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<th>A. ACTION</th>
<th>B. DELETION</th>
<th>C. MODIFICATION</th>
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<td>2. Experimental articulation</td>
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<td>3. Application for (specify)</td>
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<td>5. Other (specify)</td>
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**NEW ALPHA, NUMBER AND TITLE**

SCI 123 Introduction to Science: Hawaiian Perspectives

**OLD ALPHA, NUMBER AND TITLE (same)**

**NEW DESCRIPTION**

Characteristics of science and interaction with society illustrated by topics in geology, astronomy, oceanography and biology of the Hawaiian Islands.

**PREREQUISITES OR RECOMMENDED PREPARATION**

No prereq's; High School Biology recommended.

**CREDITS**

4

**STUDENT CONTACT HOURS PER WEEK**

3 Lecture + 3 Lab

**OTHER (specify)**

**PROPOSED DATE OF FIRST OFFERING**

Spring 1984

**THIS COURSE IS**

(ELECTIVE) FOR THE AA Natural Sciences PROGRAM Field

**THIS COURSE IS**

(INCREASES) IN THE NUMBER OF CREDITS REQUIRED FOR THE PROGRAM.

**SIMILAR COURSES OFFERED ELSEWHERE (U.H.-M SCI 123/123L Schedules attached here for comparison of course content.)**

U.H.-Manoa

SCI 123/123L Introd. to Sci.: Hawaiian Perspectives

**PROVIDE DETAILS OF EXISTING OR DESIRED ARTICULATION**

(Date, college(s), purposes, pre-major or major, etc.):

A&S Natural Science Requirement of U.H.-Manoa

**REASON FOR INITIATING, MODIFYING OR DELETING COURSE OR PERTINENT COMMENT:**

1. Course was previously offered at WCC but has been removed from Master Course List; apparently the deletion not properly documented; Proposal corrects these errors/omissions.

2. Add a further Natural Science course to WCC curriculum that meets A&S requirements of U.H.-Manoa.

3. Make additional evening Nat. Sci. lab/field trip course available at WCC.

**REQUESTED BY**

Math/Natural Science

**APPROVED BY**

Phillip K. Hagstrom

Curriculum Committee

Jerry A. James

Dean of Instruction

Provost

M. 31 October 1983

M. 11/18/83

M. 13/3/85

M. 3/1/86

3/1/84
1. Subject Area (one or more instructors in the area)

   Susan Tokorodei  
   Dorothy Klein  
   Vincent Richly  
   Jean K. Chumawid

   signatures

   dates

2. Division

   David M. Summers

   department chairperson

   date

3. Administrative Confirmation of System Requirements

   Jeff W. Hunt

   signature

   date

4. Curriculum Committee First Review

   Disapproved

   Reason:

   Further Information Required

   Please provide the following:

   Approved for review by other divisions

   Curriculum Committee Chairperson

   date

   (target date:)

5. Curriculum Committee Second Review

   Approved

   Disapproved

   Reason:

   Phil Hugsten

   Curriculum Committee Chairperson

   date
FORM FOR COURSE PROPOSALS

A. Information Needed for Processing ALL Course Proposals

Course Title: Introduction to Science: Hawaiian Perspectives (SCI 123)

1. Course Objectives:

To provide an introduction to various aspects of science and scientific methods, particularly natural science, using as often as possible specific examples involving the Hawaiian Islands.

2. Provide details of additional staff, equipment facilities, library/media material and equipment, other financial support that would be required to implement the new course or the course modification.

Has this additional cost been included in the budget for the proposed date of offering? Include in estimate of actual cost of supplies and equipment in addition to cost already budgeted by the discipline.

1. One part-time lecturer needed (4 credits: ca. $2,000--may already be partially covered in budget as salary for lecturer in 3-credit ASTR 110, which is apparently being deleted from Spring 1984 course offerings).
2. Existing lecture/lab/A-V equipment/supplies to be used, mostly (no cost)
3. 25 copies of inexpensive paper-cover local plant and animal guides (i.e., initially, 5 copies each of 5 different guides; possibly an equal number to be purchased in only second year of offering; average 35.00 each = $125.00 first year, $125.00 second year).
4. Approximately 6 LAB-AIDS kits (80% reusable in succeeding years; $100.00)
5. 35-mm slides to be prepared by WCC Media Production Center (to remain at WCC; $50.00-$100.00).
6. 25 copies Lab Syllabus to be offset-printed at WCC Duplicating Center ($50.00--costs of this and following item may be covered by present funds set aside for Geology and Oceanography).
7. Occasional multi-page articles to be photocopied or offset-printed in units of 25 by WCC Duplicating Center ($30.00--mostly reusable yearly).
B. Information Needed to Process Course Modification Proposals ONLY

1. What change is proposed in the course? Provide specific information on both the new and the old course.

2. Is the submitted change enough to require a change in course identification? If so, explain thoroughly.

3. If the course is articulated with any four year program, give details and dates of agreement(s) and explain any impact the proposed change may have on articulation.

