APPLICANT: John DeLay

E-MAIL: delay@hawaii.edu

COURSE ALPHA and NUMBER: BOT/HWST 105

COURSE TITLE: *Mea Kanu*: Hawaiian Plants and Their Uses

ESTIMATED NUMBER OF SECTIONS:
  Fall: 2  
  Spring: 2

APPLICATION IS FOR:
  ■ New Course  ■ Modified Course  ■ Existing Course  ■ Re-designation
  ■ Certification  ■ Re-Certification. Date of last certification:

DIVERSIFICATION AREA DESIGNATION SOUGHT:
  ■ DA (Arts)  ■ DP (Physical Sciences)
  ■ DB (Biological Sciences)  ■ DS (Social Sciences)
  ■ DH (Humanities)  ■ DY (Laboratory)
  ■ DL (Literature and Language)

What percentage of the CONTENT of this course focuses on this diversification area? 75

What percentage of CLASS MEETINGS focuses on this diversification area? 75
1. **Hallmarks and SLOs.** Please explain how course-specific SLOs align with the diversification area’s hallmarks.

**SLOs**

1. identify the origins and dispersal agents of endemic, indigenous, and introduced plants in Hawaii
2. describe the influence of natural history and environmental conditions on the habitat distribution of these plants and on Hawaiian settlement patterns
3. identify plants of ethnobotanical significance in Hawaiian culture by their Hawaiian names
4. demonstrate awareness of scientific and folk taxonomy as they relate to Hawaiian plants
5. discuss the relationship of selected plants to Hawaiian material culture, agricultural practices, and belief systems
6. compare Hawaiian ethnobotanical practices with those in other Polynesian societies

**Hallmarks**

DS.1 uses the terminology of theories, structures, or processes in the social or psychological sciences;

DS.2 involves concepts, models, practices, or issues of concern in the scientific study of these theories, structures, or processes;

DS.3 demonstrates inquiry that is guided by quantitative and/or qualitative methods employed in the scientific study of structures or processes;

**Examples of how SLOs relate to D.S. Hallmarks**

Each of the SLOs relates to primary themes of ethnobotanical research, which combines ethnology and botany in the study of relationships between societies and plants. Typical ethnobotanical approaches include identifying the plants of significance to a culture, the reasons for their importance, and their names in the language of the culture of concern. Much of the information originates from interviews with cultural practitioners. Students in this course are presented with such a scope of material, and are exposed to the perspectives of cultural practitioners. Students carry out a literature review and sometimes an interview as part of their class presentations, which focus on material related to at least one of the SLOs.

Course content related to dispersal in SLO #1 includes discussion of human migration relates to DS.1. SLO #2 and the related course content includes examination of the relationship between society and the environment and relates to DS.2. SLO#3 also relates to DS.2. The elements of taxonomy introduced in SLO#4 relate to DS.3. SLOs #5 and #6 also relate to DS.2 and since all of the SLOs involve issues of concern in ethnobotany, and include or entirely comprise social components, they relate to DS.2.
2. **Assessment strategies.** Explain assessment strategies you have used (or plan to use) to measure the degree to which students exit the course with the course-specific SLOs. If there are multiple sections of the course taught by different instructors, please discuss how assessment is (or will be) carried out across instructors.

Instructors for both sections of the course use quizzes, exams, and student project presentations to assess student mastery of the SLOs. Informal assessment also takes place during class discussions. Quiz and exam formats include short answer, multiple choice, and matching questions. Here are some examples.

### SLO#1
Here is a short answer quiz question that addresses endemic and indigenous plants. What are the three primary pathways by which plants arrived in Hawaii without human aid? Anticipated Answer: wind, water, and wing

### SLO#2
Here is a multiple choice exam question that addresses environmental conditions and Hawaiian settlement. Archaeological evidence suggests Hawaiians first settled the _____ side of the islands about _____ where ample _____ is available.

<table>
<thead>
<tr>
<th>Option</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>A. leeward, 400 AD, sunshine</td>
<td>B. windward, 400 BC, rainfall</td>
</tr>
<tr>
<td>C. leeward, 1000 AD, sunshine</td>
<td>D. windward, 1000 AD, rainfall</td>
</tr>
<tr>
<td>E. leeward, 400 BC, sunshine</td>
<td>F. windward, 400 AD, rainfall</td>
</tr>
</tbody>
</table>

Answer: F

### SLO #3
Exams include matching questions that require the student to pair Hawaiian names or uses with pictures of selected plants although no examples are provided here due to format constraints.

### SLO #4
Here is a multiple choice exam question that addresses parallels between scientific and folk taxonomy, and also relates to SLO#5 although a separate example is given. The principal tool of the traditional Hawaiian farmer was the _____ which was most often made from one of two _____ tree species in the Rhamnaceae both referred to by Hawaiians as _____.

