

# FEBRUARY 24 2018

“Frank’s lively classroom presence . . . surely draws on his many years singing and acting as a leading man in light operas. He uses not only his voice, but his body as well, engaging students in corny but effective hand movements to help them remember mathematical content.” (Most of this citation, including that sentence, is quoted directly from students’ and colleagues’ testimonials.)

So wrote one colleague who had observed Frank Farris’s teaching. Here are a few more testimonials, this time from students.

- “Professor Farris is an outstanding educator with a passion for helping his students grow and learn in a multitude of ways.”
- “Excellent teacher, willing to help. Always extremely passionate about subject.”
- “I really enjoy the enthusiasm you bring to teaching and math.”
- “I thoroughly enjoyed the class and your teaching. You care about the students and their ability to understand the material and it shows. Thank you!”

Frank Farris earned his B.A. in mathematics from Pomona College in 1977 and his Ph.D. in mathematics from MIT in 1981. After teaching at Brown University from 1981 to 1984, Frank arrived at Santa Clara University, where he has taught mathematics until now. During his tenure at Santa Clara University, Frank has also been a visiting scholar at several institutions, including Brown University and The Geometry Center at The National Science and Technology Research Center for Computation and Visualization of Geometric Structures in Minneapolis.

A look at Frank’s CV reveals articles in refereed journals, books, other mathematical writing, academic exhibitions of mathematical art, and artwork in juried exhibitions. Thus, we see that Frank is not only an active mathematician, but that he also manages to bring mathematics to a wider audience through his art. But at SCU, Frank is best known for his teaching.

Frank’s manner in the classroom is gentle and accessible. A colleague who observed Frank relates that “[he] thinks very carefully about the order in which he presents, the examples used to illustrate concepts, the parts of a topic that students can discover and contribute to the discussion, and the sorts of homework problems that will cement their understanding.” When it comes to explaining difficult topics, a former student in a discrete mathematics course gives this example: “Quantifiers are a notoriously tricky concept to tackle, but Dr. Farris made it easy to understand the importance of the order of quantifiers in mathematical statements by enthusiastically singing Dean Martins song *Everybody Loves Somebody*. I enjoyed that he invoked his talents in singing to make an abstract concept so concretely understandable, through a clear and memorable example.” Frank’s singing and acting talents must be legendary because they were mentioned in more than one letter of support for this teaching award.

Frank is not afraid to try different innovations for teaching. For example, Frank got a grant to start using WebWork, an online homework system. His students have used Geometer's Sketchpad or GeoGebra in Survey of Geometry, Maple in Partial Differential Equations and in Differential Geometry, and even  $\LaTeX$  in Writing for the Mathematical Sciences. Most recently, Frank has embraced active learning in the classroom, creating activities that will engage all of the students to the extent of getting the students out of their seats and working at the blackboard together.

Frank also ensures that his classes are appropriately challenging and rigorous, and his students appreciate this. A comment from a student evaluation attests to this: "Pretty hard course, because you expect a lot from your students, but it paid off in the end. I feel stronger about my math skills. Keep doing what you're doing." But it is not enough for Frank that his students learn the material as he is also known for asking his students to pay attention to *both* mastery *and* exposition. In fact, one of Frank's colleagues states: "His tests emphasize writing: students are asked to communicate clearly their understanding of the material." Frank has publications with his undergraduate students, and many of his students have gone on to distinguished careers in mathematics.

Besides teaching, Frank also contributes substantially to developing the mathematics curriculum at SCU, and is largely responsible for the Business Calculus sequence that the Business School had asked to be unusually rigorous. He is also on the Bay Area Mathematical Adventures Steering Committee, the SCU Sabbatical Review Committee, and the Budget Advisory Committee, to name but a few.

Finally, beyond SCU, Frank has impacted the mathematics community through his extensive participation on numerous MAA committees. In particular, as the editor of *Mathematics Magazine*, there is a sense in which Frank was a writing teacher to our entire mathematical community. And his 2015 book, *Creating Symmetry: The Artful Mathematics of Wallpaper Patterns*, Princeton University Press, that presents mathematics to the community at large has received rave reviews.

We are proud to present this year's Section Award for Distinguished College or University Teaching of Mathematics to Frank Farris, an extraordinarily effective and inspiring teacher.

