

The Engineering Consortium at the University of Hawaii

The College of Engineering at UH Mānoa has joined with the six UH Community Colleges, the University of Hawaii at Hilo, the University of Hawaii Maui College, the College of Natural Sciences at UH Mānoa, and the UH System Office to form an Engineering Consortium. The primary goal of the Engineering Consortium is to assist and promote the graduation of engineering students across the UH system, regardless of their starting point in the system.

Vision

The Engineering Consortium:

- Fulfills the workforce needs of Hawaii in engineering and related fields across the Hawaiian Islands, avoiding duplicated State investment on the Islands by leveraging the common and distinguishing socioeconomic resources and opportunities on each of the Islands
- Offers a rich curriculum of widely co-listed, appropriately articulated courses and programs serving engineering, engineering technology, and technology at a variety of levels (AS, AA, BS, Masters, Professional Ed)
- Delivers the courses in the associated curricula through a variety of mechanisms, including distance delivery and distributed laboratory and classroom centers, within a coordinated UH institutional framework while employing contemporary teaching mechanisms to engage and retain its students

Why the Consortium?

Engineering and related fields in the physical sciences should play a major role in the economic diversification of the Hawaiian economy. However, until now, the University of Hawaii's efforts to develop and pursue degree programs in these fields have been largely confined to individual UH campuses. Thus, these efforts to meet the associated workforce needs of Hawaii have not been coordinated and focused on the aggregate needs of Hawaii. The Engineering Consortium is focused at correcting this deficiency and, thereby, looks to greatly assist the economic diversification of Hawaii. The UH consortium members are excited about pursuing the vision and collaborating with schools and industry to create the pathways to careers in engineering and related disciplines in Hawaii.

Consortium Goals

- Assist and promote the graduation of engineering students across the UH system, regardless of their starting point
- Ensure that articulation between campuses and related degree programs is as seamless as possible
- Ensure that curriculum updates across the consortium members are promoted well in advance of the start dates
- Assist and promote the graduation of majors in fields close to Engineering: Mathematics, Computer Science, Physics, and Chemistry, across the UH System regardless of their starting point
- Ensure essential courses aligned to the engineering curriculum are as widely available as possible to consortium members, and most importantly to the Community Colleges
- Assist and promote retention efforts of all students touched by the Consortium and, in particular, assist students in the transfer from one campus to another for articulated programs
- Jointly pursue funding opportunities to strengthen the consortium and further the consortium goals
- Ensure the workforce needs in Hawaii in engineering and related fields are reflected in the activities and offerings of Consortium Members

Engineering Consortium Brochure Draft Content

- Assist and promote the graduation of majors in engineering technology and technology across the UH System
- Promote and assist K-12 STEM outreach efforts of consortium members

The IKE Program

In 2010 the Engineering Consortium was greatly enhanced through an NSF grant to UH called *Indigenous Knowledge in Engineering* (IKE). This \$5M grant over five years is a pre-engineering education collaborative developed by Kapiolani Community College with help from members of the Engineering Consortium. The program is intended to support 155 Native Hawaiian (NH) students over the course of the grant and help them complete baccalaureate degrees at the UHM College of Engineering. Its primary goals are:

- **Goal 1–A Quality Pre-Engineering Core Curriculum** that prepares NH students for success in progressively higher level courses in their Engineering education, effectively integrating calculus, and is available online in every semester during the project and beyond
- **Goal 2–A Community of Practice in Engineering** that connects NH students, mentors, and undergraduate researchers with nurturing advising, a structured cohort experiences, a quality curriculum, faculty/researchers, and community partners through funded positions for students, increased engagement with engineering issues and industries, and online communication strategies

Participating Programs (Some specific programs in the Consortium and brief statistics):

- UHM College of Engineering: CEE, CompE, EE, ME
- UHM Pre-Engineering
- UHM College of Natural Sciences: ICS, Math, Physics, Chemistry
- UHH: Pre-engineering program, BS in Engineering Science (proposed)
- Natural Science programs at Kapiolani CC, Leeward CC, and Windward CC
- UHMC: AS in Electronic and Computer Engineering Technology, BAS in Engineering Technology, and Natural Science Program

(Honolulu CC, Kauai CC, Hawaii CC – what to include?)

For further information please contact:

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UH Mānoa College of Natural Sciences: Advising - ?	Programs - ?
UH Hilo: Advising - ?	Programs - ?
UH Maui College: Advising - ?	Programs - ?
UH Kapiolani Community College: Advising - ?	Programs - ?
UH Leeward Community College: Advising - ?	Programs - ?
UH Honolulu Community College: Advising - ?	Programs - ?
UH Kauai Community College: Advising - ?	Programs - ?
UH Windward Community College: Advising - ?	Programs - ?
UH Hawaii Community College: Advising - ?	Programs - ?

Consortium Logs