UNIVERSITY OF HAWAI'I SYSTEM
Legislative Testimony

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by

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SB 2480 SD2 – RELATING TO TECHNOLOGY WORKFORCE AND DEVELOPMENT

Chair Yamashita, Vice Chair Wakai and Members of the Committee on Economic Development & Business Concerns.

Good morning. I am Peter Crouch, Dean of the University of Hawai'i College of Engineering.

I appreciate the opportunity to provide testimony in support of SB2480, SD2 and commend the commitment of the Legislature to provide the opportunities and resources required to advance STEM education and experiences through various successful programs.

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I have been Dean at the College for just over a year and a half. I recall that shortly after arriving to Hawai'i, I was amazed at the variety of programs and the number of organizations involved in advancing Science, Technology, Engineering and Mathematics (STEM). Robotics, RET, Project EAST, HiEST Academies, STEM teacher development, creative media program and numerous other initiatives provide for a variety of engaging STEM experiences.

Most recently the 2007 State Legislature passed and Governor Lingle signed ACT 111 into law. This resulted in statewide implementation of the Administration's *Innovation in Education Initiative – Fostering Innovation and Relevance through Science and Technology – Pre-Academy Program.* The robotics competitions will provide hundreds of students and teachers with hands on experience as problem solving members of a robotics team and bring them in contact with peers from across the state and nation. Students will have rich opportunities for creative thinking and discovery as well as a chance to see themselves in a global perspective.

The Research Experiences for Teachers – Middle School Program is a cross-disciplinary educational partnership driven by the needs and requirements of teachers, and by technological advancements in engineering, specifically in advanced wireless communications. It is a unique model which will bring innovation and excitement into the middle schools classrooms.

I want to take this opportunity to recognize our faculty, Dr. Magdy Iskander who together with his graduate and undergraduate students took a small National Science Foundation RET pilot program and transformed it into a model which is gaining national interest. RET has already made a difference in five public middle schools and engaged hundreds of teachers and students with state-of-the-art wireless communication tools and lab content. I think it quite remarkable to have internationally renowned faculty working together with middle school teachers to bring the exciting field of advanced communication, electro-magnetic spectrum, signal strength processing, and antenna design to the middle school level. These technologies and content areas are the guts behind the "toys" our pre-teen and teenagers grow up with. The subject matter supports the content standards and is made relevant by means of exciting applications.

As Dean of the College of Engineering I am encouraged by the State's commitment to STEM learning and I look forward to extending the pipeline through the postsecondary level.

Entering the next century Hawai'i faces a serious shortage of engineers required to support our high technology, construction, and infrastructure related State and City agencies. The shortage of engineers and technical talent is a national crisis and one which is being addressed by major government and industry stakeholders. Locally, the high demand for engineering graduates at the College's twice-yearly career fairs is a key indicator that the shortage is real and current.

We believe that a new vision and a bold plan is imperative for our 100 year old College. Our "Fifteen Year Vision" for the University of Hawai`i College of Engineering is summarized in the following statement: Being recognized within the Pacific Rim for its unique and distinctive characteristics emanating from its roots in the Hawaiian and Pacific Island communities, its oceanic environment and its East-meets-West location; delivering a significant proportion of the State's engineering and construction sector workforce, and playing an important role in attracting and retaining high technology personnel and companies to the State; achieving a stellar national reputation for its programs rooted in the one hundred year old teaching tradition that attracts an increasing number of the State's K-14 students to the College's programs; supporting an internationally competitive extramural research agenda and being recognized as "National Class" through steadily improving rankings.

Thank you very much for the opportunity to provide testimony.