

renaissance woman

KERRI ROSSMEIER



When Kerri Rossmeier was trying to decide which college to attend, she faced a problem familiar to many newly minted high school graduates: What will be my major?

Rossmeier had always loved the humanities and seriously considered becoming an English teacher. At the same time, she inherited a strong interest in the sciences from her family. Rossmeier's mother holds a degree in biochemistry, and her father is a computer programmer. A gifted elementary teacher had sparked a passion for mathematics.

Rossmeier was pulled in yet another direction. Growing up in Montana, where the state's license plates read "Land of the Big Sky," it seemed only natural that she should look skyward for a career. "I always wanted to be a fighter pilot," Rossmeier said, "but I was a quarter-inch too short. That's when

I got interested in aerospace and engineering for NASA (National Aeronautics and Space Administration)."

One college showed her that she could combine her interests. "I was really split between engineering and the humanities. Smith put them all together for me," she explains. In the Picker Engineering Program, Rossmeier can take advantage of opportunities for a broad education that come with attending an outstanding liberal arts college. She can take the courses required for a general degree in engineering science, acquire the engineering experience necessary to apply for internships at NASA and Lockheed—and choose from hundreds of courses at Smith or nearby colleges in the Five College Consortium.

"You get to do the cool stuff right away," commented Rossmeier, who received both a Jean Picker Fellowship for the Study of Engineering and a Ford Scholarship. Though only in her third year, Rossmeier has already been exposed to a wide variety of experiences beyond those of most engineering undergraduates—and even many graduate students. Rossmeier helped design a NASA experiment on the effects of weightlessness in which she was one of the test subjects. She gained teaching experience as a master tutor in engineering at Smith's Jacobson Center. And she discovered a new interest while collaborating with one of her professors who was studying the influence of growth and differentiation factor proteins on bone formation. (Rossmeier is now doing an honors thesis on bone growth and healing.)

In this continuing process of self-discovery, Rossmeier found new connections among her seemingly unrelated interests. For example, the information gleaned from the study of bone formation on Earth might someday have applications for NASA's manned Mars missions. Every month astronauts are in space, they lose one percent of their bone mass. A one-way flight to Mars would take about two years, so an astronaut would have lost 24 percent of his or her skeletal structure by the time the space capsule landed on the red planet. They would face a similar loss on the trip home. Studies of factors involved in bone formation could have important applications for the health of space travelers.

In addition to the opportunity to move across disciplines, the Picker program has given Rossmeier something else: The ability to think like an engineer. She says she now finds it much easier to attack a problem logically, define its parameters, break it down into its component parts, and find a solution. In contrast, her first class assignments, or problem sets, took "forever" to complete.

In the process of studying engineering, Rossmeier says she has gained an appreciation for how complex the smallest design project can be. She's also learned just how important engineering is.

"There's really nothing that engineers have not influenced," said Rossmeier. "Engineering is everywhere—in the sidewalks under our feet, the construction of our shoes, the traffic lights on the corner, everywhere . . . It's very, very cool to look at something and say 'Wow, I understand that.' "