University of Hawaii Community Colleges
Proposal to Initiate, Modify or Delete a Course

1. Type of Action
   - A. Addition  ☑  Regular or ☐ Experimental or ☐ Other  (click and type to specify)
   - B. Deletion  ☐
   - C. Modification: ☐ in credits  ☐ in title  ☐ in number or alpha  ☐ in prerequisites or co-requisites  ☐ Other  (click to specify)

2. New Alpha, Number and Title  AG 149 Plant Propagation
3. Credits 3 credits

4. Old Alpha, Number and Title
5. Credits *

6. New Catalog Description
   Introduction to the principles and practices of propagation of fruit, vegetable, and ornamental crops by seed, cuttings, grafting, budding, layering and division.

7. Select box and type specific information in text box.
   - Prerequisites  ☐ Corequisites or  ☑ Recommended Preparation  12th grade reading level

8. Student Contact Hours Per Week
   - Lecture 3
   - Lecture/Lab
   - Lab
   - Other (click to specify)

9. Proposed Date of First Offering
   - Semester Fall
   - Year 2005

10. This course ☑ is proposed for the Agricultural Tech. Program Program. ☑ can fulfill * If Other, specify Plant Biotechnology certificate and as an elective for the Tropical Plant and Soil Science (TPSS) Dept., College of Tropical Agriculture at UH.
    Per D. P.inghe He (3/15/04)

11. This course Makes No Difference in the number of credits required for the program/core.

12. Equivalent or similar courses offered in the UH System:

<table>
<thead>
<tr>
<th>Campus</th>
<th>Alpha, Number, Title</th>
<th>Campus</th>
<th>Alpha, Number, Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>UH Manoa</td>
<td>TPSS 420 Plant Propagation</td>
<td>*</td>
<td>*</td>
</tr>
<tr>
<td>*</td>
<td>*</td>
<td>*</td>
<td>*</td>
</tr>
<tr>
<td>*</td>
<td>*</td>
<td>*</td>
<td>*</td>
</tr>
<tr>
<td>*</td>
<td>*</td>
<td>*</td>
<td>*</td>
</tr>
</tbody>
</table>

13. This course is (check one and click in appropriate textbox and provide details):
   - ☐ Already articulated with
     Provide details of existing or desired articulation (date, college(s), purposes, pre-major, etc.) in this space:

   - ☐ Appropriate for Articulation with
     Provide details of existing or desired articulation (date, college(s), purposes, pre-major or major, etc.) in this space:

   - ☑ Not yet appropriate for Articulation.

14. Reason for Initiating, Modifying or Deleting Courses or Other Pertinent Comment:
   To give students the opportunity for a elective transfer course to UHM CTAHR (see memo) This course will also help fulfill students requirement in the WCC ASC in Bio-resources and Technology (Plant Biotechnology Program)

Requested by:  Joseph E. Cottrell
   Department Chairperson  1-27-05

Approved by:
   Jean Okinawa  2-8-05
   Curriculum Committee Chairperson
   Date
   Date

   Robert J. Milliken  2/15/05
   Faculty Senate Chairperson
   Date
   Date

   Angela Maxwell  3/3/05
   Dean of Instruction
   Provost

CCCM #6100 (Amended for WCC use October 2002)
University of Hawaii Community Colleges  
Proposal to Initiate, Modify or Delete a Course

Levels of Review of Course Proposal at Windward Community College

Course Alpha, Number, and Title: AG 149 Plant Propagation

<table>
<thead>
<tr>
<th>Signatures</th>
<th>Dates</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Department Area (more than one departmental instructor's signature required)</td>
<td>11/20/05</td>
</tr>
<tr>
<td>[Signature]</td>
<td>1/20/05</td>
</tr>
</tbody>
</table>

2. Department  
[Signature]  
Department Chairperson

Was this course discussed in a department meeting? [ ] Yes [ ] No

3. Division  
[Signature]  
6/27/05

4. Curriculum Committee Review  
Approved [x]  
Disapproved [ ]  
Reason:

[Signature]  
Curriculum Committee Chairperson  
2-8-05

CCCM #6100 (Amended for WCC use October 2002)
WCC Form for New Course Proposals
(This sheet was originally pink.)

1. How is this course related to the education needs and goals of the College/Department/Community as reflected in the EDP/ADP?

To offer a transfer level Agriculture elective to the TPSS Dept. at the College of Tropical Agriculture at UHM.

2. Provide details of any additional staff, equipment, facilities, library/media material, faculty preparation and other financial support that would be required to implement this course. (Include an estimate of the actual cost of supplies and equipment.) What has been done to provide for these additional costs for the proposed date of offering? Who will teach the course?

None The current full time agriculture teacher will instruct the course as a piggyback course with AG 49.

3. Is a similar course taught elsewhere in the UH system? * If yes, provide details of how this course differs from existing similar courses.

The depth of material coverage will be much less. Emphasis will be placed on applications not on the how's and why's.

4. Is this course experimental and/or unique to Windward Community College? * If yes, provide rationale and details of its impact on the College Curriculum.