4. Will this change alter the number of hours required to attain a certificate or degree? If so, provide details and justification.
C. Information Needed to Process New Course Proposals

1. Course relation to EDP of the College:
   To serve individuals who are seeking a liberal education through helping them to:
   ...understand the natural world and the concerns, concepts, and goals of the geological and biological sciences;
   and to:
   ...understand how to conduct at least rudimentary scholarly inquiries; how to obtain scientific data; and how to formulate hypotheses and draw conclusions.

2. Program course in (Please give some information concerning the status of the program and the relation of the course to the program):
   AA: Natural Sciences. Will provide a course in this field that yields a broader and less-specialized base of knowledge than courses such as ZOOL 101 and BOT 101. Subject overlap with related courses estimated as follows:
   BOT 130--less than 20%; GG 200--less than 10%; OCEAN 201--less than 5%.

3. Independent work by students:
   To be carried out in the course of a required individual field project involving identification and ecology of local plants and animals (all require field materials to be provided by WCC, and already covered in proposed budget)

4. Rationale for articulation with UHM General Education Core--attach Windward Community College Form 3 for transfer course criteria, if appropriate:
   Essentially identical U.H.-Manoa course (SCI 123/123L) used by great number of U.H.-Manoa non-science majors to fulfill their A&S Natural Science Requirement.

5. If similar to an upper division course, explain community college application:
   (not applicable)

6. If course is experimental and unique to Windward Community College, indicate additional rationale and impact on college curriculum, if appropriate:
   (not applicable)

D. Attach Course Outline for New Course Proposals or for Course Modifications that Involve Changes in Content, Syllabus, or Time Schedule. Use the Windward Community College FORM 2: General Course Outline for Proposed Course. A student course outline may be submitted, if it indicates the syllabus, content, and time schedule of the proposed course.
   (Proposed Student Course Outline attached)
WCC CURR. FORM 2

GENERAL OUTLINE FOR PROPOSED COURSE

** See attached proposed Student Course Outline**

Course ________________________________
Transfer _____ Nontransfer _____ New _____ Modified _____

1. COURSE DESCRIPTION:

2. HOURS PER WEEK: LEC _____ LAB _____ OTHER _____ TOTAL _____

3. PREREQUISITIES:

   COREQUISITIES:

   RECOMMENDED PREPARATION:

4. SPECIFIC COURSE OBJECTIVES:

5. TEXTBOOK AND MATERIALS:

6. REFERENCE MATERIAL SAMPLES:
   (see sample attached)

7. AUXILIARY MATERIALS:
GENERAL OUTLINE FOR PROPOSED COURSE

Course

7. AUXILIARY MATERIALS:

8. METHODS OF INSTRUCTION:

9. EVALUATION:

10. OTHER

11. SYLLABUS: CONTENT AND TIME SCHEDULE:

(see proposed Lecture and Lab Schedules attached)
TRANSFER COURSE CRITERIA

Course: Introduction to Science: Hawaiian Perspectives (SCI 123) (resurrected after possibly mistaken deletion from Master Course List)

Submitted by: Gary D. Stice  Date: 31 October 1983

1. RATE OF STUDENT PROGRESS:
Determined by successful accomplishment of specified objectives within framework of an announced schedule.

2. BASIC SKILLS NEEDED:
Reading level of text: approximately Grade 12.

3. AMOUNT OF SKILLS AND INDEPENDENT WORK REQUIRED:
No prerequisite college-level courses but understanding of high school-level biology will facilitate satisfactory completion of course.
Also, ability to integrate field observations into general concepts of ecology required (students will increase these skills under instructor's guidance).

