COLLEGE OF THE DESERT

Course Code AGPS-005L

Course Outline of Record

1. Course Code: AGPS-005L
2. a. Long Course Title: Plant Science Lab
   b. Short Course Title: PLANT SCIENCE LAB
3. a. Catalog Course Description:
   This laboratory is the companion of AGPS-005. It is intended to provide an introduction to some biological science procedures as well as direct experience with horticultural operations. Included are: plant propagation, pruning, anatomy, morphology, taxonomic keys, transplanting and plant use and pesticides.
   b. Class Schedule Course Description:
   This laboratory is the companion of AGPS-005.
   c. Semester Cycle (*if applicable*): *N/A*
   d. Name of Approved Program(s):
   - ENVIRONMENTAL HORTICULTURE AS Degree and Transfer Preparation
   - ENVIRONMENTAL HORTICULTURE AS Degree for Employment Preparation
   - ENVIRONMENTAL HORTICULTURE Certificate of Achievement
   - TURFGRASS MANAGEMENT AS Degree for Employment Preparation
   - TURFGRASS MANAGEMENT Certificate of Achievement
4. Total Units: 1.00 Total Semester Hrs: 54.00
   Lecture Units: 0 Semester Lecture Hrs: 0
   Lab Units: 1 Semester Lab Hrs: 54.00
   Class Size Maximum: 26 Allow Audit: No
   Repeatability No Repeats Allowed
   Justification 0
5. Prerequisite or Corequisite Courses or Advisories:
   Course with requisite(s) and/or advisory is required to complete Content Review Matrix (CCForm1-A)
   Advisory: AGPS 005 Concurrent enrollment or prior completion
6. Textbooks, Required Reading or Software: *(List in APA or MLA format.)* *N/A*
7. Entrance Skills: *Before entering the course students must be able:*
   a. Learn how to propagate plants by seed, cuttings, air layering, and division.
   - AGPS 005 - Describe how to manipulate plants in various ways including propagate, prune, fertilize, control pests safely, and alter deleterious soil conditions.

   b. Propagate plants using different techniques such as: leaf/stem/root cuttings, divisions, seed.
   - AGPS 005 - Describe the plant body of many higher plants beginning with seed through root, stem, leaf, flower, and fruit.

   c. Demonstrate an understanding the basic of vegetable production.
   - AGPS 005 - Understand how human activity has manipulated plants since primitive times.

8. Course Content and Scope:

Lecture:

See lab content

Lab: *(if the "Lab Hours" is greater than zero this is required)*

a. Propagation by:
   i. Seed
   ii. Air Layering
   iii. Cuttings

1) herbaceous
2) semi-hardwood
3) leaf

b. Experimental Design – Landscape plans for vegetable gardening
c. Pruning
d. Reproductive structure and mechanisms
e. Plant keys
f. Transplanting
g. Plant vascular system
h. Microscrope technique
i. Introduction to Library – explanation of term paper, contents and methods

9. Course Student Learning Outcomes:
   1.
   The student will be able to properly demonstrate various methods of plant propagation.

   2.
   The student will be able to identify various parts of a plant and describe the proper methods of pruning that plant.

   3.
   The student will be able to demonstrate practical nursery practices including greenhouse management, plant container shifting and arrangement, and vegetable gardening.

10. Course Objectives: *Upon completion of this course, students will be able to:*
    a. Learn how to propagate plants by seed, cuttings, air layering, and division.
    b. Demonstrate an understanding of how to set up and run a scientific study.
    c. Prune trees and shrubs.
    d. Operate lab equipment such as microscopes and electronic balances.
    e. Use and develop plant keys.
    f. Transplant plants
    g. Propagate plants using different techniques such as: leaf/stem/root cuttings, divisions, seed.
    h. Demonstrate an understanding the basic of vegetable production.