No

5. Is a similar course taught in the upper division level by a 4-year UH college? * If yes, explain why this course is appropriate at the lower division or how it differs from its upper division counterpart.

see answer #3

6. Please attach a complete course outline. Your course outline should address all the items listed in the Guidelines for Course Outlines.

7. If this course is numbered 100 or above or appropriate for transfer to a 4-year college, complete and attach WCC Form for Transfer Courses (blue). See criteria for transfer courses.
WCC Form for Transfer Courses
(To be completed for articulation with any 4-year UH campus)
(This sheet was originally blue.)

Course Alpha and Number Ag 149

Submitted by David Ringuette

Date January 27, 2005

1. List the counterpart to this course on any 4-year UH campus. Describe the relationship between the course any related baccalaureate program area.

This course can be used as an elective for the TPSS Dept. at the College of Tropical Agriculture at UHM (see memo). This course does not meet general education core requirements. It is not appropriate for inclusion in the transfer handbook.

2. Is this course taught or accepted by major accredited colleges or universities? Give one or two examples.

See attached memo

3. Please attach a complete course outline if you have not done so already. Your course outline should address all the items listed in the Guidelines for Course Outlines.
COURSE NAME: Plant Propagation

COURSE ALPHA: AG 149

CREDIT HOURS: 03

CATALOG DESCRIPTION:

An introductory course in the principles and practices of plant propagation. Studies include seed and vegetative propagation of fruit, vegetable and ornamental crops. Methods of propagation include; seed, cutting, grafting, air layering, and division.

REQUIREMENTS COURSE SATIFIES:

AT WCC Certificate of Completion in Agriculture Requirements

AT UH MANOA Elective for TPSS Dept. CTAHR

PREREQUISITES None

RECOMMENDED BASIC SKILL LEVEL College level Reading

READING LEVEL OF TEXT(S) College

ACTIVITIES REQUIRED AT OTHER THAN REGULARLY SCHEDULED CLASS TIMES: None

INSTRUCTURE: David Ringuette

OFFICE: Uluwehi

OFFICE PHONE: 236-9265
GOALS OF THE COURSE: Upon completion of this course, the student will be able to:

1. Develop an understanding of how a plant grows.

2. Develop the ability to relate the principles of plant growth to the solution of everyday problems in plant production.

3. Develop an understanding of the influence of environmental factors on plant growth.

4. Develop the ability of students to propagate plants by various methods.

5. Develop the ability to select and apply plant growth regulators.

OBJECTS OF THE COURSE:

1. The students will be able to describe the different processes involved in plant metabolism such as: photosynthesis, respiration, transpiration, and translocation.

2. The student will be able to recommend the best methods of propagation of selected plants such as: root, stem, and leaf cutting; layerage; divisions; grafting; budding; and by seeds.

3. The student will be able to identify the various parts of the Flower.

4. The students will be able to describe the process of pollination and fertilization, and the problems that are sometimes encountered.

5. The students will be able to name the different groups of plant growth and development.

6. The student will be able to recommend the use of a plant growth regulator in the propagation of selected plants.

7. The students will be able to explain the effect that certain environmental conditions have on plants growth and development. Some examples are: light, temperature, and humidity.
GRADING:

1. Grading will be based on the following:
   a. 2-3 exams worth 100 points each.
   b. Laboratory exercises worth 150 points.
   c. The research project will be graded on a pass/fail basis. Passing is 70% or higher.

2. Letter grades will be assigned as following:

   A  90-100%  315 points or higher
   B  80-89%  280 – 314 points
   C  70-79%  245 – 279 points
   D  60-69%  210 – 244 points
   F  Less than 60% (less than 210 points) or failure to complete the required forms when withdrawing from the course.
   I  Non-completion of any of the required class activities. See the college catalog for details.
   W  Formal withdrawal from the course.
   Cr/Ncr  Credit will be awarded to those who have accumulated a minimum of 70% of the Total points.

MODE OF INSTRUCTION:

Lectures, lab, field works and field trips

REQUIRED TEXTS

Plant Propagation- Hartmann & Kester
<table>
<thead>
<tr>
<th>WEEK</th>
<th>Topic</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Plant metabolism</td>
</tr>
<tr>
<td>2</td>
<td>Structure/Function of plants</td>
</tr>
<tr>
<td>3</td>
<td>Fertilization/Pollination</td>
</tr>
<tr>
<td>4</td>
<td>Plant environmental conditions</td>
</tr>
<tr>
<td>5</td>
<td>Propagating medium</td>
</tr>
<tr>
<td>6</td>
<td>Growth Regulators</td>
</tr>
<tr>
<td>7</td>
<td>Fertilization</td>
</tr>
<tr>
<td>8</td>
<td>Review/Midterm</td>
</tr>
<tr>
<td>9</td>
<td>Seed propagation</td>
</tr>
<tr>
<td>10</td>
<td>Propagation by cutting</td>
</tr>
<tr>
<td>11</td>
<td>Propagation by layering</td>
</tr>
<tr>
<td>12</td>
<td>Propagation by grafting</td>
</tr>
<tr>
<td>13</td>
<td>Pruning</td>
</tr>
<tr>
<td>14</td>
<td>Turf grass</td>
</tr>
<tr>
<td>15</td>
<td>Potting and repotting</td>
</tr>
<tr>
<td>16</td>
<td>Hydroponics/Review</td>
</tr>
</tbody>
</table>

"FINAL EXAM"

**NOTE:** You are required to do a plant propagation research project. You will choose a plant and determine the most cost efficient means of propagation. The report will then be written up in scientific format. Details will be provided at a later date.
GENERAL OUTLINE FOR PROJECT WRITTEN REPORT

Title (This should be very descriptive.)

