

FACULTY SENATE MEETING
Tuesday, April 15, 2014
1:00-2:00 pm, Palanakila 117

2013-2014 Senators Present:

Dave Krupp (Off-Campus Chair)
Deacon Hanson (Math/Business)
Ellen Nagaue (Academic Support)
Floyd McCoy (Natural Sciences)
Heipua Ka'ōpua (Recording Chair)
Jamie Boyd (OCCE)

MJ Lewis (Language Arts)
Ka'ala Carmack (Humanities)
Kathleen French (CC Chair) Ex-Officio
Kathleen French (Social Sciences)
Liko Hoe (Presiding Chair)
Lisa Gillis-Davis (Student Affairs)

Absent: none

Guests:

Jan Lubin,
Director of Planning & Program Evaluation

1. **Called to Order:** 1:08 p.m.

2. **Approval Of Minutes**

Motion to approve the April 1, 2014 minutes submitted by Kathleen French seconded by Ellen Nagaue. Motion passes *via voce*.

3. **New Business**

A. Adoption of Informal “S” Sustainability Course Designation

Floyd shared a PowerPoint (which he also sent to FS via email) regarding the “S” Sustainability Course Designation. The S designation is for information purposes only. Jan Lubin mentioned that sustainability is part of the UH Strategic Plan. Dave Krupp added that Maui College has already adopted Sustainability degrees. WCC Senators will discuss this issue with their departments in Fall 2014. The following excerpt is taken from an email that Floyd received.

Per Krista Hiser of KapCC, “At this time, (the S designation) does not appear on transcripts, although I consider this designation as groundwork for an AA with concentration in sustainability.

While all the campuses provided input into this plan and have expressed interest, to my knowledge KapCC is the first to do this officially. It was actually quite simple—we filed an action request with our faculty senate (I've also attached this memo for you) which was easily approved, forming an ad hoc committee with the primary task of managing the designation.

Our idea throughout was that the criteria would remain consistent across campuses, allowing each campus to build on its strengths and existing courses and faculty. And again, the best part of it is the information and dialogue that it has started.

We also just made an S Designation Laulima page, where all students in an S Designation course can be easily mailed with sustainability-related announcements and events.”

<http://kccsustainability.com/Sustainability/S-designation.html>

4. Reports

A. Curriculum Report (Kathleen French): Approved Curriculum Proposals form 4/8/14

1. SLO Modifications for **BIOL 100**, Human Biology
<http://windward.hawaii.edu/curriculum/Details.php?Alpha=BIOL&Number=100>
2. Modification in **ASNS**: Adding Pre-Engineering (see attachment)
3. SLO Modification for **JPNS 108**, *Basic Japanese Conversation*. This proposal came through FS in March but wasn't approved by the Dean of Academic Affairs. This course had to go back through the curriculum approval process. Ellen Ishida-Babineau changed some of the SLOs. The proposal went back to the Curriculum Committee who made additional changes and then approved the course modifications.
<http://windward.hawaii.edu/curriculum/Details.php?Alpha=JPNS&Number=108>

Motion to approve the curriculum modifications by Jamie Boyd; seconded by Dave Krupp. Motion passes *via voce*.

