

Engineering Consortium Meeting Summary  
November 27, 2012, 9:00am – 2:00pm  
Hemenway Hall, Room 211

Present: Melanie Higa (HAW), Russell Uyeno and Tasha Kawamata Ryan (HON), Maria Bautisa, Herve Collins, Louise Pagotto (KAP), Jim Dire and Michael Hannawald (KAU), Michael Reese (LEE), Bruce Matthews (UHH), Peter Crouch, Jill Nakatsu, Myhraliza Aala, Tep Dobry, Joshua Kaakua, Bruce Liebert, JB Nation (UHM), Mark Hoffman (MAU), Michelle Sagario (WIN), Joanne Itano, Suzette Robinson and Susan Nishida (System)

Peter Crouch welcomed the group and provided an overview of the group's goal – help students in Hawai'i to graduate with engineering degrees regardless of their starting point in the UH System.

#### Transfer Student Data

Now that IRAO has official transfer data, a report was provided to demonstrate the number of transfer students UHM received over the past five years. These numbers represent transfer students only (does not include the 150 incoming freshmen to UHM each year who are admitted as engineering majors).

The transfer numbers show an increase from 33 to 55 students from fall 2008 to fall 2009 and then remain flat. It was suggested that pre-engineering majors be included.

KAP started the ASNS with a concentration in engineering effective fall 2012 and LEE started in Spring 2012. Leeward currently has 150 students enrolled in the ASNS program; 25 are declared in the engineering track, but there are probably 30-40 interested students. Also, might consider looking at how the Ka'ie'ie program is impacting the numbers. HON mentioned that many of the students apply as a liberal arts student instead of transferring directly into the engineering program and some transfer to KAP to take the pre-engineering courses. Michael Reese pointed out using STAR Data-Metrix to access student information for your campus.

Joanne to check if the data includes pre-engineering students and the inclusion of Hawai'i CC transfer students (if there were none or if it was missed). Also, check with Gary on the inclusion of ASNS students for Automatic Admission since LEE expects to have transfer students this spring. (Note: see [www.hawaii.edu/offices/app/aa/cms/engineering/TransfersEngineeringandpreeng.pdf](http://www.hawaii.edu/offices/app/aa/cms/engineering/TransfersEngineeringandpreeng.pdf) for transfer data including pre-engineering students and HAW data; STAR has confirmed that students who complete ASNS with the engineering concentration will be directly admitted to the UHM College of Engineering).

#### Distance Delivery Courses

The UH System has supported the development of EE 160, EE 211, PHYS 272 (lecture only) and Calculus I (offered fall 2012), II (to be offered spring 2013) and III (to be developed in spring 2013).

There remain issues with use of the DCDC developed site for EE 160; Tep indicates much more work needs to be done on the site before it can be used to teach as a distance course. For EE 211, Victor is working with Mark Hoffman on Maui to offer additional content via distance learning in ETRO 105 and 106. KAP offered PHYS 172 online (videos online with meetings twice a week via Collaborate; not using the DCDC site). There is a concern that when the course is offered online, students enroll at other campuses for a F2F course. Joanne indicated that the UH System could support the course for a limited period of time to see if we could generate sufficient enrollment from across the islands. Jean at WIN is teaching Calculus I online – started with 17, but down to 10 students (majority of the students are from WIN, some from KAP, LEE and MAU).

Joanne reported that DCDC has offered to work with Maria, Tep and Victor to have functional websites and was to contact Maria (PHYS 272) first.

### 'IKE Symposium

Michelle Sagario provided a debrief about the amazing success and great reviews received for the Fall 'IKE Symposium. 138 people attended from 7 campuses (KAU, HAW or UHH did not have representatives) that included students, faculty, industry partners and industry professionals. The goals were to provide an opportunity for students to showcase their work, gain presentation skills, inspire other students and engage the community.

The location of the event may rotate (WIN this year, HON next year and then KAP, UHM and somewhere on the leeward coast) and may consider a Friday versus on a Saturday. The group suggested that student presenters share with the audience their academic history, including the CC they transferred from, if applicable, to demonstrate the impact of the CCs. Also, to engage the community it is suggested coordinating with External Affairs and University Relations to document and promote the event.