11. Methods of Instruction: *(Integration: Elements should validate parallel course outline elements)*
    a. Demonstration, Repetition/Practice
    b. Discussion
    c. Laboratory
    d. Lecture
    e. Participation

    Other Methods:

    Use of microscope and visual aid of overhead projected images Student will have opportunity to work as partners Hands-on experience – use of tools, use of plant material

12. Assignments: *(List samples of specific activities/assignments students are expected to complete both in and outside of class.)*
    In Class Hours: 54.00
    Outside Class Hours: 0
    a. In-class Assignments

    1. Complete 2 flats of cutting demonstrating proper technique
    2. Complete preparation of soil for cuttings and seed production
    3. Prepare soil, plan plot design, plant seeds and maintain vegetable garden

4. Complete various laboratory exercises on plant photosynthesis, respiration, flower anatomy, integrated pest management, and soil analysis.
5. Research paper-7 pages with 2 pages of scientific support material representing diversity of plant science, also requires bibliography and footnotes.

b. Out-of-class Assignments

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13. Methods of Evaluating Student Progress: *The student will demonstrate proficiency by:*
    - Term or research papers
    - Field/physical activity observations
    - Presentations/student demonstration observations
    - Mid-term and final evaluations
    - Student preparation

14. Methods of Evaluating: Additional Assessment Information:

    a. Scientific Experiment – students work through prepared lab assignments in class to examine correct lab procedure, and outcome of experiment b. students interpret prepared specimens and questions for in lab practicums which are held twice during semester. c. written and oral presentation. Explores plant science and gives student opportunity to present research paper to class.

15. Need/Purpose/Rationale -- *All courses must meet one or more CCC missions.*

    IGETC Area 5: Physical and Biological Sciences (mark all that apply)

    B: Biological Science, Lab only

    CSU GE Area B: Physical and its Life Forms(mark all that apply)

    B3 - Laboratory Sciences

    PO - Career and Technical Education

    Fulfill the requirements for an entry- level position in their field.

    Apply critical thinking skills to execute daily duties in their area of employment.

    Apply critical thinking skills to research, evaluate, analyze, and synthesize information.

    IO - Personal and Professional Development

    Self-evaluate knowledge, skills, and abilities.

    IO - Scientific Inquiry

    Collect and analyze data. Skills of data collection include an understanding of the notion of hypothesis testing and specific methods of inquiry such as experimentation and systematic observation.

    Predict outcomes utilizing scientific inquiry: using evidence and assertions determine which conclusions logically follow from a body of quantitative and qualitative data.

    Analyze quantitative and qualitative information to make decisions, judgments, and pose questions.

16. Comparable Transfer Course

University System	Campus	Course Number	Course Title	Catalog Year

17. Special Materials and/or Equipment Required of Students:

18. Materials Fees: ☐ Required Material?

Material or Item	Cost Per Unit	Total Cost

19. Provide Reasons for the Substantial Modifications or New Course:

    2-year periodic review

20. a. Cross-Listed Course *(Enter Course Code)*: *N/A*
    b. Replacement Course *(Enter original Course Code)*: *N/A*

21. Grading Method *(choose one)*: Letter Grade Only

22. MIS Course Data Elements
    a. Course Control Number [CB00]: CCC000293624
    b. T.O.P. Code [CB03]: 10300.00 - Plant Science
    c. Credit Status [CB04]: D - Credit - Degree Applicable
    d. Course Transfer Status [CB05]: A = Transfer to UC, CSU
    e. Basic Skills Status [CB08]: 2N = Not basic skills course
    f. Vocational Status [CB09]: Possibly Occupational
    g. Course Classification [CB11]: Y - Credit Course
    h. Special Class Status [CB13]: N - Not Special
    i. Course CAN Code [CB14]: *N/A*
    j. Course Prior to College Level [CB21]: Y = Not Applicable
    k. Course Noncredit Category [CB22]: Y - Not Applicable
    l. Funding Agency Category [CB23]: Y = Not Applicable
    m. Program Status [CB24]: 1 = Program Applicable

    Name of Approved Program *(if program-applicable)*: ENVIRONMENTAL HORTICULTURE,ENVIRONMENTAL HORTICULTURE,ENVIRONMENTAL HORTICULTURE,TURFGRASS MANAGEMENT,TURFGRASS MANAGEMENT

    Attach listings of Degree and/or Certificate Programs showing this course as a required or a restricted elective.)

23. Enrollment - Estimate Enrollment
    First Year: 26
    Third Year: 26

24. Resources - Faculty - Discipline and Other Qualifications:
    a. Sufficient Faculty Resources: Yes
    b. If No, list number of FTE needed to offer this course: *N/A*

25. Additional Equipment and/or Supplies Needed and Source of Funding.

    N/A

26. Additional Construction or Modification of Existing Classroom Space Needed. *(Explain:)*

    N/A

27. FOR NEW OR SUBSTANTIALLY MODIFIED COURSES
    Library and/or Learning Resources Present in the Collection are Sufficient to Meet the Need of the Students Enrolled in the Course: Yes

28. Originator Eddie Vaca Origination Date 10/27/17