University of Hawaii Community Colleges
Proposal to Initiate, Modify or Delete a Course

1. Type of Action
   - A. Addition  □  Regular or □ Experimental or  □ Other (click and type to specify)
   - B. Deletion
   - C. Modification: □ in credits □ in title □ in number or alpha
     □ in prerequisites or co-requisites □ Other (click to specify)

2. New Alpha, Number and Title  □  BIOL 200L Coral Reef Laboratory and Field Studies
3. Credits 1 credit

4. Old Alpha, Number and Title  □  BIOL 200L Coral Reef Laboratory and Field Studies
5. Credits 2 credits

6. New Catalog Description
   Laboratory and field studies of the biology, ecology and geology of stony corals and the reef structures they build; companion course to BIOL 200. (3 hrs. lab).

7. Select box and type specific information in text box.
   Prerequisites □ Corequisites or
   □ Recommended Preparation
   Pre: Prior or concurrent registration in BIOL 200 or consent of instructor.
   Rec: High school biology and algebra.

8. Student Contact Hours Per Week
   Lecture
   Lecture/Lab       Lab 3
   Other (click to specify)

9. Proposed Date of First Offering
   Semester Fall
   Year 2008

10. This course □ is proposed for the Liberal Arts Program. □ can fulfill Nat Sci: Laboratory (DY)

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>
</tr>
</thead>
<tbody>
<tr>
<td>LeewardCC</td>
<td>BIOL 200L Coral Reefs*</td>
<td>*</td>
<td>*</td>
</tr>
<tr>
<td>MauiCC</td>
<td>BIOL 200L Coral Reefs*</td>
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* BIOL 200 at LCC & MCC combine lecture & lab together into a single course.

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 BIOL 200 at LCC & MCC when taken with BIOL 200 at WCC.
   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:
   Reducing credits and contact hours and changing prerequisites.

Approved by:

Requested by:  

Date: 11/10/08

Date: 2/12/08

Date: 2/19/08

Date: 2/22/08

Date: 2/26/08

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

**Course Alpha, Number, and Title:** BIOL 200L Coral Reef Laboratory and Field Studies

<table>
<thead>
<tr>
<th>Signatures</th>
<th>Dates</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Department Area (more than one departmental instructor's signature required)</td>
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<tr>
<td>[Signature]</td>
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<td>2. Department Chairperson</td>
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<td>[Signature]</td>
<td>1/10/08</td>
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<tr>
<td>Was this course discussed in a department meeting?</td>
<td>Yes □ No</td>
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<tr>
<td>3. Division</td>
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<td>[Signature]</td>
<td>1/10/08</td>
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<tr>
<td>4. Curriculum Committee Review</td>
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<tr>
<td>Approved □ Disapproved □</td>
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<td>Reason:</td>
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<td>[Signature]</td>
<td>2/12/08</td>
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</table>

**Department Chairperson**

CCC #6100 (Amended for WCC use October 2002)
Course BIOL 200L Coral Reef Laboratory and Field Studies
Submitted by David Krupp
Date January 3, 2008

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

Reducing the number of credit/contact hours from 2/6 to 1/3.
Eliminating Math 27 prerequisite.

2. What is the rationale for the change?

Consistency with lab component of BIOL 200 at LCC and MCC. Note, BIOL 200 at LCC & MCC combines lecture and lab together into one four-credit (3 hrs. lect., 3 hrs. lab) credit. Taking BIOL 200 with 200L at WCC would be equivalent to taking BIOL 200 at either LCC or MCC. Math 27 is no longer offered at WCC.

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

No.

4. Is the course articulated with any 4-year program? No

If yes, give details of the agreement(s) and explain any impact the proposed modifications may have on articulation.

5. Provide details of any additional staff, equipment, facilities, library/media material, faculty preparation and other financial considerations that would be required to implement this course modification. What has been done to provide for these additional costs? Who will teach the course? Is additional preparation needed?

No additional staff, etc. required. D. Krupp will teach the course.

6. Will this course modification result in any alterations in the number of hours required to attain a certificate or degree? No If yes, provide details and justification for these alterations.

7. If the course is renumbered to 100 or above, does it meet the criteria for transfer level courses? (Go to next page for transfer course criteria.) No

CCCM #6100 (Amended for WCC use September 2002)
Original dated WCC 9/91
COURSE ARTICULATION FORM (GENERAL EDUCATION CORE)

ORIGINATING CAMPUS: Windward Community College    DATE SUBMITTED: January 3, 2008

