

**Commission on Graduate Studies and Policies**  
**CGSP Resolution 2006-07A**  
**Resolution for Establishment of a Doctor of Philosophy Degree in**  
**“STEM Education: Engineering”**

<b>Approved by GCC:</b>	<b>September 28, 2006</b>
<b>First Reading CGSP:</b>	<b>October 18, 2006</b>
<b>Second Reading CGSP:</b>	<b>November 15, 2006</b>
<b>First Reading University Council:</b>	<b>December 4, 2006</b>
<b>Approved by University Council:</b>	<b>February 5, 2007</b>
<b>Approved by the President:</b>	<b>February 5, 2007</b>
<b>Approved by the Board of Visitors:</b>	<b>March 26, 2007</b>
<b>Effective Date:</b>	<b>Spring 2008</b>

WHEREAS, the Committee on Prospering in the Global Economy of the 21st Century: An Agenda for American Science and Technology of the National Academy of Sciences, the National Academy of Engineering, and the Institute of Medicine have authored the book entitled *Rising Above The Gathering Storm: Energizing and Employing America for a Brighter Economic Future*; and,

WHEREAS, “In a world where advanced knowledge is widespread and low-cost labor is readily available, U.S. advantages in the marketplace and in science and technology have begun to erode”; and,

WHEREAS, the report argued that the U.S. “federal policy-makers focus new science and technology efforts on meeting the nation’s needs”, especially to:

- “1) Increase America's talent pool by vastly improving K-12 mathematics and science education;
  - 2) Sustain and strengthen the nation's commitment to long-term basic research;
  - 3) Develop, recruit, and retain top students, scientists, and engineers from both the U.S. and abroad; and
  - 4) Ensure that the United States is the premier place in the world for innovation.”,
- and

**WHEREAS**, there is a national call for increased numbers of teachers at all levels qualified to teach in the STEM (Science, Technology, Engineering, and Mathematics) disciplines; and,

**WHEREAS**, the recent emergence of the scholarly field of engineering education has created a need for scholar/educators with expertise in the disciplinary fields of engineering and with pedagogical knowledge to develop and deliver modern engineering curricula and add to the body of knowledge in engineering education; and,

**WHEREAS**, there is a demand among students and employers for doctoral level programs in engineering education; and,

**WHEREAS**, faculty in the Department of Engineering Education have created a series of well-received graduate courses in the field of engineering education in support of an existing Graduate Certificate in Engineering Education; and,

**WHEREAS**, faculty, with support from the College of Engineering and the School of Education, have proposed the establishment of a new doctoral degree in Engineering Education; and,

**WHEREAS**, the proposed Ph.D. in STEM Education: Engineering will provide graduates with the engineering subject matter expertise coupled with expertise in the general field of engineering education that will qualify them for teaching, research, administrative, and leadership positions in education at all levels, positions in corporate training organizations, and positions in educational policy organizations; and,

**WHEREAS**, the proposed Ph.D. in STEM Education: Engineering will be entirely consistent with Virginia Tech's goal to "*establish a graduate education portfolio reflective of a 21st century research university*" and will support the graduate education strategies of Preparing the Future Professoriate and serve as an integral component of the strategy to focus on Science, Technology, Engineering, and Mathematics (STEM) Education.

**THEREFORE, be it resolved** that the Doctor of Philosophy in STEM Education: Engineering be approved and the proposal forwarded to the President, the Board of Visitors, and State Council of Higher Education (SCHEV) for approval.