B. ACCFSC Off Campus Chair's Report (Dave Krupp)

- a. **Joanne Itano** announced that the UHPA snapback and pay increases and bond issues for UH facilities renovation remain the highest UH priorities for this legislative session.
- b. **Paul Lacoco** reported that the UH President Search Committee has submitted the names of five candidates to the BOR. The BOR will announce the names of three candidates and will invite them for an interview.
- c. **Ron Bontekoe** and **David Ericson** reported on the dispute between the UH Mānoa Faculty Senate (UHFS) and UHPA regarding what can be discussed between FS and Administration. They stated that UHFS will be meeting with the Executive and Faculty Directors of UHPA soon to clear the air between UHFS and UHPA. **Dave Krupp** referred to a 1976 document from the UHFS website that addresses the roles of FS versus the role of the union.
- d. **Dave Krupp** reported on the Sustainability Summit that drew between 180-200 participants. The BOR has already acted to pass a policy concerning sustainability at UH. Dave pointed out that sustainability crosses disciplines and noted that the idea of sustainability programs is growing.
- e. Two members of the UH Student Caucus reported on the difficulty that some students face in transferring credits from the community colleges to the 4-year campuses. Most of these problems seem to arise in the following three areas: 1) the credit transfer electronic system, 2) prerequisites for courses established on individual campuses, and 3) student advising on CC campuses. **Jan Lubin** added that the transfer of credits depends on the catalog year.

C. CCCFSC Off Campus Chair's Report (Dave Krupp)

- a. **Budget: John Morton** stated that the House operating budget version includes UH's entire request of \$33.5M for faculty salary snapback (from 2009) and salary increases as well as an additional \$1M for CC operating funds.
- b. **UH System Separation:** Representative **Isaac Choy** introduced a resolution requesting the UH BOR to study the feasibility of separating the UH System into three separate units: 1) UH Mānoa, 2) UHCCs, and 3) UHWO and UH Hilo.

- c. **WI Certification: Dave Krupp** reported on campus certification requirements for teaching writing intensive classes. He pointed out that WinCC requires WI classes for the ASNS (Natural Sciences) but has an insufficient number of certified faculty available to teach these courses. At WinCC, faculty must participate in Writing Across the Curriculum (WAC) training held during the summer. Other CC campuses have different requirements for teaching WI classes.
 - d. **Symbolic Reasoning:** UH Mānoa is moving to drop PHIL 110 to comply with accreditation standards. **John Morton** indicated that the CCs will have to subscribe to similar foundation requirements for students' transfer mobility.
 - e. **Strategic Planning Council Meeting** – (See Dave's email of 4/15/14) *2015-2017 Biennium Budget Policy–Strategic Initiatives to Meet State Needs*
 - 1. [Hawai'i Graduation Initiative \(HGI\)](#) – to increase degrees/certificates awarded to 10,000 people by 2015.
 - 2. [Hawai'i Innovation Initiative \(HI2\)](#) – to create a third major economic sector in the State by creating high quality jobs and diversifying Hawai'i's economy.
 - 3. [21st Century Facilities \(21CF\)](#) – to eliminate maintenance backlog and modernize facilities to meet the needs of the 21st century for learning, teaching, and research.
 - 4. [High Performance System of Higher Education](#) – to provide a diverse student body with multiple entry/exit points, coordinate academic pathways, streamline administrative and support processes, make efficient use of facilities, explore and implement new instructional approaches, and enhance use of metrics for efficiency and productivity.
 - f. **Review of Current Tuition Schedule:** A review is currently being conducted by UH Administration and a BOR Task Force to evaluate the tuition increases already approved for the last two years of the current schedule.
 - g. **Financial Reserves:** A new BOR policy mandates operating reserves for non-general funds. UH Administration recommends that each campus maintain operating reserves at a minimum of 5%.
 - h. **Program, Policy, and Management Objectives and Biennium Budget Development Assumptions.** UH must develop a realistic budget that recognizes the financial condition of the State and makes use of existing resources.
 - i. **Biennium Budget** will be grounded in the University's strategic directions and priorities and will include an evaluation of each campus' base budget and respective operating reserves in conjunction with any requests for additional funds. UH Mānoa is advocating for increased productivity in a more efficient way.
 - j. Foundations Articulation Agreement draft (dated 9/13/13) emailed to FS
- D. Planning and Budget Council (PBC Meeting) (Liko Hoe)**
Liko reported that the PBC made it through most of discipline areas. Language Arts, Natural Sciences, Math, and Business presented their requests. Those departments yet to present include Social Sciences and Student Affairs.
- E. Election of Presiding and Recording Chairs (Dave Krupp).**
On April 4, 2014 Dave sent an email to all WCC Faculty stating, "It is that time again when we need to hold elections for the WCC Faculty Senate Chairs. This Spring, two Chair positions are open for nomination: the Recording Chair (Chair One) and the Presiding Chair (Chair Three). The descriptions for the responsibilities for these two

Chair positions may be found within the WCC Faculty Senate Constitution (http://windward.hawaii.edu/Committees/Faculty_Senate/Faculty_Senate_Constitution.pdf).