<table>
<thead>
<tr>
<th>Option</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>A. pāhoa, endemic, koa</td>
<td>B. ʻōʻō, endemic, kauila</td>
</tr>
<tr>
<td>C. ʻōʻō, introduced, kauila</td>
<td>D. pāhoa, endemic, koa</td>
</tr>
</tbody>
</table>

Answer: B

### SLO #5
Here is a multiple choice exam question that addresses plants in Hawaiian belief systems. Plant forms of the four primary deities in the Hawaiian pantheon are referred to as _____. Major associations include Lono and _____ or Kāne and _____.

<table>
<thead>
<tr>
<th>Option</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>A. ʻaumakua, ʻulu, niu</td>
<td>B. ʻaumakua, niu, ʻulu</td>
</tr>
<tr>
<td>C. kinolau, ʻuala, kalo</td>
<td>D. kinolau, kalo, ʻuala</td>
</tr>
</tbody>
</table>

Answer: C

### SLO #6
Here is a multiple choice exam question comparing Hawaiian culture to others in the Pacific. Compared to other Pacific Island cultures, Hawaiians consumed _____ species of marine algae.

<table>
<thead>
<tr>
<th>Option</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>A. fewer</td>
<td>B. the same number of</td>
</tr>
<tr>
<td>C. more</td>
<td>D. all</td>
</tr>
<tr>
<td>E. no</td>
<td></td>
</tr>
</tbody>
</table>

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3. Assessment of assessment. How have you used (or plan to use) the assessment findings to modify or improve this course? If there are multiple sections of the course taught by different instructors, please discuss how review of assessment results is (or will be) carried out across instructors.

Student performances on exams and quizzes, as well as student course evaluations are used to assess the effectiveness of the methods and course content. Adjustments to improve the course are made in subsequent semesters. Field trips and study guides are two examples of such adjustments. Class discussions are also used to gage student perceptions of course effectiveness. Embedded exam questions, such as those provided above, are currently being used in one section to provide a quantitative measure SLO mastery as a percentage of correct answers from the sample. Instructors will develop a plan to coordinate assessment across sections using questions that relate to the SLOs.
DIVERSIFICATION BOARD DECISION:

☐ Approved
  Re-Certification Due: ____________________

☐ Not approved
  If not approved, reasons for disapproval:

Diversification Board Chair Signature: ____________________
Date: ______________
HWST/BOT 105: MEA KANU, HAWAIIAN PLANTS AND THEIR USES: FALL 2012
MW  11:30-12:45    BLDG 7, 635

Instructor  John K. DeLay
Office   BLDG 7, 619
Hours  M, W: 10:00-11:00    T, R: 1:00-2:00
Phone  845-9419
E-mail  delay@hawaii.edu

Course Description
The explorers who settled the Pacific from Southeast Asia brought with them important tools needed for survival and society in the form of plants and the skills for propagating and using these plants. In Hawai‘i, Polynesians both brought and found some plants familiar to other Pacific islands, but also encountered plants found nowhere else. These they adapted to their needs, incorporating them into the uniquely Hawaiian culture that developed in the archipelago, and which was based on an intimate connection to the natural environment. This course focuses on the ethnobotanical relationships between Hawaiians and plants introduced to the islands by Polynesian settlers as well as those which arrived in Hawai‘i without the aid of people. It fulfills the Social Sciences diversification (DS) in general education and the Hawai‘i, Asia, Pacific (HAP), two requirements for an associate degree at Honolulu Community College and a baccalaureate degree at the University of Hawai‘i at Mānoa.

Student Learning Objectives
Upon successful completion of HWST/BOT 105, the student should be able to:

- identify the origins and dispersal agents of endemic, indigenous, and introduced plants in Hawai‘i
- describe the influence of natural history and environmental conditions on the habitat distribution of these plants and on Hawaiian settlement patterns
- identify plants of ethnobotanical significance in Hawaiian culture by their Hawaiian names
- demonstrate awareness of scientific and folk taxonomy as they relate to Hawaiian plants
- discuss the relationship of selected plants to Hawaiian material culture, agricultural practices, and belief systems
- compare Hawaiian ethnobotanical practices with those in other Polynesian societies

Texts

Other useful books for this course include: Plants in Hawaiian Culture: Arts and Crafts of Hawai‘i, Native Planters in Old Hawai‘i: Their Life, Lore, and Legend, and The Manual of Flowering Plants of Hawai‘i

Evaluation
Your grade in the course will be determined from your performance on 4 exams (70%), individual and group term project presentations (20%), and 4 quizzes (10%). Exams are non-comprehensive but the nature of the material requires that you build upon previous concepts. Each exam will include about 40 questions including multiple-choice, fill in the blank, short answer, plant identifications from samples and photographs, and identifying regions on maps. The term projects will consist of brief digital presentations focusing on HAP related ethnobotanical topics of interest to you and your group. Specific requirements regarding the projects and their subcomponents as well as an example are given on the following pages. Students who miss exam sessions must provide documentation for their absence if they wish to make up missed tests. Presentations can only be given on the scheduled days.

