AG 152     Orchid Culture (CRN 64002)
3 credits
MW, 9:00 am – 12:00 noon

INSTRUCTOR:               Ingelia White PhD
OFFICE:                    Hale Imiloa 102
OFFICE HOURS:              MW: 8:30 am – 9:00 am, 12:00 pm – 3:00 pm
TELEPHONE:                 236 - 9102
EFFECTIVE DATE:            Summer, 2010

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

An extensive study of orchid identification, breeding, growth, and tissue culture. Students are
required to write a 10-page research paper or prepare a tri-fold display board or active
participation in orchid societies . (3 hrs. lect.)

Activities Required at Scheduled Times Other Than Class Times

Attend Orchid Society meetings, field trip to orchid nurseries, participate in orchid shows, orchid
potting demonstrations at Ho’olaulea etc. These are extracurricular activities that you can earn
some extra credits.

STUDENT LEARNING OUTCOMES

The student learning outcomes for the course are:
1. Identify orchid species, hybrids and trace their pedigrees
2. Provide cultural requirements for each genus, including temperature, light
   intensity, humidity, watering, fertilizing, media composition, pest/disease
   control and repotting
3. Perform traditional and in vitro propagation techniques
4. Perform orchid breeding and discuss its economic importance
5. Conduct research and submit research paper
COURSE CONTENT

**Concepts or Topics:**

1. Orchid classification. Learning botanical terms (generative and vegetative parts of orchid plants)
2. Planting and orchid pests/diseases
3. Propagation (traditional and tissue culture)
4. Orchid genetics, breeding and molecular phylogenetic

**Skills or Competencies: you will be able to**

1. Use dissecting microscope, read manuals/monographs, and Sander’s List of Orchid Hybrids
2. Grow orchids to bloom profusely
3. Grow orchids in vivo and in vitro
4. Produce prize winning hybrids through conventional breeding and perform basic DNA extraction, PCR reaction, and preparing phylogenetic trees (pending time availability)

COURSE TASKS

1. **Division of time**
   About 60% of class time will be spent on lectures, video and demonstration. The other 40% will be used for field works at the Bioprocessing Medicinal Garden and the climate-controlled greenhouse, and/or field trip to orchid nurseries, and lab work at the Tissue Culture and Plant Biotech Laboratory.

2. **Reading assignment**
   You are expected to read specific chapters in the textbook prior to lectures, and research readings in preparation for your research reports/poster boards. Other reading assignments (hand-outs) will be provided.

3. **Participation**
   You should participate fully in homework, fieldwork and lab assignments.

ASSESSMENT TASKS AND GRADING

Class lectures, assigned readings, lab exercises, field trips and field works constitute fundamental knowledge you need in order to identify orchid species correctly, to propagate and maintain the growth/health of the orchid plants, and be able to create excellent hybrids.

**Method of grading:**

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<thead>
<tr>
<th>Task</th>
<th>Points</th>
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<tr>
<td>Exams (midterms and final)</td>
<td>200</td>
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<tr>
<td>Research paper or poster board</td>
<td>50</td>
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<tr>
<td>Field trip report</td>
<td>50</td>
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<tr>
<td>Field work and Lab participation</td>
<td>50</td>
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<tr>
<td>Extra curricular activities</td>
<td>50</td>
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<tr>
<td><strong>Total</strong></td>
<td><strong>400</strong></td>
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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/informal/incomplete official withdrawal from the course.
I........Incomplete; given at the instructor’s option when you are unable to complete a small part of the course because of circumstances beyond your control. It is your 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 contingency grade identified by the instructor (see catalog).
CR.......65% or above in total points; you must indicate the intent to take the course as CR/N 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/N option (see above and see Catalog).
N.......Not given by this instructor except under extremely rare circumstances (e.g. documented serious illness or emergency that prevents you from officially withdrawing from the course); never used as an alternative for an “F” grade.
W.......Official withdrawal from the course after the third week and prior to the end of the 10th week of classes (see catalog).

Waiver of minimum requirements for specific grades will be given only in unique situations at the instructor’s discretion.

**LEARNING RESOURCES**

- Hand-outs

**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.*

**NON-DISCRIMINATION POLICY**

*The University of Hawaii is committed to a policy of non-discrimination on the basis of race, sex, age, religion, color, national origin, ancestry, disability, marital status, arrest and court record, sexual orientation, or veteran status in all of its programs, policies, procedures, or practices. This policy covers admission and access to, participation, treatment and employment in university program and activities.*
Summer 2010
AG 152 Course Schedule:

July 7  Introduction (continue revitalizing interest in orchids)
        Orchid terminology: vegetative and generative parts
        Field work at BMGC or Kuhi La’au (depending on weather)

July 12  Orchid identification (traditional and molecular taxonomy)
        Sub fam. Dendrobioid, Tribe Vandeae
        Sub fam. Epidendroid, Tribe Epidendreae

July 14  Sub fam. Cypripedioideae, Tribe Cypripedieae
        Sub fam. Dendrobioid, Tribe Dendrobieae
        Sub fam. Cymbidoid, Tribe Cymbidieae
        Visit the Orchid Societies (HOS or WOS)

July 19  Traditional propagation (hands-on)
        Growing, fertilizing, pests/diseases

July 21  Seedling transplanting from flasks and community pots
        Field work (greenhouse)

July 26  Midterm
        Field trip to orchid nursery

July 28  In vitro propagation (video, lecture, demo)
        Aseptic preparation, Media preparation (lab)

August 2  Seed, embryo, ovulary cultures (lab)

August 4  Meristem, inflorescence, stem cultures (lab)

August 9  Genetics, breeding

August 11 Molecular phylogenetics
        Visit orchid society meeting

August 13 Final exam