The Recording Chair (two-year term; 2014 - 2016) and the Presiding Chair (one year term) may each receive 1 credit of release time per semester (details to be discussed with their immediate supervisor). These positions need to be filled by either full-time or half-time faculty members at WCC.

Please nominate candidates (you may nominate yourself) for these positions by emailing me (krupp@hawaii.edu) their names, along with the Chair position being nominated for, by 4:00 p.m. Monday, April 7. Once nominations have been received, I will set up an online election ballot. The election will conclude at 5:00 p.m. Friday April 11." Dave will send out a Ballot Bin to all faculty members eligible to vote in the Faculty Senate elections.

Note: The deadline for nominations was extended to April 15. The secret ballot will be distributed via email using Ballot Bin beginning April 16 and the election will conclude at 5:00 p.m. Monday April 21, 2014.

Adjourned at 1:56 p.m.

Final Meeting: May 6, 2014 (Potluck)

Attachment: ASNS Pre-Engineering

Minutes submitted by: Heipua Ka'ōpua, PhD, Recording Chair

Common Requirements with the ASNS Concentration in Biological and Physical Sciences	for Pre-Engineering Concentration (minimum 33-34 credits)
ENG 100 (Foundation FW) Two courses from Foundation FG A, B, and C One diversification course from DA, DH, or DL One diversification course from DS General electives: transfer-level courses in any field to achieve a total of 60 credits two Writing Intensive courses	CHEM 161 (3) CHEM 161L (1) CHEM 162 (3) MATH 205 (4) MATH 206 (4) MATH 231 (3) MATH 232 (3) PHYS 170 (4) PHYS 170L (1) PHYS 272 (3) PHYS 272L (1) *EE 160 (4) or *CE 270 (3) or *EE 211 (4) <i>* Not currently offered, but already submitted to Curriculum Committee for approval.</i>

Course descriptions for the college are available at <http://windward.hawaii.edu/courses/>

CHEM 161: General Chemistry I - (3 credits)

<http://windward.hawaii.edu/courses/CHEM161/>

Basic principles of inorganic chemistry with an emphasis on problem solving. First course of a two- course sequence designed to meet the one-year General Chemistry requirement for pre-med, science and engineering majors. Topics include chemical calculations, electronic structure, chemical bonding, states of matter and solutions.(3 hours lecture)

Pre-Requisite(s): A grade of “C” or better in Math 103 or higher, or placement into Math 135 or consent of instructor.

Co-Requisite(s): Registration in CHEM 161L.

Recommended Preparation: Student should have taken high school chemistry, CHEM 100, or CHEM 151.

Student Learning Outcomes:

- Use the mole concept in solving stoichiometry problems involving solids, liquids, gases and solutions.
- Balance chemical equations, classify reactions, identify and analyze the role of the chemicals involved in chemical reactions.
- Predict the behavior of gases while undergoing changes in volume, pressure, temperature and quantity.
- Manipulate thermochemical equations and calculate the amount of energy involved in chemical reactions.
- Predict physical and chemical properties of elements based on electronic structure and location in the Periodic Table.
- Predict physical and chemical properties of compounds based on chemical bonding, geometry and intermolecular interactions.

CHEM 161L: General Chemistry Laboratory I (1 credit)

<http://windward.hawaii.edu/courses/CHEM161L/>

Laboratory experiments illustrating fundamental principles of chemistry.(3 hours laboratory) Pre-Requisite(s): Credit for or registration in CHEM 161.

