OCN 260: Pacific Surf Science and Technology
3 Credits

INSTRUCTOR: Ian `Akahi Masterson
OFFICE: `Imiloa 107
OFFICE HOURS: M-W 3:30-4:30 p.m. or by appointment
TELEPHONE: Office: (808) 236-9104
Cell: (808) 780-4064
EFFECTIVE DATE: Fall 2011

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

Pacific Surf Science and Technology is a lecture-based, Internet-intensive course that showcases scientific and industry aspects of the surfing world for surfers and non-surfers alike. The course takes a scientific approach to understanding the natural processes that create and influence waves and surf conditions, while also introducing many ocean safety concepts relating to the environment and the popularity of ocean recreation. A weather and surf journal along with weekly campus field excursions dedicated to studying weather phenomena adds an essential experiential component to the course.

Activities Required at Scheduled Times Other Than Class Times: None.

STUDENT LEARNING OUTCOMES

At the successful completion of this course students will be able to:

1. Demonstrate an understanding and basic knowledge of the principles of meteorology, oceanography, and geology as they apply to the creation and shaping of waves and surf.

2. Outline basic water safety techniques used in assessing the coastal environment.

3. Locate and utilize Internet web sites to retrieve surf-forecasting data.

4. Compile logs of weather and surf observations to use in future forecasts.

5. List the various specifications required when designing a custom surfboard and follow the surfboard production techniques.
### COURSE CONTENT

#### Concepts or Topics

- Basic principles of meteorology, oceanography; and geology applied to the creation and shaping of waves and surf;
- Surf forecasting using Internet web sites and local weather station reports;
- Past and present surfboard technology and production;
- The principles of design, production, and retail marketing within surfing industries;
- Multimedia applications related to surfing;
- Water safety issues related to surfing;
- Basic Surfing Techniques.

#### Skills or Competencies

1. Have an understanding of the basic principles of meteorology, oceanography; and geology as they apply to the creation and shaping of waves and surf;
2. Be able to predict surf conditions using Internet web sites and weather reports;
3. Have an understanding of past and present surfboard technology and production;
4. have a basic understanding of the principles of design, production, and retail marketing within surfing related industries;
5. have had exposure to various multimedia applications related to surfing;
6. Have knowledge of water safety issues related to surfing.
7. Have an understanding of the basic techniques of surfing.

### COURSE TASKS ASSESSMENT AND GRADING

**ATTENDANCE AND PARTICIPATION:** Active participation involves being present for all class sessions, submission of assignments prior to discussion, active listening, contribution to in class and online discussion, and asking pertinent questions. Please be on time for class, mahalo.

Evaluation of the student’s achievement of course objectives will be based upon completion of homework assignments, in-class and online discussions, and written examinations.

<table>
<thead>
<tr>
<th>Points</th>
<th>HOMEWORK DISCUSSION</th>
<th>WEATHER JOURNAL</th>
<th>HAWAIIAN SURFARI PROJECT</th>
<th>EXAMINATIONS</th>
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<tbody>
<tr>
<td>50</td>
<td>Online reactions to reading assignments and lectures will occur once a week throughout the semester. You are expected to answer the questions by Wednesday and you may reply to other student posts by Friday (5 points per week). Discussions are monitored by the instructor.</td>
<td>The student will develop and maintain an online discussion in which daily weather and surf observations are logged. The journal will include one entry per class to be completed before class. (5 points per entry).</td>
<td>The student will conduct a project on a surfing site in the Hawaiian Islands of interest to the student and/or as suggested in the classroom. Details regarding this project will be presented in class.</td>
<td>A Mid-Term and Final Examination will be given covering the lecture topics, reading assignments, movies, demonstrations, and internet exercises/resources. 25 points per exam.</td>
</tr>
</tbody>
</table>
METHOD OF GRADING

