Creative SCF Professor Intersects Mathematics and Art

Tapping into creativity is what SCF Professor Dr. Joni Pirnot loves about teaching mathematics. She has a gift for explaining math as an art to her students, using anecdotes and life lessons to help them understand concepts that are not black or white.

She’s taking advantage of the SCF Fine Art Gallery exhibition, “Tracking the Credit Crisis: A Timeline,” to establish a connection between mathematics and art for students in her Liberal Arts Mathematics course.

In the exercise, students will find clues based on what they see in the exhibit from the Museum of American Finance that traces the development of the recent financial crisis considered to be the most severe and complex economic and financial challenge in modern U.S. experience.

Pirnot will also use the exhibit in a session she is leading at the 37th Annual Suncoast Regional Mathematics Association of America (MAA) Conference held Dec. 7 at SCF Bradenton. She is serving as co-chair of the conference with her colleague, SCF Associate Professor Altay Ozgen, in an effort to make mathematics accessible to students and spark their interest in fields relating to mathematics.

Recognizing that students are often apprehensive of mathematics, Pirnot gives her students at SCF the confidence to conquer their fears, often relating her anxiety over her childhood speech impediment to students’ test performance frustration.

It was through overcoming a severe speech impediment and helping younger children learn to read that Pirnot discovered her gift for teaching and love for art and literature as a child. Growing up, she wanted to be an author and illustrator, and pursued her dream of studying English at New College of Florida. Then during orientation week, she aced a challenging mathematics test administered as part of a student’s research project and changed her major.

In her on-campus work study program, she experimented with late-night security patrol and as a model in the art department before realizing that helping students with math was just as rewarding as helping children learn to read.

Pirnot’s artistic view of math was uncovered as a unique gift while she was earning a Ph.D. in Pure Mathematics from the University of South Florida. When asked by her professor to create automata, which are often used in computer programming, she did them all by drawing pictures rather than using an algorithm.

The professor, a European mathematician accustomed to using pictures to solve math problems, was intrigued by Joni’s approach to math and became her mentor and advisor for her thesis on automata.

For years, mathematicians had used a more structured design to produce one-dimensional automata. In 1990, the existence of two-dimensional automata was proven. Pirnot’s book, “Two-Dimensional Automata: Shift Spaces and Recognizable Languages,” was the first concrete example of what two-dimensional automata would look like.

Google and Microsoft offered jobs on the spot when she presented at conferences in Italy and the Czech Republic. But she was not interested. There is nothing that she would rather do more than meet 200 students each semester.

“I’m doing what I love, and it’s not about the money. It’s about getting up every day and seeing my students and knowing that I am making a difference in their lives,” Pirnot said.

Courses: Calculus, Liberal Arts Mathematics and Discrete Mathematics
Years at SCF: 11 1/2
Extracurricular involvement:
- Current Vice President-elect of Programs, Florida Section of Mathematical Association of America
- Vice President for Site Selection, Florida Section of Mathematical Association of America, 2010-2011
- SCF Mathematics Department Dual Enrollment Coordinator for Sarasota and Manatee counties
- Past Chair/Creator of Scholarship in Developmental Mathematics at SCF

About the 37th Annual Suncoast Regional Mathematics Association of America (MAA) Conference

What: 37th Annual Suncoast Regional MAA Conference
When: 2:00-8:30 p.m., Friday, Dec. 7
Where: SCF Bradenton, 5840 25th St. West, mathematics building 27 (parking lot C, entrance off 57th Avenue)
Cost: $15
Info: Altay Ozgen, 941-752-5227 or ozgen@scf.edu
Maps and directions are at scf.edu/maps.

Source: Information provided by Jessica Kilpa, public information coordinator at SCF.

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