Proposal to Initiate, Modify or Delete a Course

1. Type of Action
   - A. Addition
   - B. Deletion
   - C. Modification:
     - □ in credits
     - □ in title
     - □ in prerequisites or co-requisites
     - □ Other

2. New Alpha, Number and Title
   - AQUA 201L. The Hawaiian Fishpond Lab

3. Credits
   - 1 credit

4. Old Alpha, Number and Title
   - AQUA 201

5. New Catalog Description
   - Companion laboratory class to AQUA 201, The Hawaiian Fishpond. This class provides hands-on experiences studying Hawaiian fishponds, their construction and operation, oceanography, biology, ecology, and restoration (3 hours lab).

6. Credits
   - 1 credit

7. Select box and type specific information in text box.
   - □ Prerequisites
   - □ Corequisites or Recommended Preparation
   - AQUA 201 or consent

8. Student Contact Hours Per Week
   - Lecture
   - Lecture/Lab
   - Lab 1
   - Other

9. Proposed Date of First Offering
   - Semester: Spring
   - Year: 2006

10. This course □ is proposed for the * Program. □ can fulfill * If Other, specify General Education Core as a Natural Science Laboratory Course; Bio-Resources & Technology Academic Subject Certificate in Bio-Resources Development and Management (Elective Set 1: Technology, Utilization, and Management; Hawaiian Studies Academic Subject Certificate)

11. This course Makes No Difference in the number of credits required for the program/core.

12. Equivalent or similar courses offered in the UH System:

<table>
<thead>
<tr>
<th>Campus</th>
<th>Alpha, Number, Title</th>
<th>Campus</th>
<th>Alpha, Number, Title</th>
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13. This course is (check one and click in appropriate textbox and provide details):
   - □ Already articulated with
   - Provide details of existing or desired articulation (date, college(s), purposes, pre-major, etc.) in this space:
   - □ Appropriate for Articulation with Natural Science general education core requirement (as a laboratory class) at all UH campuses.
   - Provide details of existing or desired articulation (date, colleges(s), purposes, pre-major or major, etc.) in this space:
   - □ Not yet appropriate for Articulation.

14. Reason for Initiating, Modifying or Deleting Courses or Other Pertinent Comment:
   - Companion laboratory class to complement AQUA 201.

Requested by: Joseph E. Clotte
Date: 12-2-04

Approved by:
- Department Chairperson
- Curriculum Committee Chairperson
- Faculty Senate Chairperson
- Dean of Instruction

Date: 1-25-05
Date: 2/8/05
Date: 2/11/05
Date: 7/11/05

CCC #6100 (Amended for WCC use October 2002)
Levels of Review of Course Proposal at Windward Community College

Course Alpha, Number, and Title: AQUA 201L The Hawaiian Fishpond Laboratory

<table>
<thead>
<tr>
<th>Signatures</th>
<th>Dates</th>
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1. Department Area (more than one departmental instructor's signature required)

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2. Department

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Joseph E. Costle
Department Chairperson

Was this course discussed in a department meeting? ☑ Yes ☐ No

3. Division

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Elizabeth Ashley

4. Curriculum Committee Review

☑ Approved

☐ Disapproved

Reason:

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Jean Shibuya
Curriculum Committee Chairperson

Jan 25, 2005

CCCMM #6100 (Amended for WCC use October 2002)
WCC Form for New Course Proposals
(This sheet was originally pink.)

1. How is this course related to the education needs and goals of the College/Department/Community as reflected in the EDP/ADP?

   This class fulfills the college's commitment to developing and enhancing its Hawaiian studies and environmental studies curriculum.

2. Provide details of any additional staff, equipment, facilities, library/media material, faculty preparation and other financial support that would be required to implement this course. (Include an estimate of the actual cost of supplies and equipment.) What has been done to provide for these additional costs for the proposed date of offering? Who will teach the course?

   The initial offerings of this course would involve alternation with existing classes (e.g., IS 201) or it would be supported through the solicitation of extramural funds (e.g., Sea Grant, USDA, or private foundation funds).

3. Is a similar course taught elsewhere in the UH system? * If yes, provide details of how this course differs from existing similar courses.