Student Learning Outcomes:

- Apply laboratory safety procedures and respond to hazards.
- Use molecular and crystal models, perform common laboratory techniques competently and computer-based experiments to verify chemistry laws on stoichiometry, thermochemistry, behavior of gases and liquids.
- Apply and articulate the scientific method by preparing lab reports using the standard scientific format. Express in writing core chemistry principles, results of experiments and do critical thinking by synthesizing conclusions based on observations and data.
- Make and record precise measurements, calculate results using significant figures, standard deviations and identify sources of error in laboratory experiments.
- Use computer competently, word-processing, spreadsheet and graphing.
- Prepare chemical solutions, perform dilutions, calculate solution concentrations and generate a calibration curve.

CHEM 162: General Chemistry II (3 credits)

<http://windward.hawaii.edu/courses/CHEM162/>

Second course of a two-course sequence designed to meet the one-year General Chemistry requirement for pre-med, science and engineering majors. Topics include thermochemistry, kinetics, acid-base equilibrium, solubility equilibrium and electrochemistry. Emphasis on problem solving.(3 hours lecture)

Pre-Requisite(s): A grade of "C" or better in CHEM 161, credit for or registration in MATH 135, or consent of instructor.

Co-Requisite(s): CHEM 162L

Student Learning Outcomes

- Predict properties of pure substances using phase diagrams.
- Predict properties (boiling point, melting point, osmotic pressure, vapor pressure) of solutions based on concentration.
- Determine reaction rate law and calculate rate constants and half-life based on experimental data.
- Calculate the equilibrium concentration of chemicals in solution involved in precipitation, and acid-base and reactions.
- Predict spontaneous reactions based on enthalpy and entropy considerations.
- Determine the electrochemical potential of redox reactions.

MATH 205: Calculus I (4 credits)

<http://windward.hawaii.edu/courses/MATH205/>

Basic mathematical concepts, topics in differentiation, and introductory integration of algebraic and trigonometric functions. Applications of differentiation and integration will be demonstrated.(4 hours lecture)

Pre-Requisite(s): Grade of "C" or better in MATH 140 or equivalent, satisfactory math placement test score, or consent of instructor.

Student Learning Outcomes:

- Understand and use the formal and intuitive definitions of limits and apply them in limit calculations and in determining continuity.
- Demonstrate proficiency in determining derivatives and apply different interpretations of the derivative.
- Utilize precise mathematical language and symbols to effectively communicate mathematics in written and/or oral form.
- Use calculus techniques to analyze and solve applied problems.
- Use derivatives to analyze and sketch graphs and/or to solve related problems.
- Demonstrate proficiency in determining antiderivatives and integrals.

-Utilize integration in applied problems.

MATH 206: Calculus II (4 credits)

<http://windward.hawaii.edu/courses/MATH206/>

Differentiation and integration concepts of trigonometric, exponential, logarithmic and hyperbolic functions. Integration implements, infinite series, and applications of derivatives and integrals are also featured.(4 hours lecture)

Pre-Requisite(s): Grade of “C” or better in MATH 205 or equivalent or consent of instructor.

Student Learning Outcomes

- Apply limits, derivatives, and integrals to inverse functions, logarithmic, exponential, hyperbolic, and inverse trigonometric functions.
- Utilize various techniques of integration.
- Determine whether a sequence or series converges.
- Use concepts from the course to solve problems.
- Solve differential equations.
- Utilize precise mathematical language and symbols to effectively communicate mathematics in written and/or oral form.

MATH 231: Calculus III (3 credits)

<http://windward.hawaii.edu/courses/MATH231/>

Vector-oriented study of functions of several variables; partial differentiation and line integrals; multiple integrals. (3 hours lecture).

Pre-Requisite(s): Grade of “C” or better in MATH 206 or equivalent or consent of instructor.

