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:
  • AA (DB)
  • Certificate of Achievement (CA) in Agripharmatech: Ethnopharmacognosy
  • CA Agripharmatech: Plant Biotechnology
  • Certificate of Competence (CoC) in Plant-Food Production and Technology

AT UHM:
  • Bachelor of Science Degree (B.Sc.) in Tropical Plant and Soil Science (TPSS)
  • B.Sc. Plant and Environmental Biotechnology (PEB). Accepted as an elective for the following specializations: Plant Biotechnology, General Biotechnology, and Environmental – Microbial Biotechnology.

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

<table>
<thead>
<tr>
<th>Concepts or Topics:</th>
<th>Skills or Competencies: you will be able to</th>
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<tbody>
<tr>
<td>1. Orchid classification. Learning botanical terms</td>
<td>1. Use dissecting microscope, read manuals/monographs, and Sander’s</td>
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<tr>
<td>(generative and vegetative parts of orchid plants)</td>
<td>List of Orchid Hybrids</td>
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<tr>
<td>2. Planting and orchid pests/diseases</td>
<td>2. Grow orchids to bloom profusely</td>
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<tr>
<td>3. Propagation (traditional and tissue culture)</td>
<td>3. Grow orchids in vivo and in vitro</td>
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<tr>
<td>4. Orchid cytogenetics/breeding and phylogenetics</td>
<td>4. Produce prize winning hybrids through conventional breeding</td>
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</tbody>
</table>

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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<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/Lab participations</td>
<td>50</td>
</tr>
<tr>
<td>Extra curricular activities (will be announced)</td>
<td>15</td>
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<tr>
<td>Total</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 3, 2017 (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 (January 30, 2017). Last day withdrawal with a “W” Grade (April 3, 2017) (see catalog).
Waiver of minimum requirements for specific grades will be given only in unique situations at the instructor’s discretion.

LEARNING RESOURCES
• White, I. 2016. Ethnopharmacognosy Series V: Pharmaceutical and Nutraceutical Values of *Vanda* Miss Joaquim. Windward Community College (in publication)
• 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.
Spring 2017
AG 152 Course Schedule* (CRN 64111)
Instructor: Dr. Ingelia White

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

Feb. 1  Sub fam. Cypripedioideae, Tribe Cypripedieae. DVD presentation
Feb. 6  Sub fam. Dendrobioid, Tribe Dendrobieae
Feb. 8  “A Brief History of Orchid Classification: The Middle Ages to Genera Orchidacearum”
        (DVD, Dr. A. Pridgeon) or Extra curricular activity
Feb. 13 “The Future of Orchid Classification and Evolutionary Studies” (DVD, Dr. A. Pridgeon),
       Or other activity
Feb. 15  Sub fam. Cymbidioid, Tribe Cymbidieae; Orchid pedigrees
Feb. 20  Holiday
Feb. 22  Orchid pedigrees (continued); Orchid identification
Feb. 27  Traditional propagation (greenhouse)

March 1  Growing, fertilizing, pests/diseases (green house)
March 6  Seedling transplanting (greenhouse)
March 8  Midterm
March 13  No class (replacing field trip to WOS Show)
March 20  Media preparation (lab)
March 22  In vitro propagation (demo)
March 27-31 Spring Recess

April 3  Tissue culture practicum (seed, embryo, ovulary cultures)
April 5  Tissue culture practicum (Meristem, inflorescence, stem cultures)
April 10  Tissue culture practicum (Meristem, inflorescence, stem cultures)
April 12  Class presentation 1
April 17  Orchid genetics
April 19  Orchid genetics (continued)
April 24  Orchid breeding
April 26  Orchid breeding continued

May 1  Class presentation 2
May 3  Class presentation 3
May 10  Final exam

* Field trips/field work subject to change depending on weather condition. Extra curricular
activity(s) will be announced in class.