Abstract
Since the middle of the 20th century, Waikiki has arguably become the most prominent icon of Hawai‘i. Images of its luxurious beaches and vibrant waters have permeated nearly every facet of the world and represented Hawai‘i as the iconic beach culture. Through doing so, Waikiki has become a catalyst for economic growth for the state of Hawai‘i. The Hawai‘i Department of Business Economic Development and Tourism estimated in 2003 that Waikiki alone is responsible for 140,000 jobs and over $5 billion in state tourism revenue. However, Waikiki has not always been the beach paradise it is today and must be maintained regularly to preserve the image that has brought so much revenue to the state.

Shoreline modifications to Kuhio Beach began circa 1900 and have included the construction of storm drain groins, nearshore breakwaters, and large-scale sand nourishment projects. Most recently, the State of Hawai‘i Department of Land and Natural Resources has conducted sand recycling projects to nourish Kuhio Beach from offshore sand deposits. However, regular beach nourishment is an expensive solution to this problem.

Over the course of the Fall 2009 semester, University of Hawai‘i Department of Ocean and Resources Engineering Capstone Design students have developed preliminary plans to solve the Kuhio Beach erosion problem and minimize long-term costs. The proposed solution will include a combination of altering the existing structures and beach nourishment from offshore sand deposits. Please join us as we present and discuss the proposed design, two alternative conceptual designs considered, and the engineering, construction, maintenance, permitting, costs, and social concerns surrounding each design.