | :--- |
|  | skipped question | 53 |

18. Are students required to take introductory CS?

|  |  |  | Response <br> Percent | Response <br> Count |
| :---: | ---: | ---: | ---: | ---: |
| Yes |  |  | $20.8 \%$ | 10 |
| No | $\square$ | $79.2 \%$ | 38 |  |

answered question
19. Does the CS introductory course offered in your school have prerequisites?

|  |  |  | Response <br> Percent | Response <br> Count |
| :--- | :--- | ---: | ---: | ---: |
| Yes | $\square$ | $47.8 \%$ | 22 |  |
| No | $\square$ | $52.2 \%$ | 24 |  |

If yes, what are the prerequisites?
20. How many students enrolled in introductory CS this year at your high school?

|  |  |  | Response <br> Percent | Response <br> Count |
| :---: | :--- | :---: | :---: | :---: |
| $1-10$ | $\square$ | $4.3 \%$ | 2 |  |
| $11-25$ | $\square$ | $34.8 \%$ | 16 |  |
| $26-50$ | $\square$ | $28.3 \%$ | 13 |  |
| $51-100$ | $\square$ | $17.4 \%$ | 8 |  |
| $101+$ | $\square$ | $15.2 \%$ | 7 |  |

21. What approximate percentage of students enrolled in introductory CS are female?

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

|  |  | Response <br> Percent | Response <br> Count |
| ---: | :--- | ---: | :--- |
| $10 \%$ | $\square$ | $2.2 \%$ | 1 |

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

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

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 $\quad \square$ | 4.4\% | 2 |
| Business Credit $\square$ | 8.9\% | 4 |
| Math Credit | 6.7\% | 3 |
| Science Credit $\quad \square$ | 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 | $\square$ | 60.5\% | 49 |
| No | $\square$ | 39.5\% | 32 |
|  |  | answered question | 81 |

27. How many students take AP CS each year?

|  |  |  | Response <br> Percent | Response <br> Count |
| :---: | :---: | :---: | :---: | :---: |
| $1-10$ |  |  | $25.0 \%$ | 12 |
| $11-25$ | $\square$ | $52.1 \%$ | $\mathbf{2 5}$ |  |
| $26-50$ | $\square$ | $12.5 \%$ | 6 |  |
| $51-100$ | $\square$ | $10.4 \%$ | 5 |  |
| $101+$ |  |  | $0.0 \%$ | 0 |

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\% | $\square$ | 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?

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

|  |  |  | Response <br> Percent | Response <br> Count |
| :--- | :--- | :--- | ---: | ---: |
| Yes | $\square$ | $64.6 \%$ | 51 |  |
| No | $\square$ | $35.4 \%$ | 28 |  |

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

|  |  | Response <br> Percent | Response <br> Count |
| ---: | :--- | ---: | :--- |
| Keyboarding |  |  | $37.9 \%$ |

32. How many years have you been teaching CS/IT?
$\left.\begin{array}{cll} & & \\ \hline 0 \text { years } & \square & \begin{array}{c}\text { Response } \\ \text { Percent }\end{array} \\ \text { Response } \\ \text { Count }\end{array}\right\}$
33. In a typical year, what percentage of the courses you teach are CS/IT courses?

|  | Response <br> Percent | Response <br> Count |  |  |
| :--- | :--- | :--- | :--- | :--- |
| $0 \%-25 \%$ |  |  | $38.5 \%$ | 30 |

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

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.)

|  |  | Response <br> Percent | Response <br> Count |
| ---: | ---: | ---: | ---: | ---: |
| Oracle Academy | $\square$ | $2.1 \%$ |  |

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

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
42. What are some of the reasons why your school does not offer more computer science courses? (Check all that apply.)
$\left.\begin{array}{rrrr}\hline \text { Insufficient student interest } & & & \begin{array}{c}\text { Response } \\ \text { Percent }\end{array} \\ \text { Rudget restrictions } \\ \text { Count }\end{array}\right)$
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 |


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 methods (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)
$\left.\begin{array}{rrrrr} & & \begin{array}{r}\text { Response } \\ \text { Percent }\end{array} & \begin{array}{c}\text { Response } \\ \text { Count }\end{array} \\ \hline \text { Professional Eligibility Certificate } \\ \text { (PEC) }\end{array}\right)$
49. In which of the following areas are you certified to teach in Maryland?

| Response | Response |
| :---: | :---: |
| Percent | Count |



| Technology Education | $\square$ | 42.9\% | 36 |
| :---: | :---: | :---: | :---: |
| Theater |  | 0.0\% | 0 |
| Trades and Industry | $\square$ | 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?

| $1-3$ years | $\square$ | Response <br> Percent | Response <br> Count |
| :--- | :--- | :--- | :--- |
| $4-7$ years | $\square$ | $3.5 \%$ |  |

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

$\left.\begin{array}{rrrr} & \begin{array}{c}\text { Response } \\ \text { Percent }\end{array} \\ \text { Response } \\ \text { Count }\end{array}\right)$
52. Sex:

|  |  |  | Response <br> Percent | Response <br> Count |
| ---: | :--- | ---: | ---: | ---: |
| Female | $\square$ | $46.4 \%$ | 39 |  |
| Male | $\square$ | $53.6 \%$ | 45 |  |

answered question 84
skipped question13
53. What is your age?