4. REASONING REQUIRED:
Both inductive and deductive, with the former predominating.

5. CONCEPTUAL COURSE LEVEL:
College-transfer level.

6. BACKGROUND KNOWLEDGE PREREQUISITE:
None above about high school-graduate level.

7. MASTERY LEVEL EXPECTED:
Attainment of grade of a minimum of 60% on lecture/lab/field trip required materials.

8. COUNTERPART IN 4 YEAR CAMPUS:
University of Hawaii-Manoa Course SCI 123/123L (4 credits).

9. COURSE USE IN MAINLAND ACCREDITED SYSTEMS:
General principles of course equivalent to those presented in most college level introductory natural science courses intended for non-science majors.
SCI 123 Introduction to Science: Hawaiian Perspectives (4 credits)

Characteristics of science and interaction with society illustrated by topics in geology, astronomy, oceanography and biology of the Hawaiian Islands.

Section
Lecture: Lab:
Instructor
Office: Phone:
Office hours

Required Text

Course Objectives
To learn general concepts, theories, and methods of the natural sciences.
To investigate and become proficient in specific scientific procedures utilized in the natural sciences.
To become generally familiar with the geological and biological history of the Hawaiian Islands.
To gain at least a limited knowledge of local plant or animal ecology.

Mode of Instruction
Class lectures, including occasional guest speakers
Laboratory/discussion sessions
Optional field trips and required individual field project
Reading of assigned text and handout material

Specific Course Procedures
The ability to successfully describe and integrate information presented in assigned reading, lectures, and laboratory exercises will be tested by means of three in-class exams (two midterms and a final) without use of references. The exams will be primarily essay/short answer but may include some objective-type questions.

Completion of assigned reading prior to the corresponding lecture/lab presentation will be tested by means of short weekly quizzes based on this reading. A total of between about 12 to 15 such quizzes will be given, of which only the 10 with highest scores will be used in calculating the course grade.

A separate lab notebook detailing laboratory observations and related material will be maintained (in accordance with the instructor's guidelines). This notebook will be collected two times during the semester for evaluation and grading. Missed lab periods may sometimes be made up on the student's own time, subject to various necessary limitations on lab space, material, and instructor's time.
An individual field project (to be described by the instructor) will be conducted outside of class hours, and a related project report will be prepared. The project and report must be completed by a specified date (to be announced) in order to be accepted for grading.

Method of Grading

Total possible points for the four specific course procedures listed above are as follows:

- Three exams at 200 points each ................. 600 points
- Ten weekly quizzes at 20 points each .......... 200 "
- Lab notebook ..................................... 100 "
- Individual field project .......................... 100 "

1,000 total points

Letter grades for the entire course will be assigned as follows:

- A -- 90% or more of total possible points
- B -- 80-89% of total possible points
- C -- 70-79%
- D -- 60-69%
- F -- less than 60% of total possible points.

No re-taking of exams or quizzes is permitted. Missed exams or quizzes will normally result in a grade of zero for the particular test. Make-up exams or quizzes, or deviations from the course letter-grade percentages listed above, will be permitted only in most exceptional situations, at the instructor's discretion. Testing is done on an honor system; a course grade of "F" will be assigned to any student found involved in a cheating system.

Important Additional Information and Student Responsibilities

Satisfactory preparation for science courses at WCC generally requires at least 2-3 hours of outside study for each hour of lecture and lab (in other words, for this 6-hour lecture/lab course, 12 to 18 hours of home study in addition to the actual class hours), so please consider possibly revising your schedule if it seems this would constitute an unrealistic time commitment on your part.

This course may not be satisfied through the credit-by-examination option. Note that, generally, no late work will be accepted for grading.

It is the student's responsibility to keep informed of any changes (i.e., dates, requirements, deadlines, etc.) in the course that are announced in class or listed in this Outline or other handout material; no special effort can be made to inform individuals who may be absent, late, or inattentive.

Copies of previous exams and quizzes used in this course will be available, and all students are encouraged to utilize these in their studies.

Students should read and understand the attached sheet detailing "Inherently Dangerous Activities" involved in this course, and sign the appropriate UH "Assumption of Risk and Release" and/or "Medical Consent" form.