   No. During Fall 2001, UHM offered HWST 397, Malama Loko I'a: Fishpond Management. This course was apparently experimental and no comparable course appears in the current UHM catalog.

4. Is this course experimental and/or unique to Windward Community College? * If yes, provide rationale and details of its impact on the College Curriculum

   Other than its similarity to UHM's HWST 397, this class is unlike any class in the University system. It's impact is in contributing to the course offerings accepted by the Academic Subject Certificate in Bio-Resources and Technology, Bio-Resource Development and Management Track. It also supports the Hawaiian Studies Program. Finally, this class will complement AQUA 201 by providing students with "hands-on" experiences.

5. Is a similar course taught in the upper division level by a 4-year UH college? * If yes, explain why this course is appropriate at the lower division or how it differs from its upper division counterpart.

   See comments under #s 3 & 4 above.

6. Please attach a complete course outline. Your course outline should address all the items listed in the Guidelines for Course Outlines.

7. If this course is numbered 100 or above or appropriate for transfer to a 4-year college, complete and attach WCC Form for Transfer Courses (blue). See criteria for transfer courses.
University of Hawaii Community Colleges
Proposal to Initiate, Modify or Delete a Course
Articulation with 4-year UH Campus Form

WCC Form for Transfer Courses
(To be completed for articulation with any 4-year UH campus)
(This sheet was originally blue.)

Course Alpha and Number AQUA 201L

Submitted by Dave Krupp

Date December 2, 2004

1. List the counterpart to this course on any 4-year UH campus. Describe the relationship between the course and any related baccalaureate program area.

   The nearest counterpart was HWST 397, which apparently offered on an experimental basis during Fall 2001. It apparently has not been offered since then. Nor is HWST 397 listed in the current (or recent) UHM catalogs. However, AQUA 201L, as a course suitable for consideration as natural science general education core class (as a laboratory), presents a sufficiently different emphasis to be regarded as a different course. It may be possible for this class to count towards requirements in the UHM and UHH Hawaiian Studies program. The course may also be considered for completing requirements in UHM's Hui Konohiki program (in development).

2. Is this course taught or accepted by major accredited colleges or universities? Give one or two examples.

   no

3. Please attach a complete course outline if you have not done so already. Your course outline should address all the items listed in the Guidelines for Course Outlines.
Proposal to Initiate, Modify or Delete a Course Articulation with 4-year UH Campus Form

COURSE ARTICULATION FORM (GENERAL EDUCATION CORE)

ORIGINATING CAMPUS: Windward Community College DATE SUBMITTED: December 2, 2004

COURSE ALPHA & NUMBER: AQUA 201L SEMESTER CREDITS: 1

COURSE TITLE: The Hawaiian Fishpond Laboratory

DATE OF OUTLINE: December 2, 2004 Year 2006

(** Representative outline, no multiple syllabi, please.)

1. Articulation committee to review this course:

   Standing Committees
   - Written Communication
   - Mathematical & Logical Thinking
   - World Civilizations
   - Languages
   - Arts & Humanities
   - Natural Science
   - Social Science

2. The information in this item is required by the reviewing committee so that it has a starting point for reviewing the course. It is the responsibility of the submitting campus to do the necessary research to provide this information.

   In the opinion of the originating campus, this course is equivalent to the following and/or meets the criteria for the indicated core categories. Every core category space, except your own campus, must be filled in (can include 'none'). An equivalent course, if known, may be helpful to committee members but is not required.

<table>
<thead>
<tr>
<th>Receiving Campus</th>
<th>Equivalent Course (Alpha and Number)</th>
<th>Core Category</th>
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<tbody>
<tr>
<td>UH Hilo</td>
<td>none</td>
<td>Nat. Sci. Laboratory</td>
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<tr>
<td>UH Manoa</td>
<td>none</td>
<td>DY</td>
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<tr>
<td>UH West Oahu</td>
<td>none</td>
<td>Natural Sciences</td>
</tr>
<tr>
<td>Hawaii CC</td>
<td>none</td>
<td>Nat. Sci. Laboratory</td>
</tr>
<tr>
<td>Honolulu CC</td>
<td>none</td>
<td>Nat. Sci. (NS) Laboratory</td>
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<tr>
<td>Kapiolani CC</td>
<td>none</td>
<td>Nat. Sci. (NS) Laboratory</td>
</tr>
<tr>
<td>Kauai CC</td>
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<td>Nat. Sci. Laboratory</td>
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<tr>
<td>Maui CC</td>
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<td>Nat. Sci. Laboratory</td>
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<tr>
<td>Windward CC</td>
<td>none</td>
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</tbody>
</table>

3. If submitted electronically, I understand that this outline will be posted to a publicly accessible web site to enable open access for reviewing committees and campuses. The outline will be taken off the site upon completion of the review.