COURSE ALPHA & NUMBER: BIOL 200L    SEMESTER CREDITS: 1

COURSE TITLE: Coral Reef Laboratory and Field Studies

DATE OF OUTLINE: January 3, 2008    Year 2008

(** 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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</thead>
<tbody>
<tr>
<td>UH Hilo</td>
<td>NS Lab</td>
<td></td>
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<tr>
<td>UH Manoa</td>
<td>DY</td>
<td></td>
</tr>
<tr>
<td>UH West Oahu</td>
<td>NS</td>
<td></td>
</tr>
<tr>
<td>Hawaii CC</td>
<td>NS Lab</td>
<td></td>
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<tr>
<td>Honolulu CC</td>
<td>DY</td>
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<tr>
<td>Kapiolani CC</td>
<td>DY</td>
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<tr>
<td>Kauai CC</td>
<td>NS Lab</td>
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<tr>
<td>Leeward CC</td>
<td>BIOL 200*</td>
<td>DY</td>
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<tr>
<td>Maui CC</td>
<td>BIOL 200*</td>
<td>NS Lab</td>
</tr>
<tr>
<td>Windward CC</td>
<td>DY</td>
<td></td>
</tr>
</tbody>
</table>

* BIOL 200 at LCC & MCC combine lecture & lab together into a single course.

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 responsible for tracking all courses submitted for articulation.

Revised 1/29/2001
BIOL 200L Coral Reef Laboratory and Field Studies
01 Credits

INSTRUCTOR:
OFFICE:
OFFICE HOURS:
TELEPHONE:
EFFECTIVE DATE: Fall 2008
COURSE WEBSITE: 
WebCT URL:

WINDWARD COMMUNITY COLLEGE MISSION STATEMENT

Windward Community College is committed to excellence in the liberal arts and career development; we support and challenge individuals to develop skills, fulfill their potential, enrich their lives, and become contributing, culturally aware members of our community.

CATALOG DESCRIPTION

Laboratory and field studies of the biology, ecology and geology of stony corals and the reef structures they build; companion course to BIOL 200. (3 hrs. lab).

PREREQUISITES

Prior or concurrent registration in BIOL 200 or consent of instructor.

RECOMMENDED PREPARATION

High school biology and algebra.

STUDENT LEARNING OUTCOMES

The student learning outcomes are:

1. Use the scientific method of inquiry to investigate biological phenomena.
2. Apply the concepts learned in BIOL 200 to an experimental and hands-on observational setting.
3. Collect, reduce, and interpret biological data.
4. Prepare written objective reports describing and interpreting experimental and observational results.
5. Demonstrate the use of some of the standard tools of the biological scientist, such as microscopes, scales, spectrophotometers, computers, and other analytical tools.
6. Demonstrate the use of specialized tools and methods frequently used in the study of corals and coral reefs.
COURSE CONTENT

Concepts or Topics

• Collecting data and making measurements
• Descriptive statistics and presenting data
• How to write a laboratory report
• Coral anatomy and morphology
• The physiology of algal-invertebrate symbiosis
• Identification of common Hawaiian corals
• Identification of common Hawaiian seaweeds
• Identification of common Hawaiian invertebrates
• Identification of common Hawaiian fishes
• Coral reef survey methods: substrate survey using transects & quadrats
• Coral reef survey methods: substrate survey using photoquadrats
• Coral reef survey methods: fish transect
• Fish adaptations to habitats
• Fossil coral reefs

Skills or Competencies

1. Maintain a laboratory notebook that adequately documents laboratory activities.
2. Collect quantitative measurements and make calculations (including conversions) using the metric system.
3. Calculate averages and standard deviations.
4. Present quantitative data in the form of tables and graphs in the proper format.
5. Use Excel software to compute statistics, create data tables, and generate graphs.
6. Draw figures illustrating observations and present these figures in a manner suitable for publication in a scientific journal.
7. Write summaries of laboratory activities, documenting these activities and demonstrating an understanding about the significance of the results.
8. Use laboratory instruments: rulers, electronic scales, microscopes, spectrophotometers, respirometers, computers, etc.
9. Understand the anatomy and morphology of coral.
10. Use a dichotomous key to identify living things.
11. Identify common Hawaiian species of seaweeds, coral, other invertebrates, and fishes.
12. Carry out respirometry to measure rates of photosynthesis and respiration.
13. Carry out a transect/quadrat survey of coral reef environments to determine percent cover of bottom substrates.
14. Carry out transect/quadrat survey of coral reef environments to determine the density of invertebrates and fishes.
15. Correlate morphology of coral reef fishes with habitat characteristics.
LABORATORY NOTEBOOK. The student will maintain a laboratory notebook to record all notes, observations, and information gathered before and during laboratory activities. This notebook must be brought to every laboratory period. This notebook will be collected and graded twice during the semester (30 points for the first collection; 30 points for the final collection; 60 points total). The type of notebook and the kind of information required will be explained during the introductory lab session.

LABORATORY SUMMARIES. The student will complete a total of 12 written laboratory summaries (20 points each). Each summary must be completed and turned in no later than the beginning of the first laboratory meeting after the assignment was given (240 points total). The production of laboratory summaries should be considered an individual student task. The sharing of data tables and graphs between students is considered a form of plagiarism and is inappropriate.

PRE-LAB QUIZZES. The student will take a total of 12 pre-lab quizzes (15 points each) administered via WebCT before the laboratory meetings. These quizzes will test the student's knowledge of and preparation for the laboratory exercise planned for that day, as well as the student's understanding of the previous laboratory activity. In general, these quizzes will be posted on the WebCT site the Monday prior to the lab meeting. Access to the quiz will be prohibited beginning 30 minutes before the lab meeting. Of these 12 quizzes, only the 10 best scores will be included in the student's point total (150 points total).