In spite of all the foregoing, we hope you will still enjoy the course!
<table>
<thead>
<tr>
<th>Date</th>
<th>Topic</th>
<th>Text* Reading Assignment</th>
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<tbody>
<tr>
<td>Jan. 16</td>
<td>Course Activities; Scientific Investigation</td>
<td>(handout, if appropriate)</td>
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<td>Earth Science Methodology</td>
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<td>Plate Tectonics and Alternative Theories</td>
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<td>Earth Composition; General Volcanism</td>
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<td>Shield Volcano Life History</td>
<td>1-50 (optional 375 ff.)</td>
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<td>Feb. 1</td>
<td>Hawaiian Atoll and High Island Formation</td>
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<td>Oceans and Effects on Islands</td>
<td>(handout, if appropriate)</td>
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<td>Hawaiian Climates</td>
<td>63-80</td>
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<td>Hawaiian Topography</td>
<td>50-63</td>
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<td>FIRST MIDTERM EXAM</td>
<td>(Review)</td>
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<td>HOLIDAY (Presidents' Day)</td>
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<td>Aquatic and Terrestrial Environments</td>
<td>111-122 (optional 267-435)</td>
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<td>Principles of Ecology</td>
<td>(handout, if appropriate)</td>
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<td>Dispersal Mechanisms of Hawaiian Biota</td>
<td>81-111</td>
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<td>Mch. 5</td>
<td>Evolutionary Theory; Lamarck, Darwin</td>
<td>(handout, if appropriate)</td>
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<td>Science of Genetics; Mendel</td>
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<td>Adaptive Radiation and Convergent Evolution</td>
<td>122-138 (optional 163-179)</td>
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<td>Other Major Evolutionary Processes</td>
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<td>Hawaiian Plants</td>
<td>139-157 (optional 222-267)</td>
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<td>Hawaiian Insects and Other Invertebrates</td>
<td>157-163; 180-189</td>
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<td>Apr. 2</td>
<td>Hawaiian Marine and Freshwater Fauna</td>
<td>(handout, if appropriate)</td>
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<td>SECOND MIDTERM EXAM</td>
<td>(Review)</td>
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<td>Hawaiian Recent Birds</td>
<td>190-221</td>
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<td>Hawaiian Fossil Birds</td>
<td>(handout, if appropriate)</td>
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<td>Hawaiian Mammals</td>
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<td>Polynesian Navigation; Settlement of Hawaii</td>
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<td>Polynesian Environmental Effects</td>
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<td>Continental Man's Environmental Effects</td>
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<td>Introduced Biota and Environmental Effects</td>
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<td>May 2</td>
<td>Course Review and Environmental Future of Hawaii</td>
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<td>FINAL EXAM</td>
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<tr>
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<td>Lab Check-in and Course Safety Procedures</td>
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<td>Properties of Water; Diffusion and Osmosis</td>
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<td>Movement of Pacific Ocean Floor</td>
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<td>Feb. 1</td>
<td>Formulation and Evaluation of Theories</td>
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<td>Rocks and Minerals</td>
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<td>Hawaiian Volcanic Products</td>
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<td>Hawaiian Topographic and Raised-relief Maps</td>
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<td>Principles of Classification</td>
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<td>Taxonomy</td>
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<td>Diversity of Organisms</td>
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<td>Use of Identification Keys</td>
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<td>Natural Selection</td>
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<td>Genetics</td>
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<td>Use of the Dissection and Compound Microscopes</td>
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<td>Microscope Slide Preparation</td>
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<tr>
<td>Apr. 2</td>
<td>Surface-Volume Relationships; Shapes of Life</td>
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<td>Blood-group Typing</td>
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<td>Vertebrate Skeleton</td>
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<td>Elements of Ecology</td>
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<td>Ecological Sampling and Statistics</td>
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<td>Native and Introduced Plants and Animals</td>
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* * *
MEMORANDUM

DATE: 27 January 1984
TO: Phillip Hagstrom, Chair, CAAC
FROM: Alan C. Ziegler, Lecturer, Math/Science Department
SUBJECT: Suggested changes to Course Proposal for SCI 123, in response to 20 January 1984 MEMORANDUM "CAAC APPROVED COURSES" from Jean Fukui to Phillip Hagstrom.

To satisfy the two questions involving potential articulation approval raised in the MEMORANDUM, I would suggest the following changes to the present Course Proposal of SCI 123.

a. On page 1 of the Course Proposal, under the section "Reason for Initiating..." delete the "#3 Make additional evening Nat. Sci. lab/field trip course available at WCC."

To "Course Description" add "An individual field project is required" as well as "Not available for credit by examination."

I hope these two suggested changes, if acceptable to you, will adequately resolve Dean Fukui's concerns, and that the request for course articulation can then be approved for submission to Provost Dyer.

Many thanks for your consideration of the information in this MEMORANDUM, and for all of your work in regard to the (re)institution of SCI 123 at WCC.

If it seems there is more I can do in this matter, please just phone me at ext 320 or at home (247-5318).

* * *

Xerox Copy: David Furuto, Chair, Math/Science Department