   ________________________________
   Typed Name or Signature

Note: If possible submit coversheet and course outline electronically as e-mail attachments (preferably in 'pdf' format). If submitting in printed form, 20 copies of coversheet and course outline are required for distribution for appropriate review.

Note: UCA Clearinghouse
   John Muth, Office of the Chancellor for Community Colleges, is acting as staff to the University Council on Articulation and is
COURSE NAME: The Hawaiian Fishpond Laboratory
COURSE ALPHA: AQUA 201L
CREDIT HOURS: 01

CATALOG DESCRIPTION:
Companion laboratory class to AQUA 201, The Hawaiian Fishpond. This class provides hands-on experiences studying Hawaiian fishponds, their construction and operation, oceanography, biology, ecology, and restoration (3 hours lab).

REQUIREMENTS COURSE SATISFIES:

- Requested: Natural Science General Education Core for the Associates Degree in Liberal Arts as a Laboratory Class.
- Requested: Hawaiian Studies Academic Subject Certificate Requirements at Windward Community College (as an elective).

COREQUISITE OR PREREQUISITE: AQUA 201 The Hawaiian Fishpond or consent of instructor

RECOMMENDED SKILL LEVELS: College-level reading/writing skills

ACTIVITIES REQUIRED AT SCHEDULED TIMES OTHER THAN CLASS TIME: none

INSTRUCTOR:
OFFICE:
TELEPHONE:
FAX:
E-MAIL:
INSTRUCTOR'S WEBPAGE:

AQUA 201L WEBPAGE:

EFFECTIVE DATE: Spring 2006
COURSE GOALS

Upon completion of this course the student should understand and appreciate:

- the characteristics, construction and operation of the various types of Hawaiian fishponds;
- approaches and techniques to studying the oceanography, biology, and ecology of Hawaiian fishponds;
- the similarities and differences between traditional Hawaiian fishponds and modern aquaculture technologies; and
- the difficulties associated with fishpond restoration.

COURSE OBJECTIVES

The student will demonstrate the acquisition of basic laboratory and field research skills and knowledge relevant to the study of Hawaiian fishponds. These skills and knowledge include the following areas:

- the scientific method of inquiry, providing examples of its use, and demonstrating this method through written reports and summaries of class laboratory and field activities;
- the collection, reduction, interpretation, and presentation of scientific data in the form of laboratory/field reports and summaries;
- construction, characteristics, operation, and management (stocking, cultivation, harvesting and maintenance) of the various types of traditional Hawaiian fishponds and how they relate to modern aquaculture practices;
- the use of some of the tools used to study the oceanography, biology and ecology of Hawaiian fishponds (e.g., dichotomous keys, water samplers, plankton nets, aquatic animal traps & nets, microscopes, scales, pH meters, nutrient test kits, oxygen meters, salinometers, refractometers, conductivity meters, turbidimeters, light meters, Secchi disks, and other analytical tools);
- analysis of the physical and chemical environment (e.g., bathymetry, water circulation, tidal flux, stratification, water chemistry and properties, sediments, and nutrients) provided to the species that inhabit the fishpond;
- identification, classification and characteristics of fishpond species;
- fish external and internal anatomy;
- identification of fish diseases;
- the integration between traditional practices and modern aquaculture methodologies (by comparing traditional fishponds to modern aquaculture facilities);
- archaeological analysis of a fishpond;
- Hawaiian fishpond restoration: approaches, problems and possible solutions, and examples of restoration projects.
MODE OF INSTRUCTION

The previously described objectives will be achieved through the aid of the following learning activities:

- Active participation in laboratory and field activities;
- Laboratory/Field lecture and demonstrations;
- Multimedia presentations;
- Data collection using instruments and measurement tools;
- Computer-assisted data collection activities;
- Recording and interpreting results from laboratory and field activities;
- Written reports and/or summaries of laboratory activities; and
- Group presentations.

