

They can hack it: More women are taking computer courses at UW

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At the University of Washington, 32 percent of the bachelor's degrees in computer science will be awarded to women this year, well above the national average of 14 percent. Courtesy Fotolia/TNS

SEATTLE, Wash. — Siena Dumas Ang never thought she would study computer science.

Her first passion was dance — ballet, and later modern dance. She also loved math, and she was planning to major in both at the University of Washington (UW).

Then she took a few computer science classes as electives, and found herself in love with a new subject.

Computer science "takes all of the aspects of math that I really love, and puts them all in a nice, pretty package," Dumas Ang said, adding, "The things we can compute is insane."

This spring, Dumas Ang will graduate with three majors: math, dance and computer science.

"The Inclusive, Welcoming Community"

Dumas Ang is one of dozens of undergraduate women at UW who will take home degrees in computer science this spring. This year at UW, 32 percent of the bachelor's degrees in computer science will be awarded to women.

There's still room to improve, but the university is still doing much better than the national average of 14 percent, said Ed Lazowska, head of the Computer Science and Engineering Department (CSE) at UW.

That is one reason why the university's department is receiving an award for enrolling more women undergraduates in computer science. The award, given by the National Center for Women & Information Technology, comes with a \$100,000 prize funded by Google.org, a division of Google that gives money to charitable causes.

"Strategic, well-planned recruiting and retention efforts" by UW have encouraged more women to study computer science, Lucy Sanders, CEO of the National Center, wrote in a letter announcing the prize.

"Of particular note is the inclusive, welcoming community ... that spans beyond the walls of the university and has demonstrably advanced women's meaningful participation in computing," Sanders wrote.

Women Mentors And Tech Talks

Dumas Ang experienced that welcoming community firsthand when she had the opportunity to work with a significant number of women computer science professors.

Through the university, she attended the national Grace Hopper Celebration of Women in Computing — a conference that honors the life of Hopper, a U.S. Navy rear admiral and early computer programmer. Hopper's work was influential in the development of early computer languages such as COBOL.

Student Jasmine Singh always planned to major in computer science. When she entered UW, the computer science department paired her with a female upperclassman majoring in the field. Her mentor helped Singh adjust to college and gave her advice on classes to take. Singh is now a senior double-majoring in computer science and electrical engineering.

"There are female professors, tech talks performed by successful and intelligent women, coding competitions with plenty of female participants and hosts, and sports teams (such as CSE frisbee) that encourage women to join," Singh said.

Dumas Ang said she thinks women might avoid computer science because it may seem like a "combative, aggressive, male-dominated environment." However, that's not what she found at UW.

"Here, there's much more open discussion about the way women are treated," she said. "There's always going to be people who have a gender bias, but overall the experience in this department is really pleasant."

Challenging Computer Courses

Young women often do not get a chance to take computer science classes in high school, Lazowska and Sanders said. When they get to college and hear male students talk about computer technologies they've never heard of, they may already believe they've fallen behind.

That was Singh's experience. She took computer science in high school but "there were still times I felt inadequate compared to male students that seemed to speak in CS (computer science) jargon that went over my head," she said.

At UW, introductory computer science courses are designed to be challenging but supportive. These classes stress hard work over previous computer science experience.

One statistic in particular illustrates the value of these classes, Lazowska said. Of the UW women who enroll in an introductory computer science course, and later decide to major in the field, 58 percent said they had not been planning to major in computer science.

In other words, the introductory course convinced them. The women who took the class "discovered they loved computer science and were great at it," Lazowska said in an email.

Seeking Greater Diversity

Computer science is an expensive major to teach. Many schools — including UW — limit the number of students admitted. However, the program at UW is growing, in part because of additional money being offered by the Washington state government. The university will graduate 233 computer science students this year, up from 160 three years ago.

Lazowska said many schools start with introductory classes so difficult that many students fail out. He fears this strategy is reducing the diversity of computer science students. Less diversity will hurt the field of computer science as a whole, he said.

"Our data, and common sense, suggest that the people you're going to weed out are precisely the people who are already underrepresented," he said.

Quiz

- 1 Which sentence explains one possible reason why more women choose computer science at the University of Washington compared with other schools?
- (A) Dumas Ang experienced that welcoming community firsthand when she had the opportunity to work with a significant number of women computer science professors.
 - (B) Through the university, she attended the national Grace Hopper Celebration of Women in Computing — a conference that honors the life of Hopper, a U.S. Navy rear admiral and early computer programmer.
 - (C) Singh is now a senior double-majoring in computer science and electrical engineering.
 - (D) Dumas Ang said she thinks women might avoid computer science because it may seem like a “combative, aggressive, male-dominated environment.”
- 2 Which statement from the introduction [paragraphs 1-5] describes a common experience for many female computer science majors?
- (A) Her first passion was dance — ballet, and later modern dance.
 - (B) She also loved math, and she was planning to major in both at the University of Washington (UW).
 - (C) Then she took a few computer science classes as electives, and found herself in love with a new subject.
 - (D) This spring, Dumas Ang will graduate with three majors: math, dance and computer science.
- 3 Which selection is LEAST important to the main idea of the article?
- (A) Dumas Ang is one of dozens of undergraduate women at UW who will take home degrees in computer science this spring.
 - (B) This year at UW, 32 percent of the bachelor’s degrees in computer science will be awarded to women.
 - (C) Computer science is an expensive major to teach. Many schools — including UW — limit the number of students admitted.
 - (D) Young women often don’t get a chance to take computer science classes in high school, Lazowska and Sanders said.

- 4 Which answer choice best explains the main idea of the section "Women Mentors And Tech Talks"?
- (A) University of Washington provides mentors to women to encourage them to double major in computer science and another field.
 - (B) University of Washington is an especially good place for women to study computer science because of the many resources and strong support.
 - (C) University of Washington works hard to recruit women computer science professors but not women computer science students.
 - (D) University of Washington's computer science department is more popular with women than it is with men.