FINAL LABORATORY PRACTICAL EXAM. The student will take a final laboratory practical examination (100 points) to demonstrate acquisition of laboratory skills and a understanding of information presented during laboratories.

LABORATORY ATTENDANCE. Regular attendance is expected. Because laboratories involve considerable set-up/take-down time and supervision, students will NOT be able to make up missed laboratory activities. A student missing a scheduled laboratory activity because of an illness or legitimate emergency may be given an alternative activity to make up lost lab summary points. In such a circumstance, the student is still responsible for the information presented during the missed laboratory session. Regardless of the reason, A STUDENT MISSING MORE THAN TWO SCHEDULED LABORATORY SESSIONS WILL NOT RECEIVE CREDIT FOR THE COURSE.

LAB ATTIRE, CONDUCT AND HYGIENE. Because biology labs often involve working with hazardous materials and living organisms, students must dress appropriately. Students must wear lab coats and closed-toe shoes in the lab. Students may purchase a lab coat at the college bookstore. In addition, some lab activities will require students to wear gloves and safety glasses (provided by the college). Students failing to dress appropriately for lab will not be permitted into the laboratory and will be considered to be absent for the missed lab activity. Students engaged in conduct that threatens the safety of themselves and others in the lab will be refused access to the lab for the remainder of the semester and will receive an “F” for the course. Students are also expected to clean up their workstations following the lab activities. Failing to do so will lead to a 5-10 point penalty depending upon the seriousness of the infraction.
The assignment of points will be according to the following protocol:

<table>
<thead>
<tr>
<th>Assignment</th>
<th>Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>Final Examination</td>
<td>100</td>
</tr>
<tr>
<td>Quizzes</td>
<td>150</td>
</tr>
<tr>
<td>Laboratory Notebook</td>
<td>60</td>
</tr>
<tr>
<td>Laboratory Summaries</td>
<td>240</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>550</strong></td>
</tr>
</tbody>
</table>

Letter grades will be assigned as follows:

<table>
<thead>
<tr>
<th>Letter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>A</strong></td>
<td>90% or above in total points and not missing more than one scheduled laboratory activity.</td>
</tr>
<tr>
<td><strong>B</strong></td>
<td>80-89.9% of total points and not missing more than one scheduled laboratory activity.</td>
</tr>
<tr>
<td><strong>C</strong></td>
<td>65-79.9% of total points and not missing more than one scheduled laboratory activity.</td>
</tr>
<tr>
<td><strong>D</strong></td>
<td>55-64.9% of total points and not missing more than one scheduled laboratory activity.</td>
</tr>
<tr>
<td><strong>F</strong></td>
<td>Below 55% of total points or informal or incomplete official withdrawal from course, or if a student misses more than one scheduled laboratory activity for reasons other than documented illness or emergency.</td>
</tr>
<tr>
<td><strong>I</strong></td>
<td>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 &quot;I&quot; to the contingency grade identified by the instructor (see catalog); may be issued if documented serious illness or emergency forces a student to miss more than one scheduled laboratory activity.</td>
</tr>
<tr>
<td><strong>CR</strong></td>
<td>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).</td>
</tr>
<tr>
<td><strong>NC</strong></td>
<td>Below 65% of total points; this grade only available under the CR/NC option (see above and see catalog).</td>
</tr>
<tr>
<td><strong>N</strong></td>
<td>NOT GIVEN EXCEPT UNDER EXTREMELY RARE CIRCUMSTANCES (e.g., documented serious illness or emergency that prevents the student from officially withdrawing from the course); may be issued if documented serious illness or emergency forces a student to miss more than one scheduled laboratory activity; never used as an alternative for an &quot;F&quot; grade.</td>
</tr>
<tr>
<td><strong>W</strong></td>
<td>Official withdrawal from the course after the third week and prior to the end of the 10th week of classes (see catalog).</td>
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</table>

Waiver of minimum requirements for specific grades 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. Academic dishonesty is defined in WCC's college catalog.

LEARNING RESOURCES

No textbook will be used in this laboratory course. Descriptions of laboratory assignments and activities will be made available at the course Internet site and/or distributed in class.

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 activities and complete all course assignments on time.

Students are expected to be prepared in advance when they arrive to 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 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.

BIOL 200L LABORATORY AND FIELD ACTIVITIES

Students enrolled in BIOLOGY 200L 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 enroute 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 and 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).

DISABILITIES ACCOMMODATION STATEMENT

If you have a physical, sensory, health, cognitive, or mental health disability that could limit your ability to fully participate in this class, you are encouraged to contact the Disability Specialist Counselor to discuss reasonable accommodations that will help you succeed in this class. Ann Lemke can be reached at 235-7448, lemke@hawaii.edu, or you may stop by Hale ‘Akoakoa 213 for more information.