The material presented in all modes of instruction will be of an introductory nature but sufficient in content to allow serious study by the interested student. Assigned readings will serve to provide background and supplemental information to provide a broad base for a basic study. Class lectures will build upon this base, helping to focus the student on some of the more important details.

EVALUATION OF OBJECTIVE ACHIEVEMENT

LABORATORY NOTEBOOK. The student will maintain a laboratory notebook to record all notes, observations, and information gathered before and during laboratory and field activities. This notebook must be brought to every laboratory period. This notebook will be collected and graded twice during the semester (15 points for the first collection; 35 points for the final collection; 50 points total). The type of notebook and the kind of information required will be explained during the introductory lab session.

LABORATORY/FIELD REPORTS AND SUMMARIES. The student will complete a total of 15 written laboratory/field reports or summaries (10 points each). Each report or summary must be completed and turned in no later than the beginning of the first laboratory meeting after the assignment was given (150 points total). The nature of the report or summary will depend upon the activity.

LABORATORY/FIELD ATTENDANCE AND PARTICIPATION. The student will attend and actively participate in all laboratory and field activities (50 points). A student missing more than two of these sessions will not receive a passing grade for the course.

GROUP PRESENTATION. The class will be divided into a number of small groups consisting of 3-4 students each. Each group will complete an approved project on a fishpond-related topic (project may be a research project or involve the development of an education module). Documentation of project completion will take place in the form of a short oral presentation made during the time scheduled for final exams (25 points). All students in the group must participate in this presentation.
METHOD OF GRADING

The assignment of points will be according to the following protocol:

- Laboratory Notebook: 50 points
- Laboratory/Field Reports and Summaries: 150 points
- Laboratory/Field Attendance and Participation: 50 points
- Group Presentation: 25 points

TOTAL POSSIBLE POINTS: 275

Letter grades will be assigned as follows:

- A: 90% or above in total points.
- B: 80-89.9% of total points.
- C: 65-79.9% of total points.
- D: 55-64.9% of total points.
- F: Below 55% of total points or informal or incomplete official withdrawal from course.
- I: Incomplete; given at the instructor's option when student is unable to complete a small part of the course because of circumstances beyond his or her control. It is the student's responsibility to make up incomplete work. Failure to satisfactorily make up incomplete work within the appropriate time period will result in a grade change for "I" to the contingency grade identified by the instructor (see catalog).
- CR: 65% or above in total points; the student must indicate the intent to take the course as CR/NC in writing by the end of the 10th week of classes (see catalog).
- NC: Below 65% of total points; this grade only available under the CR/NC option (see above and see catalog).
- N: Below 55% of total points because of documented serious illness or emergency that prevents the student from officially withdrawing from the course; not used as an alternative for an "F" grade; given at the instructor's option.
- W: Official withdrawal from the course after the third week and prior to the end of the 10th week of classes (see catalog).

The instructor may announce extra credit options at various times during the course. However, in order for the student to be eligible for any extra credit activity, the student must demonstrate responsibility in completing all regular course assignments. In addition the student must demonstrate a sustained interest in the content of the course by regularly attending and participating in class. Some extra credit assignments may require same-day class attendance in order for the student to be eligible to receive credit for these assignments. The instructor is not obligated to accept projects for extra credit.

Waiver of minimum level of achievement and course requirements may be given only in unique situations at the instructor's discretion.

Students involved in academic dishonesty will receive an "F" grade for the course.
STUDENT RESPONSIBILITIES

Students should carefully review the attached sheet detailing inherently dangerous activities of this course and sign the appropriate U.H. Assumption of Risk and Release and Medical Consent forms.

Students are expected to participate in all laboratory and field activities and complete all course assignments on time.

Students are expected to be prepared in advance when they arrive at class. Being prepared includes the following: having already read text materials (e.g., textbook readings and handouts) assigned for that day’s activities, bringing required work materials (e.g., lab notebook, textbook, handouts, writing supplies, etc.), and having completed any assigned pre-lab tasks.

