

## Survey of Mathematics Teachers on Mathematics & Computer Science

Oregon’s Engineering & Technology Industry Council has established a Computer Science Task Force to recommend ways to increase the number of young people who choose computer science as their college major. The formation of this task force is in response to a significant drop in enrollments in college computer science programs in recent years – both nationally and in Oregon. Unless we find a way of reversing this trend, Oregon faces a shortage of people with education required to pursue careers in this high-paying field. The following survey asks for your input on some ideas that have been generated to address this issue.

Please respond to the following:

	Strongly Disagree	1	2	3	4	Strongly Agree	5	Don’t Know	DK
I would find it easy to describe <b>computer science</b> <sup>1</sup> – both as a college major and a career – to my students.	1	2	3	4	5	DK			
Students in my school would benefit from learning more about <b>computer science</b> .	1	2	3	4	5	DK			
I would be interested and willing to teach a class in <b>discrete mathematics</b> <sup>2</sup> if the appropriate materials and training were available.	1	2	3	4	5	DK			
I would be interested and willing to use a <b>spreadsheet program</b> to enhance students’ understanding of mathematics if the appropriate materials and training were available.	1	2	3	4	5	DK			
I would be interested and willing to use <b>programmable graphical calculators</b> to enhance students’ understanding of mathematics if the appropriate materials and training were available.	1	2	3	4	5	DK			
I would be interested and willing to feature other types of <b>computer programming</b> to enhance students’ understanding of mathematics if the appropriate materials and training were available	1	2	3	4	5	DK			

<sup>1</sup> Computer science is the study of computers and algorithmic processes, including their principles, their hardware and software designs, their application, and their impact on society.

<sup>2</sup> A high school course in discrete mathematics might include a few of the following topics:

- [Logic](#) - a study of reasoning;
- [Set theory](#) - a study of collections of elements;
- [Number theory](#);
- [Combinatorics](#) - a study of counting;
- [Graph theory](#);
- [Digital geometry](#) and [digital topology](#);
- [Algorithmics](#) - a study of methods of calculation;
- [Information theory](#);
- [Computability](#) and [complexity](#) theories - dealing with theoretical and practical limitations of algorithms;
- Elementary [probability theory](#) and [Markov chains](#);
- [Linear algebra](#) - a study of related linear equations.
- [Functions](#)
- [Partially Ordered Sets](#)
- [Probability](#)
- [Proofs](#)
- [Counting](#) and [Relations](#)
- [Collections](#)

Students' understanding of mathematics concepts could be improved by the appropriate use of <b>computer programming</b> assignments in a mathematics class.	1	2	3	4	5	DK
Now that three years of mathematics are required for graduation, <b>computer science</b> should be allowed as one of these years.	1	2	3	4	5	DK
The most significant obstacles to integrating computer science into one of my mathematics classes would be ...						
To be comfortable and prepared to feature computer science in one of my mathematics classes I would need...						

### Demographic information

Approximately how many students are enrolled in your school?	500 or less	500-1000	1001-1500			
	1501-2000	2001-2500	2501-3000			
	More than 3000					
How large are your math classes? i.e. What is the average number of students per class session?	1-5	6-10	11-15	16-20	21-25	26-30
	31-35	36-40	41-45	46-50	More than 50	
In what county is your school located?						
Is your school public or private?	Public	Private				
What are the main courses that you teach?						
How many years have you been teaching?						
Optional						
Name						
School						
Email						

### Additional information and ideas

1. If your school offers computer science or programming courses, please share with us the instructor's name, e-mail and courses taught.
2. If you know of any instructors who teach an integrated math and computer science class, please provide the instructor's name and how we might contact them.
3. Please share any ideas you have regarding how more students could be introduced to computer science as a possible college major.

Please return this survey in the envelope provided to:

OUS Industry Affairs  
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