Student Learning Outcomes:

- Analyze and apply principles, concepts, and properties from algebra, geometry, trigonometry, and calculus to solve problems.
- Apply concepts and calculus properties of Cartesian space coordinates and vectors.
- Apply principles and concepts from calculus to multivariable functions.
- Use various strategies from this course to solve problems.
- Utilize precise mathematical language and symbols and effectively communicate in written and/or oral form.

MATH 232: Calculus IV (3 credits)

<http://windward.hawaii.edu/courses/MATH232/>

Math 232 is the fourth course in the calculus sequence. Topics include multiple integrals, line integrals, Green's Theorem, surface integrals, Stokes' Theorem, Gauss' Theorem and differential equations. (3 hours lecture).

Pre-Requisite(s): "C" or better in Math 231 or equivalent or consent of instructor.

Student Learning Outcomes:

- Compute multiple integrals in various coordinate systems.
- Use multiple integrals or vector calculus techniques to solve application and/or theoretical problems.
- Solve basic differential equations and applications.
- Utilize precise mathematical language and symbols and effectively communicate in written and/or oral form.

PHYS 170: General Physics I (4 credits)

http://windward.hawaii.edu/credit_courses/PHYS170/

This is the first of a rigorous, calculus-based course in physics for the professional or engineering majors. The study of the concepts of physics including the fundamental principles and theories of mechanics, energy, waves and thermodynamics.(4 hours lecture)

Pre-Requisite(s): Credit for MATH 205 or higher or equivalent or consent of instructor.

Co-Requisite(s): PHYS 170L and credit for or registration in MATH 206 or equivalent, or consent of instructor.

Student Learning Outcomes:

- Demonstrate a solid conceptual understanding of kinematics, dynamics, wave phenomena, and thermodynamics.
- Solve applicable problems using differential calculus and vector analysis.
- Apply the laws of physics to computational problems in kinematics, dynamics, wave phenomena, and thermodynamics.

PHYS 170L: General Physics I Laboratory (1 credit)

http://windward.hawaii.edu/credit_courses/PHYS170L/

This laboratory course is a rigorous, calculus-based study for professional or engineering majors. Laboratory exercises are designed to reinforce the fundamental concepts of kinematics, mechanics, energy, waves and thermodynamics.(3 hours laboratory)

Co-Requisite(s): Credit for or registration in PHYS 170.

Student Learning Outcomes:

- Demonstrate an experimental understanding of some basic physical concepts and theories.
- Demonstrate familiarity with various instruments and their use in making reliable and precise measurements.
- Calculate a result with the appropriate number of significant figures.
- Analyze data using calculation and graphical methods.
- Organize an accurate and complete laboratory notebook.

PHYS 272: General Physics II (3 credits)

<http://windward.hawaii.edu/courses/PHYS272/>

This is the second in a rigorous, calculus-based physics course for the professional or engineering major. The study of the concepts of physics including the fundamental principles and theories of electricity, magnetism, light, and optical theory.(3 hours lecture)

Pre-Requisite(s): Credit for MATH 206 or higher or equivalent and a grade of "C" or better in PHYS 170 or consent of instructor.

Co-Requisite(s): PHYS 272L.

Student Learning Outcomes

- Demonstrate a solid conceptual understanding of electricity, magnetism, light, and optical theory.
- Solve applicable problems using calculus and vector analysis.
- Apply the laws of physics to computational problems in electricity, magnetism, and wave phenomena.

PHYS 272L: General Physics II Laboratory (1 credit)

<http://windward.hawaii.edu/courses/PHYS272L/>

This laboratory course is a rigorous, calculus-based study for professional or engineering majors. Laboratory exercises are designed to reinforce the fundamental concepts of electricity, magnetism, light and optical theory.(3 hours laboratory)

Pre-Requisite(s): Credit for or registration in PHYS 272.