Any changes in the course schedule, such as examination dates, deadlines, etc., will be announced ahead of time in class. It is the student’s responsibility to be informed of these changes.

It is also the student’s responsibility to be informed about deadlines critical to making registration changes (e.g., last day of erase period and last day for making an official withdrawal.

TEXTBOOK AND OTHER ASSIGNED INSTRUCTIONAL MATERIALS

No specific textbook will be assigned for this class. Instead, students will receive handouts for each lab activity.

OTHER INFORMATION

Important Dates:

Last day to add or drop a class..............
Last day of erase period ....................
Last day for official withdrawal.............

Instructor’s Office Hours (or by appointment):
## Sample Schedule of Laboratory Activities
Based Upon Fall 2004 Calendar

<table>
<thead>
<tr>
<th>DATE</th>
<th>TOPIC</th>
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<tbody>
<tr>
<td>23-Aug</td>
<td>Introduction to the Laboratory; Lab and Field Safety</td>
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<tr>
<td>30-Aug</td>
<td>Windward Fishpond Field Trip</td>
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<tr>
<td>6-Sep</td>
<td>HOLIDAY: Labor Day</td>
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<tr>
<td>13-Sep</td>
<td>Classification of Living Things and Dichotomous Keys</td>
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<td>20-Sep</td>
<td>Fishpond Plant Collection and Identification</td>
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<tr>
<td>27-Sep</td>
<td>Fish Anatomy</td>
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<td>4-Oct</td>
<td>Identification of Hawaiian Fishpond Fishes</td>
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<tr>
<td>11-Oct</td>
<td>Fishpond Habitats: Classification, Characteristics, and Biota</td>
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<tr>
<td>18-Oct</td>
<td>Water Quality Assessment and Sediment Analysis</td>
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<tr>
<td>25-Oct</td>
<td>Aquaculture Facility Field Trip</td>
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<td>1-Nov</td>
<td>Fish Diseases</td>
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<td>8-Nov</td>
<td>Fishpond Harvesting</td>
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<tr>
<td>15-Nov</td>
<td>Fishpond Bathymetry and Mapping</td>
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<tr>
<td>22-Nov</td>
<td>Fishpond Flow Dynamics (Tides and Currents)</td>
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<tr>
<td>29-Nov</td>
<td>Archaeological Analysis of Fishpond History</td>
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<tr>
<td>6-Dec</td>
<td>Fishpond Restoration</td>
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<tr>
<td>Finals Week</td>
<td>Group Presentations</td>
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</tbody>
</table>
AQUA 201 LABORATORY AND FIELD ACTIVITIES

Students enrolled in AQUA 201 are advised that certain required course activities are inherently dangerous and may require normal physical abilities. Students are therefore required to read about the inherently dangerous activities described below. In addition, students must read and demonstrate knowledge of their responsibilities while engaged in these activities.

Some students may have physical conditions that restrict their participation in certain laboratory activities. Respiratory ailments, certain allergies, and pregnancy may be among these conditions. Students exhibiting any of these conditions, or any other condition that may be impacted adversely by participation in the activity, should consult a physician.

INHERENTLY DANGEROUS ACTIVITIES

Students in the science laboratory may be exposed to chemicals (e.g., formaldehyde, organic solvents, acids, and other caustic chemicals), chemical fumes, laboratory equipment and supplies (e.g., scalpels, razor blades, glass slides, coverslips, and electrical equipment), toxic or irritating properties of living and dead animals, human organic matter (e.g., saliva and blood), and other materials necessary to laboratory activities of this or other laboratory classes. Other possible hazards include broken glass on the floor or counters, combustible materials (e.g., bunsen burner gas), and slippery spills.

During field activities students face risks such as accidents while in route to and from field destinations, falling out of boats, slipping on wet surfaces, stepping on sharp objects, large waves, strong currents, and dangerous marine life.

RESPONSIBILITIES OF STUDENTS IN THE LABORATORY

1. Students should be familiar with safety procedures and take appropriate precautions at all times to insure the safety of every student in the lab.

2. Students should follow instructions carefully, especially when hazardous conditions occur or hazardous materials are being used.