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

<table>
<thead>
<tr>
<th>Activity</th>
<th>Points</th>
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</thead>
<tbody>
<tr>
<td>Lecture/Reading Discussion</td>
<td>50</td>
</tr>
<tr>
<td>Weather and Surf Journal</td>
<td>50</td>
</tr>
<tr>
<td>Project</td>
<td>50</td>
</tr>
<tr>
<td>Midterm Examination</td>
<td>25</td>
</tr>
<tr>
<td>Final Examination</td>
<td>25</td>
</tr>
<tr>
<td><strong>Total Points:</strong></td>
<td><strong>200</strong></td>
</tr>
</tbody>
</table>

Each letter grade with its respective level of achievement is as follows:

<table>
<thead>
<tr>
<th>Letter Grade</th>
<th>Definition</th>
<th>Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>90% - 100% of cumulative points possible</td>
<td>(225 – 250 points)</td>
</tr>
<tr>
<td>B</td>
<td>80% - 89% of cumulative points possible</td>
<td>(200 – 224 points)</td>
</tr>
<tr>
<td>C</td>
<td>70% - 79% of cumulative points possible</td>
<td>(175 – 199 points)</td>
</tr>
<tr>
<td>D</td>
<td>60% - 69% of cumulative points possible</td>
<td>(150 – 174 points)</td>
</tr>
<tr>
<td>F</td>
<td>below 60% of cumulative points possible</td>
<td>(149 points and below)</td>
</tr>
<tr>
<td>I</td>
<td>Incomplete: This temporary grade is given at the instructor’s option when a student has failed to complete a small part of a course because of circumstances beyond the student’s control. All required work must be completed by the last day of instruction of the succeeding semester.</td>
<td></td>
</tr>
</tbody>
</table>

See the WCC Catalog, Academic Regulations section, for further information regarding WCC grading options and policies.

LEARNING RESOURCES


Additional Information

EXPECTATIONS OF STUDENTS

The student is responsible for keeping abreast with any changes in the syllabus that are announced in class.

All quizzes, exams, and assignments must be completed and submitted to the instructor at the specified time and date unless permission is granted by the instructor.

If a student is unable to take a quiz or exam at the scheduled time, the student is responsible for notifying the instructor of the situation and reason(s). The student is responsible for requesting a
make-up quiz or exam. An appropriate scoring penalty may be assigned to this make-up quiz or exam at the instructor’s discretion. The student may be required to fulfill additional requirements as specified by the instructor in order to qualify for a make-up test. Retests are not permitted. Any quiz or exam not taken will be assigned a score of zero.

Success in this course will be enhanced by:

1. Demonstrating a positive, inquiring attitude toward all learning.
2. Setting aside adequate time for studying and working on problems.
3. Taking notes and reading the assigned literature.
4. Seeking the assistance of the instructor(s) as needed.
5. Attending all class sessions and responsibly completing all assignments and/or changes to the course syllabus.
6. Keeping abreast with or ahead of the syllabus.
7. Participating in all class discussions.

OTHER INFORMATION

A student can determine his/her current grade at any time during the semester by dividing his/her cumulative points by the cumulative points possible, converting this value into a percentage, and referring to the table of letter grades in Section F.

Any student wishing to be informed of his/her semester grade in advance of the official mailing of report cards should provide the instructor a stamped, self-addressed postcard or envelope on the day of the Final Exam.

Please Refer to the Online Academic Calendar for Important Dates Each Semester:

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.

OCN 260 COURSE SYLLABUS: FALL 2011

WEEK #1

Day 1 8/23/2011 Introduction to Course, Review Course Outline & Syllabus, Student Introductions
Assignment: Read Handouts; Introduce yourself in the Online Discussion Forum.

Day 2 8/25 Hawaiian Surfari Project Description & Brainstorm, & Campus Weather Walk
Assignment: Read Surf Science Chapters 1&2; Answer Online Discussion Qs.
Project Assignment I: Write a Topic Proposal & submit it on Day 3
WEEK #2
Day 3  8/30  CH1&2: Large Scale Weather Patterns, Weather and Surf Check Guidelines
*Proposals!*
Assignment:  Read Handouts; Answer Online Discussion Qs.