There are two main issues to address in the future:

1. 'IKE grant will eventually end; how will the funding to support the symposium continue
2. Ways to include all campuses (support travel for neighbor island students)

### Budget Request

The biennial budget request included support for the Engineering Consortium (Year 1 \$1.2M, 12 FTE and Year 2 \$2.9M, 28 FTE). It was submitted to Budget and Finance, but was not included in the Governor's budget that was just released. However, \$1.5M was included for STEM initiatives related to the previously passed ACT 111, some of which was run through Engineering when it was originally funded.

Assuming that this request fails, this group should continue to solicit requests for funding, but maybe by different vehicles (e.g., joint projects between CCs and UHM and eventually UHH).

## Consortium Brochure

In September, a new brochure was printed to showcase the Engineering Consortium and provide information about the group. Feedback for the brochure was solicited and it was suggested to develop a second brochure that targets students; fewer words, more pictures. It would explain what is engineering (more than just building bridges) and specific pathways to get there. Also it should include point of contacts for each campus and perhaps pointing students to a website containing specific information about the programs, what they need to do and how to get help. Myhraliza Aala will coordinate.

## Hilo Update

The ATP for a BS in General Engineering was endorsed by the CCAOs in October. There will be three tracks: Instrumentation, Renewable Energy (biofuels) and Agriculture (food technology). UHH plans to have the first draft of the program requirements available in February and expects to enroll their first class in fall 2014 with support from UHM (will teach some of the upper division engineering courses). Logistics for course offerings still need to be worked out, but Hilo intends to require the same preengineering curriculum (first three semesters) as UHM. Several meetings have occurred between UHM and UHH to identify areas of collaboration to enhance the applied learning of engineering students (telescopes, etc.). UHH has surveyed engineering firms within the state and expects that their program will address industry's concern of educating and retaining engineers in Hawai'i. This is an opportunity for them to retain more engineers in Hawai'i.

## STEM Initiatives

Karen Lee provided the group with an overview of P-20 and the STEM initiatives taking place. Their goal is to help students move through the P-20 pipeline. They are in charge of building the SLDS (State Longitudinal Data System) within the next year to better track Hawai'i students. They have funded five regional STEM proposals (1. UHM High School Industry Challenge; 2. UHM Junior Expo; 3. HAW and WIN Redesign Projects; 4. Maui Economic Board; and 5. Waialua High School Robotics Program).

P-20 would like to take an inventory of what STEM-related activities the campuses are doing and become the clearinghouse for STEM outreach activities so they can help to coordinate events. This would be helpful to the DOE.

If there are STEM outreach activities happening and/or you would like participation from other campuses, the following are the outreach point of contacts:

UHM – Myhraliza Aala

KAP – Aurora Kagawa

LEE – person will be starting in January

MAU – Chanelle Sakamoto-Falces

HON – Leon Fuimaono Florendo

Herve Collins from KAP talked about their newly renovated STEM Center which is doing very well. In addition to having faculty offices there, they have mentors, tutors, computers and space for students to gather. They are starting a program to have mentors that transferred to UHM

come back monthly and speak to the students. Also, KAP is piloting a “RI” (research intensive) designation which is similar to the “WI” designation with smaller classes.

An idea was raised about promoting UH as having an undergraduate student in every research lab and about the need to have a STEM Center at each campus with a coordinator.

### Engineering 101

Jill provided an update on the creation of a new course called Engineering 101. It will be offered for the first time in summer 2013 with the goal of providing some “soft” skills and get students excited about engineering. The target audience for this course includes high school students and CC students interested in the field. If there is sufficient interest, separate sections may be offered for freshmen and one for transfer students. Goal is to address the needs of the different engineering majors in one introductory type of class (for example, for civil engineering: introduction to Excel and MyMathLab; for mechanical engineering: replace MATH 190; for electrical engineering: soft skills). It is anticipated that the course will be offered at the CCs. It is not a required course at this time.

### Stimulating the Coalition

There is a need to continue the good work, pursuing the systemwide connection, finding solutions (e.g., pursue funding opportunities jointly). The group may also want to discuss a possible set of standards or guiding principles.