AG 152  Orchid Culture (CRN 62335)  
3 credits  
T,R 2:30 pm – 3:45 pm

INSTRUCTOR: Ingelia White PhD  
OFFICE: Hale Imiloa 102  
OFFICE HOURS: T,R 12:30 am – 2:20 or by appointment  
TELEPHONE: 236 – 9102  
E-MAIL: ingelia@hawaii.edu  
EFFECTIVE DATE: Spring 2018

WINDWARD COMMUNITY COLLEGE MISSION STATEMENT

Windward Community College offers innovative programs in the arts and sciences and opportunities to gain knowledge and understanding of Hawai‘i and its unique heritage. With a special commitment to support the access and educational needs of Native Hawaiians, we provide O‘ahu’s Ko‘olau region and beyond with liberal arts, career and lifelong learning in a supportive and challenging environment — inspiring students to excellence.

CATALOG DESCRIPTION

An extensive study of orchid identification, breeding, growth, and tissue culture. Students are required to write a research paper or provide a power point presentation and active participation in orchid societies (3 hrs. lect.)

REQUIREMENT COURSE SATISFIES:

AT WCC:
- DB (AA Liberal Arts)
- Elective (AS Natural Sciences)
- Required (CA in Agripharmatech)
- One of the selected courses for CO in Plant-Food Production and Technology

AT UHM:
- Elective (B.Sc.in Tropical Plant and Soil Science)
- Elective (B.Sc. Plant and Environmental Biotechnology (PEB)).

Activities Required at Scheduled Times Other Than Class Times

Attend Orchid Society meetings, field trip to orchid nurseries, participate in orchid show, and other extracurricular activities to earn additional grade points.

STUDENT LEARNING OUTCOMES

The student learning outcomes for the course:
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 propagations
4. Perform orchid breeding and discuss its economic importance
5. Conduct literature or experimental 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 cytogenetics/breeding and phylogenetics

**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

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 climate-controlled greenhouse, and Bioprocessing Medicinal Garden Complex; lab work at the Tissue Culture and Plant Biotech Laboratory, and/or field trip to orchid nurseries

2. **Reading assignment**
   - You are expected to read assigned textbook or hand-outs prior to lectures, and research readings in preparation for your research reports (Power Point).

3. **Participation**
   - You should participate fully and turn in homework, fieldwork and lab assignments on time

ASSESSMENT TASKS AND GRADING

Class lectures, assigned readings, field trips, lab/field/greenhouse exercises, video/DVD summaries constitute fundamental knowledge you need to master 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:**

<table>
<thead>
<tr>
<th>Task</th>
<th>Points</th>
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<tbody>
<tr>
<td>Two Exams (midterm and final)</td>
<td>200</td>
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<tr>
<td>Research paper/power point presentation</td>
<td>25</td>
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<tr>
<td>Field trip report</td>
<td>10</td>
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<tr>
<td>Field/greenhouse/tissue culture</td>
<td>50</td>
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<tr>
<td>Extra curricular activities (will be announced)</td>
<td>15</td>
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<tr>
<td><strong>Total</strong></td>
<td>300</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 April 2, 2018 (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 without a “W” Grade (February 1, 2018). Last day withdrawal with a “W” Grade (April 2, 2018) (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

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Spring 2018
AG 152 Course Schedule (CRN 64111)
Instructor: Dr. Ingelia White

Jan. 9      Introduction (revitalizing interest in orchids)
           11    Orchid terminology
           16    Introduction to orchid taxonomy
           18    Field work at BMGC
           23    Sub fam. Dendrobioid, Tribe Vandeae
           25    Sub fam. Epidendroid, Tribe Epidendreae
           30    Sub fam. Cypripedioideae, Tribe Cypripedieae. DVD presentation

Feb, 1    Sub fam. Dendrobioid, Tribe Dendrobieae
           6    “A Brief History of Orchid Classification: The Middle Ages to Genera Orchidacearum”
                (DVD, Dr. A. Pridgeon) or Extra curricular activity
           8    “The Future of Orchid Classification and Evolutionary Studies” (DVD, Dr. A. Pridgeon),
                or other activity
           13   Sub fam. Cymbidioid, Tribe Cymbidieae; Orchid pedigrees
           15   Orchid pedigrees (continued); Orchid identification
           20   Traditional propagation (greenhouse)
           22   Growing, fertilizing, pests/diseases (green house)
           27   Seedling transplanting (greenhouse)

Mar. 1     Midterm
           6    Video (Tissue culture)
           8    Media preparation (lab)
           13   In vitro propagation (demo)
           15   Tissue culture practicum (seed, embryo, ovulary cultures)
           20   Tissue culture practicum (Meristem, inflorescence, stem cultures)
           22   WOS Orchid Show table display preparation and field trip
           26–30  Spring break

Apr. 3    Class presentation 1
           5    Class presentation 2
           10   Orchid genetics
           12   Orchid genetics (continued)
           17   Class presentation 3
           19   Orchid breeding
           24   Orchid breeding continued
           26   Class presentation 4

May 1   Orchid breeding continued
           10   Final exam

Note. Field trip and field work will be determined later pending on weather conditions.