Tips for Success
Although it is not a formal component of the course grade, attendance contributes heavily to success. In addition, you should develop a schedule for working on your individual and group projects. Study the appropriate material from the texts before we cover it in class. Spend some time studying images of the plants to become familiar with them or take the opportunity to visit them in person. If you have a question in class, do not hesitate to ask it. In summary: attending the lecture, doing the reading, studying the plant images, coming to class, paying attention, asking questions, and reviewing the subject matter before exams should serve you well.
Individual and Group Term Project Guidelines

The term projects are opportunities for you to investigate the peer-reviewed literature pertaining to an ethnobotany topic of interest to you, and share your findings with the class. There are 2 projects, an individual effort and a group endeavor. The peer introduction at the beginning of the course will give you the opportunity to get acquainted. These are identical in format but the group project will require you to coordinate with 2-4 other classmates to complete it via electronic communication between your group as you see fit.

Each term project is a digital presentation to the class consisting of 5-7 slides or pages consisting of:

- Title- project title, author(s), class, picture (optional)
- Body- bulleted text, maps, figures and/or pictures
- Citation- listed sources including at least one journal Abstract

The most desirable format for digital presentations in this course is Microsoft Office PowerPoint. OpenOffice Impress is an open source application similar to PowerPoint and available for free download on the web. Keynote and other Macintosh formats will need to be saved in a PC-compatible format to be accepted.

- 32 point minimum font size
- No slide animations or movies
- PowerPoint (ppt., pptx), Open Office Impress (.odp.), or Portable Document Format (.pdf)

There are several sub-assignments related to the project to assure you are making progress. They are:

- Group- a list of members (Group Project only)
- Idea- a sentence describing your topic
- Sources- citations of your sources
- Outline- a paragraph or bulleted list that summarizes/comprises your presentation
- Project- a 5-7 slide PC-compatible digital presentation
- Commentary- a comment or question regarding one project other than your own

A range of 5-7 slides is equivalent to a presentation time of 5 minutes or less. In addition to images, maps, and figures, which you may draw from web sources, slides must comprise summarized information in your own words. At minimum, every slide needs a title. Brief bulleted lists are a good way of conveying the main points. Your presentation should begin with a title slide containing the name of the project, your name, and the class title. It may help to have an introduction slide conveying the scope of your presentation and a conclusions slide summarizing the implications. Your project needs to draw on at least 2 sources of information.

One of these must be an abstract from a peer-reviewed scientific journal. Peer-review is a quality control aspect of scientific advancement. Scholars doing research familiarize themselves with the peer-reviewed literature in their field to comprehend the current state of knowledge and guide their future research. After completing a field study, they write up their findings and submit it to a scientific Journal where it is subject to scrutiny by experts in the field before advancing to publication. This differs from website content in which individuals or organizations can post unsubstantiated, biased, or misleading claims. Google Scholar is the best source for finding abstracts. The abstract summarizes the research study. Your presentation should summarize the abstract and tie it to the subject matter you are discussing. It should end with a slide containing your references. These should be in a consistent style; MLA, APA, or in the format used by a peer reviewed journal as shown in the example below.

On the next page, I have made an entire presentation just with the information gleaned from a (fictitious) abstract and a map I obtained from the Internet. Since we are using a visual medium you may want to use more graphics and the abstract material does not have to dominate you topic but must contribute to it. Although it is not based on a strictly ethnobotanical topic, it does investigate relationships between plants and people.
DETECTION OF LARGE WOODY DEBRIS ACCUMULATIONS IN OLD-GROWTH FORESTS USING SONIC WAVE COLLECTION

INDIANA R. JONES AND ETHAN ALLEN ("ET AL" FOR SHORT)
Department of philosophical biology
University of North Dakota at Hoople
Earl's Corner Bar, Main Street, Hoople, ND

Abstract – We used directional microphones, professional electronic audio recording equipment and personal observation to monitor the accumulation of large woody debris in old-growth forests of northern Wisconsin from June 1999 through July 2001. We hired a really poor undergraduate student to collect nearly 20,000 hours of audio/video tape in really cool areas in the Chequamegon and Nicolet National Forests. Then we made the poor watch all of the tapes and record the fall of large woody debris. Observation times and decibel values for events were correlated with field reconnaissance of the actual debris. Results show strongly that if a tree does fall in the forest, and no one hears it, it does indeed make a sound. Surveys also showed that out of state recreationalists mispronounced 'Chequamegon' in 75% of cases. Wisconsin residents mispronounced the word in 62% of cases, mainly due to alcohol induced slurring.

