Center for Engineering and Computing Education
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Summary

The University of South Carolina's Center for Engineering and Computing Education is established to enhance engineering- and computer science-related education in grades 3-8. These grades are targeted because of their importance in children's development of interest in science, mathematics and technology. They are also important because many teachers in these grades desire greater science and mathematics content knowledge. The approach is to develop and offer informal and formal professional development programs for teachers that help them to use engineering examples, design approaches and problem solving techniques to increase their students' interest in science and mathematics and thereby positively affect the retention of their students' content knowledge.

The Center facilitates interdisciplinary collaborations that focus on engineering- and computer science- related education, and that improve science, mathematics and engineering-related education in grades 3-8. Specific goals of this program include:

Goal 1. To implement field-based programs that enhance the abilities of teachers in grades 3-8 to use engineering and computer-science related educational materials to teach science and mathematics.

Goal 2. To implement summer programs that enhance the abilities of pre- and in-service teachers to use engineering and computer-science related educational materials to teach science and mathematics.

Goal 3. To expand the constituency of the Center and promote the development of innovative programs tied to science and mathematics content standards.

Goal 4. To become the premier resource in South Carolina for K-12 teachers to learn how to enhance their teaching with engineering and computer science concepts.

Goal 5. To conduct research that constantly and consistently guides the activities of the Center and enables the dissemination of best practices.

During the 2004-2005 academic year, the Center's programs included a Graduate Teaching Fellows in K-12 Education (GK-12) Program and a Summer Institute for Teachers Program. The GK-12 program was enhanced by a successful $1,999,990 proposal to the National Science Foundation, and by the establishment of a university-based program that is modeled on GK-12 and is called the Partners in Inquiry program. The support from the Commission on Higher Education's Centers of Excellence program contributes significantly to these efforts.