When Jose Jimenez took Electrical Engineering 101, his professor told the class, “If you know calculus, feel free to use it.” Problem was, Jimenez didn’t know it. “So I had to do it the hard way,” he remembers, figuring out the problems with more basic math.

But Jimenez enrolled in the Russ College’s new math program, where he took pre-calculus, calculus A and calculus B. Now, the sophomore electrical engineering major says he would recommend the program to anyone. “It brought me from the level of not even knowing what integrals are to knowing what they are and being able to use them,” he says.

Jimenez is one of at least 500 students aided by the two-year-old program, which provides math instruction specifically for Russ College students. The results tell the story: Success rates for pre-calculus students have improved from about 50 percent to 80 percent and, for the calculus courses, from about 50 percent to 75 percent. In addition, Russ College freshman retention rates—keeping students enrolled at the Russ College—increased from 81 percent the year prior to the program’s inception in fall 2009, to 84 percent for the
Math Instructor Salley Hyatt teaches Math 263A (Calculus I).

2009–10 academic year.

“We’re really trying to build a bridge between that high school experience and the college experience,” says Salley Hyatt, Russ College math instructor.

The former high school math teacher turned math department teaching assistant says she uses her skills from both former roles in her current one. “I check their homework. I check attendance. I make sure I know everybody’s name. I can say ‘hi’ to them in the hall and let them know, ‘We know your name, we know who you are, we care about you, we want you to do well.’

Hyatt also created a pre-calculus workbook that includes engineering- and technology-specific math problems, which help students learn the math as it will apply to their courses and future work. For example, one problem requires students to use trigonometry to figure out the span of beams necessary to repair a bridge damaged in an earthquake. “Our students think really concretely,” Hyatt says, “the workbook gives us a way to apply the math.”

In addition to highly qualified teaching staff—Hyatt plus two math department doctoral candidates who are teaching assistants, Josh Beal and Doug Hoffman—the framework for the program is also designed for success.

For starters, the courses are set up across three lecture session meetings with 60 students, then one breakout session meeting with groups of 20 students divided among the three instructors. Finally, there is a one-meeting homework session where students come to the classroom and simply work on their homework while the instructors stand by to answer questions.

“I went every Thursday, and it really helped me,” says Marissa Singley, a sophomore mechanical engineering major. “(The instructors) would come around to you individually and answer questions about homework or what we did in class the day prior.”

The courses are nearly identical to those offered in the math department, in terms of texts and tests. “They use the same final exams as in the other math courses, so this is not grade inflation,” says Ken Sampson, Russ College associate dean for academics.

Most first-year students enrolled in the Russ College math program are also members of learning communities, groups of about 20–25 students who take a set of courses together. This enables them to get to know each other and form study groups early on.

I went every Thursday, and it really helped me,” says Marissa Singley, a sophomore mechanical engineering major. “(The instructors) would come around to you individually and answer questions about homework or what we did in class the day prior.”

The courses are nearly identical to those offered in the math department, in terms of texts and tests. “They use the same final exams as in the other math courses, so this is not grade inflation,” says Ken Sampson, Russ College associate dean for academics.

Most first-year students enrolled in the Russ College math program are also members of learning communities, groups of about 20–25 students who take a set of courses together. This enables them to get to know each other and form study groups early on.

“I went every Thursday, and it really helped me,” says Marissa Singley, a sophomore mechanical engineering major. “(The instructors) would come around to you individually and answer questions about homework or what we did in class the day prior.”

The courses are nearly identical to those offered in the math department, in terms of texts and tests. “They use the same final exams as in the other math courses, so this is not grade inflation,” says Ken Sampson, Russ College associate dean for academics.

Most first-year students enrolled in the Russ College math program are also members of learning communities, groups of about 20–25 students who take a set of courses together. This enables them to get to know each other and form study groups early on.

“I went every Thursday, and it really helped me,” says Marissa Singley, a sophomore mechanical engineering major. “(The instructors) would come around to you individually and answer questions about homework or what we did in class the day prior.”

The courses are nearly identical to those offered in the math department, in terms of texts and tests. “They use the same final exams as in the other math courses, so this is not grade inflation,” says Ken Sampson, Russ College associate dean for academics.

Most first-year students enrolled in the Russ College math program are also members of learning communities, groups of about 20–25 students who take a set of courses together. This enables them to get to know each other and form study groups early on.

“I went every Thursday, and it really helped me,” says Marissa Singley, a sophomore mechanical engineering major. “(The instructors) would come around to you individually and answer questions about homework or what we did in class the day prior.”

The courses are nearly identical to those offered in the math department, in terms of texts and tests. “They use the same final exams as in the other math courses, so this is not grade inflation,” says Ken Sampson, Russ College associate dean for academics.

Most first-year students enrolled in the Russ College math program are also members of learning communities, groups of about 20–25 students who take a set of courses together. This enables them to get to know each other and form study groups early on.

“I went every Thursday, and it really helped me,” says Marissa Singley, a sophomore mechanical engineering major. “(The instructors) would come around to you individually and answer questions about homework or what we did in class the day prior.”

The courses are nearly identical to those offered in the math department, in terms of texts and tests. “They use the same final exams as in the other math courses, so this is not grade inflation,” says Ken Sampson, Russ College associate dean for academics.

Most first-year students enrolled in the Russ College math program are also members of learning communities, groups of about 20–25 students who take a set of courses together. This enables them to get to know each other and form study groups early on.

“I went every Thursday, and it really helped me,” says Marissa Singley, a sophomore mechanical engineering major. “(The instructors) would come around to you individually and answer questions about homework or what we did in class the day prior.”

The courses are nearly identical to those offered in the math department, in terms of texts and tests. “They use the same final exams as in the other math courses, so this is not grade inflation,” says Ken Sampson, Russ College associate dean for academics.

Most first-year students enrolled in the Russ College math program are also members of learning communities, groups of about 20–25 students who take a set of courses together. This enables them to get to know each other and form study groups early on.