Remote Sensing and Forest Nutrient Cycling in Chequamegon

John K. DeLay
Geography 101

Methods
- Researchers obtained fancy recording equipment.
- They hired poor undergraduate students to live in a sound-proof equipment van.
- The equipment was deployed in Chequamegon-Nicolet National Forest
- They confirmed sonic and video evidence of tree falls

Questions
- If a tree falls in the forest and no one is there to hear it, does it make a sound?
- How does being from out of state or being intoxicated affect park visitor pronunciation of the name of the study site, Chequamegon National Forest?

Results
- They collected over 20,000 hours of audio and video.
- Observed falls were associated with sound wave generation.
- Out of state and drunk resident visitors were more likely to mispronounce the park name.

Conclusions
- The available evidence supports the hypothesis that if a tree falls in the forest, it does make a sound even if no one is there to hear it.
- Be from out of state or drunk is likely to lead to mispronunciation of the word Chequamegon.

Citations
http://www.fs.usda.gov (Picture)
## Schedule

The schedule indicates the intended scope and timing of materials presented in the course. The schedule may be modified to allow more time to cover certain subjects and sessions scheduled for review may also be partially used for this purpose. Relationship to HAP Hallmarks and regions are indicated by superscript.

<table>
<thead>
<tr>
<th>Date</th>
<th>Day</th>
<th>Topic</th>
</tr>
</thead>
<tbody>
<tr>
<td>8/20</td>
<td>M</td>
<td>Introduction to Ethnobotany and Hawaiian Plants</td>
</tr>
<tr>
<td>8/29</td>
<td>W</td>
<td>Pacific Navigator Game A, C, H, P, Campus Plants</td>
</tr>
<tr>
<td>9/3</td>
<td>M</td>
<td>Holiday: Labor Day</td>
</tr>
<tr>
<td>9/5</td>
<td>W</td>
<td>Canoe Plant Identification A, C, H, A, P, Campus Plants, Quiz 1</td>
</tr>
<tr>
<td>9/10</td>
<td>M</td>
<td>Natural History, Climate and Vegetation H, A, P</td>
</tr>
<tr>
<td>9/12</td>
<td>W</td>
<td>Natural History, Climate and Vegetation H, A, P, Project Ideas Due</td>
</tr>
<tr>
<td>9/17</td>
<td>M</td>
<td>Exam 1, Lyon Arboretum Field Trip Discussion</td>
</tr>
<tr>
<td>9/19</td>
<td>W</td>
<td>Hawaiian Settlement Patterns C, H, An Evolving Relationship to Land and Crops B, C, H</td>
</tr>
<tr>
<td>10/1</td>
<td>M</td>
<td>Other Land Plants Used for Food and Drink A, C, H, P, Sources Due</td>
</tr>
<tr>
<td>10/3</td>
<td>W</td>
<td>Other Land Plants Used for Food and Drink A, C, H, P, Quiz 2</td>
</tr>
<tr>
<td>10/8</td>
<td>M</td>
<td>Food Plants from Aquatic Sources B, C, D, Video: Isabella Aiona Abbott on limu A, B, C, D, H, A, P</td>
</tr>
<tr>
<td>10/10</td>
<td>W</td>
<td>Exam 2</td>
</tr>
<tr>
<td>10/15</td>
<td>M</td>
<td>Clothing and Making of Kapa A, B, C, H, P, Project Discussion</td>
</tr>
<tr>
<td>10/24</td>
<td>W</td>
<td>Houses and Other Buildings B, C, H, Project Outline Due</td>
</tr>
<tr>
<td>10/31</td>
<td>W</td>
<td>Household Furnishings B, C, H, A, P</td>
</tr>
<tr>
<td>11/5</td>
<td>M</td>
<td>Exam 3</td>
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<tr>
<td>11/7</td>
<td>W</td>
<td>Canoes and Fishing Tools B, C, H</td>
</tr>
<tr>
<td>11/12</td>
<td>M</td>
<td>Holiday: Veteran's Day</td>
</tr>
<tr>
<td>11/14</td>
<td>W</td>
<td>Canoes and Fishing Tools B, C, H</td>
</tr>
<tr>
<td>11/19</td>
<td>M</td>
<td>Warfare and Chiefly Regalia B, C, H, Video: Hawaiian Birds, Quiz 4</td>
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<tr>
<td>11/28</td>
<td>W</td>
<td>Project Presentations</td>
</tr>
<tr>
<td>12/3</td>
<td>M</td>
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</tr>
<tr>
<td>12/5</td>
<td>W</td>
<td>Project Presentations</td>
</tr>
<tr>
<td>12/10</td>
<td>M</td>
<td>Exam 4, 11:30-2:30</td>
</tr>
</tbody>
</table>

*Schedule may be subject to change*