Abstract- A brief Summary (about 250 words) of the main finding of the research.

1. Introduction (What is this project all about?)
   Give some background information on your topic (perhaps some data
   Spoken to in researching your area of research.)
   What led you to this particular topic?
   State your objective in performing the research.
   State your questions and hypotheses.

11. Methods (How did you investigate your topic?)
   Describe your methods in detail.
   In telling about your methods, include what you tested as well as when,
   Where, and how.
   If you used special equipment or techniques for either your data collection or
   Analysis, tell us about it.

111. Results (What did you find out?)
   Summarize your finding.
   Tables and graphs are good for data summaries.
   Show the results of your statistical analysis, but do not include the
   Computer printouts without the consent of the instructor.
   Summarize. (You should have mentioned the type of analysis you
   used in the methods section.)

   Label all graphs and tables with informative titles as well as descriptive
   Heading for all columns, rows, and axes. Don't forget units of
   measurement.

   Use prose to identify and discuss the meaning of tables and graphs. Do not
   simply throw tables and graphs into your paper and expect the reader to
   figure it out.

   Do not interpret your results in this section. Do not try to analyze all the
   trends and significances and explain why they do or do not exist. Leave
   that for the next section. Do not state what you found and what the
   significant statistical differences are, if any.

IV. Discussion (What do the results mean?)
   Just what it says; discuss your results. Now is the time to interpret your
   results.
   What did your analysis show? Significant differences or trends? Refer back
   to the graphs and/or tables in the results section.
   Is your hypothesis supported? If so, show how.
If the results do not support your hypothesis or are ambiguous, attempt to analyze why. State the factors that may have had either a negative or positive influence on your results. Try to include references from your bibliography, if possible, which show similarities or differences of your work compared to that of others.

V. Conclusion (Summarization and tips for the future)
Wrap it up.
Restate your hypothesis and questions and how they were supported, or not, by your research.
State what questions your research may have raised. If you have ideas for future research on this topic or applications for what you have found, state it here.

VI. References
At least three of the four categories of references are required. There are several possible categories:
1.) Books
2.) Articles from periodicals
3.) Discussions with people who are recognized authorities in an area.
4.) Internet

VII. Acknowledgements
Thank those people who have helped you.
ADDITIONAL POINTS CONCERNING THE WRITTEN REPORT

The report is to be typed. Double space, using 12 point size, plain text, and 2.54 cm margins. Include heading in your report—introduction, methods, results, etc.

All sections of the paper, except graphs and tables, are to be in paragraph form.

Genus and species names are to be underlined with the genus capitalized and the species name in lower case letters.

Ex: (Bufo marinus)

Citations:

"Do not use footnotes."

When you include a reference to someone’s research or conclusions in your Report; follow that citation with the author’s name and the year the work was published. Put these in parentheses.

Ex: (Von Leeuwenhoek, 1967)

In your bibliography, you should list authors alphabetically using the following formats:

For articles:


Vol:  ^  Page numbers.

For Books:


For Groups of Essays:


Length of paper: Whatever it takes to adequately and completely address your topic.

(General guideline: 10-15 pages including graphs and tables.)

Basic of grade:

Scientific technique- logic, controls, sufficient sample size, proper analysis, conclusions follow from data, etc.

Clarity- easy to understand hypothesis, method, conclusions, etc.

Completeness- all aspects from introduction and hypothesis to conclusions and recommendations included, graphs and/or tables present; statistical analysis accomplished; references included; etc. and

Organization- follows outline provided.
December 2, 2004

Mr. Dave Ringuette
Windward Community College
45-720 Kea‘ahala Road
Kaneohe, HI 96744

Dear Dave:

The Instructional Committee of the Tropical Plant and Soil Sciences Department in the College of Tropical Agriculture and Human Resources on November 29 to discuss your request for AG 149 (plant propagation) to be considered transferable as an elective credit for WCC students who transfer to the UHM campus.

We concur that this course as presented by your syllabus has sufficient academic merit for transfer credit. It will not be considered as a substitute for our existing 400-level plant propagation course, TPSS 420, in the group of courses that are considered as our Group C supporting courses, but it may be considered in our Group D courses or the free UHM electives.

Apparently there has been a policy for some years concerning transfer credit for community college courses of the 100-level as electives if there is not an already an equivalent articulated course for which it may substitute.

We look forward to receiving some of your students into CTAHR at some future time.

Sincerely,

Richard A. Criley
Chair, TPSS Instruction Committee

Cc: Robert Paull
Ken Leonhardt