Day 4  9/1  Ocean Safety Risk Management in a Dynamic Environment & Campus Weather Walk
Assignment:  Read Surf Science Chapters 3&4. Answer the Online Discussion Questions by Wednesday, then read and comment on at least two other student posts by Friday

WEEK #3
Day 5  9/6  CH3: The Formation of a Depression—Tropical and Extra-Tropical Storm Production
Day 6  9/8  CH4: Wave Generation, & Campus Weather Walk
Assignment:  Read Surf Science Chapters 5&6. Answer the Online Discussion Questions by Wednesday, then read and comment on at least two other student posts by Friday

Project Assignment II: Complete an Outline & submit it on Day 7

WEEK #4
Day 7  9/13  CH5: Wave Propagation
Day 8  9/15  CH6: Refraction, & Campus Weather Walk
Assignment:  Prepare for Project Research on you Topic: Make a Task List!!!

WEEK #5
Day 9  9/20  PROJECT RESEARCH AT LIBRARY & ON INTERNET: USE CAMPUS RESOURCES!
Day 10 9/22  PROJECT RESEARCH AT LIBRARY & ON INTERNET: USE CAMPUS RESOURCES!
Assignment:  Read Surf Science Chapters 7&8. Answer the Online Discussion Questions by Wednesday, then read and comment on at least two other student posts by Friday

WEEK #6
Day 11 9/27  CH7: The Breaking Wave
Day 12  9/29  CH8: Anatomy of a Beach & Coastal Sediment Transport, & Campus Weather Walk
Assignment:  Read Surf Science Chapters 9&10. Answer the Online Discussion Questions by Wednesday, then read and comment on at least two other student posts by Friday

WEEK #7
Day 13 10/4  CH9 Surfing in the Storm: Windswell vs. Groundswell
Day 14  10/6  CH10 Local Winds: What makes favored Surfing Conditions? & Campus Weather Walk
Assignment:  Read Surf Science Chapters 11&12. Answer the Online Discussion Questions by Wednesday, then read and comment on at least two other student posts by Friday
WEEK #8
Day 15 10/11  CH11: Temperature on the Water,

Day 16 10/13  CH12: Tides
Assignment: Study for Midterm exam; Review Chapters 1-12; Engage in Midterm Review Discussion…

WEEK #9
Day 17 10/18  Midterm Review, & Campus Weather Walk

Day 18 10/20  Midterm Exam
Assignment: Read Surf Science Chapters 13&14. Answer the Online Discussion Questions by Wednesday, then read and comment on two other student posts by Friday

WEEK #10
Day 19 10/25  CH13 World Wave Climate: Planning your own global surfing adventure!
Video: Surfline’s Making the Call—Analyzing Big Wave Surf Breaks

Day 20 10/27  CH14 Forecasting the Waves
Assignment: read Essential Surfing pp. 1-44 & 69-97; Answer Online Discussion Qs.

WEEK #11
Day 21 11/1  Surfing Basics: Different boards for different waves, different strokes for different folks.
Assignment: Essential Surfing pp. 45-98; Answer Online Discussion Qs.

Day 22 11/3  Types of Hawaiian Surfboards and the Waves on which they are ridden
Assignment: Read Essential Surfing pp. 164-199; Answer Online Discussion Qs.

WEEK #12
Day 23 11/8  The History of Surfboard Construction and Technology
Assignment: read handouts; Answer Online Discussion Qs.

Day 24 11/10  Video: Shapemakers—Applied approaches to shaping
Assignment: Answer Online Discussion Qs.

WEEK #13
Day 25 11/15  Future Trends in Surfboard Production Techniques
Assignment: read handouts; Answer Online Discussion Qs.

Day 26 11/17  Project Assignment IV: Project Presentations
Project Assignment III: Project Final Paper Due at Project Presentation Time

WEEK #14
Day 27 11/22—Project Assignment IV: Project Presentations
11/24—Thursday, Thanksgiving, No School, Give Thankx!

WEEK #15 & 16
Day 28 11/29— Project Assignment IV: Project Presentations
Day 29 12/1 — Project Assignment IV: Project Presentations
Day 30 12/6 — Surfing Movie: Step Into Liquid
Day 31 12/8 — Final Exam Review

WEEK #17  Day 32—Final Exam—Format to be announced…