Student Learning Outcomes

- Demonstrate experimental understanding of some basic physical concepts and theories.
- Demonstrate familiarity with various instruments and learn to make reliable measurements.
- Calculate a result with the appropriate number of significant figures.

- Analyze data using calculation and graphical methods.
- Organize an accurate and complete laboratory notebook.

EE 160: Programming For Engineers (4 Credits)

<http://windward.hawaii.edu/curriculum/Details.php?Alpha=EE&Number=160>

Introductory course on computer programming and modern computing environments with an emphasis on algorithm and program design, implementation and debugging. Designed for engineering students, this course includes a hands-on laboratory to develop and practice programming skills.(3 hours lecture and 3 hrs lab)

Pre-Requisite(s): Credit for or registration in Math 140 or consent of instructor

Student Learning Outcomes

- Explain the steps involved in the programming process.
- Solve simple problems and express those solutions as algorithms.
- Use the fundamental techniques of selection, looping, assignment, input, and output to describe the steps the computer takes to solve a problem.
- Write algorithms and code in a top-down manner.
- Work with arrays in searching and sorting applications.
- Work with structures and unions types.
- Write, test, and debug small programs.
- Write functions and use pointers.
- Work with characters and strings.
- Work in text based environment like UNIX.
- Interface with text base using a GUI interface.

***CE 270: Applied Mechanics I (3 credits)**

<http://windward.hawaii.edu/curriculum/Details.php?Alpha=CE&Number=270>

This course is a study of equilibrium of rigid bodies under the action of forces and the application of the principles of mechanics to solve static problems in engineering. .(3 hours lecture)

Pre-Requisite(s): Physics 170; credit for or registration in Math 231 or consent of instructor

Student Learning Outcomes

- Solve problems involving forces, resultant and static equilibrium and their application to rigid bodies.
- Analyze equilibrium of rigid bodies in two and three dimensions.
- Solve problems involving center of gravity, centroids, couples, and moments of inertia.
- Analyze engineering structures subjected to concentrated loads, distributed loads, and frictional forces.
- Utilize abstract thinking and analytical reasoning in the analysis of word problems dealing with mechanical structures.
- Apply calculation techniques to dynamic problems in engineering.

EE 211: Basic Circuit Analysis I (4 credits)

<http://windward.hawaii.edu/Courses/EE211/>

This is an introductory course covering linear passive circuits, time domain analysis, transient and steady state responses, phasors, impedance and admittance, power and energy, frequency responses, and resonance. (3 hours lecture, 3 hours laboratory)

Pre-Requisite(s): Pre-Requisite(s): Credit for or registration in MATH 231 or higher, credit for or registration in PHYS 272, or consent of instructor.

Student Learning Outcomes

- Analyze and assemble basic circuits.
- Describe and analyze the basic functionality of the components of a basic circuit.
- Describe the rudiments of electric power production.

iv. Description of demand and social value of the program

The existing AS degree in Natural Science has both a Biological Science concentration and a Physical Science concentration. Enrollment data show that a majority of students in the Physical Science Concentration intend to pursue an engineering degree. The addition of this new concentration will provide a focused pathway for these students.

WinCC is a member of the Engineering Consortium. One of the goals of this group is to improve the transfer of the pre-engineering students from the CCs to the College of Engineering. Both KapCC and LeeCC ASNS (Pre-Engineering) have transfer agreements with UH Manoa, which provide automatic acceptance for students graduating with the AS NS degree at UH Manoa. The intent is that WCC will also provide this type of guided pathway for its students. Graduates of the WCC AS degree in Natural Science with a concentration in Pre-Engineering will be on track to enter the College of Engineering at UH Manoa. This may also help increase the graduation rate at the College.

v. Description of resources needed, including budget, personnel, and facilities.

If none are required, how will existing facilities and equipment be utilized?

A fulltime physics instructor qualified to teach pre-engineering physics and engineering courses. Currently, WCC relies on part-time lecturers for these classes. To ensure the sustainability of this program, a fulltime instructor is essential.