University of South Florida Eminent Scholars Series

Transforming Engineering Education: Opportunities and Challenges

M. Katherine Banks
Vice-Chancellor and Dean of Engineering and National Laboratories
Texas A&M University

Abstract

Over the last seven years, the Texas A&M College of Engineering embarked on an ambitious plan to transform engineering education through an extensive growth and investment strategy. The plan involved increasing our student enrollment from 12,500 to 25,000 by 2025, increasing our faculty size to 850, and expanding our educational and research footprint by 1M square feet. The undergraduate educational changes focused on four primary areas: instructional innovation, multidisciplinary laboratory creation, entrepreneurial activities, and first-year curriculum transformation. In addition, a broad approach to faculty hiring was a critically important component of success. The construction of appropriately designed and equipped facilities involved planning and unique timing constraints. The engagement of our faculty in a new technology enhanced learning environment required substantial training before implementation. The integration of art into the learning space was an unusual aspect of the project. Challenges and opportunities that were faced during this initiative will be presented and discussed.