3. Students should locate the placement of safety equipment and supplies in the laboratory: safety shower, eye wash station, fire extinguisher, and first aid kit. Students should understand the use of this equipment. Also note the locations of exits.

4. Anyone injured in the lab should inform the instructor immediately and take immediate action to reduce the risk of further injury.
5. Students should familiarize themselves with the fire procedures. Extinguish small fires, but leave the building immediately should a major fire occur. Notify the appropriate authorities -- don't assume someone else remembered to do it. Meet with other students and your instructor outside the building before leaving so that an accurate headcount may be made.

6. Students should dress appropriately in the lab. Students may elect to supply their own gloves and protective aprons or laboratory coats. Some lab activities may require protective eyewear (provided for the activity by WCC).

7. Students should report all hazardous conditions to the instructor immediately.

8. Chemicals may be poisonous, corrosive, or flammable. No chemicals, even chemicals known to be safe, should be ingested, inhaled, or touched unless specifically directed to do so by your instructor.

9. All organisms, living or dead, should be treated with care and respect. Avoid direct handling when possible.

10. The safe use of specific equipment and tools (e.g., microscopes, slides, scalpels, and pipettes) will be demonstrated by the instructor during the laboratory sessions. Students should be sure they understand this usage.

11. Students should clean up any supplies used and should return materials where they belong as instructed. Any material spilled should be cleaned appropriately. Report any hazardous spills or breakages.

12. Broken glass and sharp metal waste should be placed only in those receptacles marked for such disposal -- do not put these materials in normal trash receptacles.

13. Some chemical wastes may not be dumped into laboratory sinks. In such circumstances an appropriate container will be provided for this waste in the lab.

14. Organic waste resulting from animal dissection activities should be disposed of in the appropriate receptacle, not the ordinary trash receptacles.

15. Human organic materials (e.g., saliva and blood) must be disposed of in such a way as to eliminate any possibility for contamination and the spread of disease. Appropriate handling and disposal procedures will be explained when human materials are involved in the laboratory exercise.

16. After completing laboratory activities and clean up, students should wash their hands in the restroom to avoid spreading contamination and hazardous chemicals.

17. The laboratory is a place for learning. Therefore, eating, drinking, and playing around is prohibited during the laboratory session. Students exhibiting unsafe or
inappropriate behavior in the lab may be asked to leave and may be given an "F" grade for the course.

RESPONSIBILITIES OF STUDENTS IN THE FIELD

1. Field excursions may involve carpooling to field destinations. Drivers are expected to have valid Hawaii driver's licenses, drive safely, and follow all traffic laws. Passengers should not disturb drivers.

2. When in the field, students should use the buddy system. Partners should have comparable physical skills and should keep track of each other at all times.

3. Students should wear clothing appropriate for the activity and should anticipate all possible weather conditions. Land/shoreline activities require loose-fitting clothing that protects the extremities from sunlight and abrasions (note that this clothing may get wet). Footwear should allow stable walking on rough and/or slippery surfaces (slippers are not acceptable footwear). A hat and sunglasses are also highly recommended. For water activities, a wet suit, or long pants and sleeves, worn over swim suits, are recommended. Gloves and protective footwear are essential. Students should apply sunscreen to all exposed skin areas.

4. When looking under rocks or ledges, students should be prepared for encounters with dangerous marine animals, such as eels, lion fish, and sea urchins. Unless specifically instructed to do so, students should not touch any marine organism.

5. Students should familiarize themselves with potential hazards in an area before beginning an activity. Watch for large waves and dangerous currents. If conditions should become dangerous after the activity starts (e.g., waves pick up or dangerous marine life enters the area), the student should leave the area immediately. Students should inform the instructor immediately when dangerous conditions arise. A student should never feel compelled to do an activity that seems hazardous. A student should refuse to carry out an activity that exceeds his or her physical capabilities.

6. Anyone injured in the field should inform the instructor immediately and take immediate action to reduce the risk of further injury. Before an activity begins, students will be informed of the location of the first aid kit (which will be taken on every excursion).

7. No one should operate a power boat without specific training. While in power boats, students should remain seated at all times. No power boat should be used without proper safety gear (i.e., first aid kit, life vests, oars, anchor, flares and other essential gear).

8. Consumption of alcoholic beverages is prohibited during any class activity, including field activities.