

# COLLEGE OF THE DESERT

Course Code AGPS-002

## Course Outline of Record

1. Course Code: AGPS-002
2. a. Long Course Title: Entomology - General & Applied  
b. Short Course Title: ENTOMOLOGY/GENL&APPL
3. a. Catalog Course Description:  
This course is a study of insects including external and internal structures, major life systems, growth and development, classification, ecology, behavior, economic importance, and an overview of pest management. Suggested for Biological Science General Education Requirements.  
b. Class Schedule Course Description:  
This combination lecture/lab course is a study of insects including external and internal structures, major life systems, growth and development, classification, ecology, behavior and economic importance.  
c. Semester Cycle (if applicable): N/A  
d. Name of Approved Program(s):
  - DESERT ECOLOGIST Certificate of Achievement
  - FIELD RANGER Certificate of Achievement
  - NATURAL RESOURCES AS Degree for Employment Preparation
4. Total Units: 4.00      Total Semester Hrs: 108.00  
Lecture Units: 3      Semester Lecture Hrs: 54.00  
Lab Units: 1      Semester Lab Hrs: 54.00  
Class Size Maximum: 28      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)*  
*N/A*
6. Textbooks, Required Reading or Software: (List in APA or MLA format.)
  - a. Recommended: Kenn Kaufman (2007). Kaufman Field Guide to Insects of North America Houghton Mifflin Co..  
College Level: Yes  
Flesch-Kincaid reading level: 12
  - b. Recommended: Lynn & Gene Monroe (2013). Desert Insects & Kin of Southern California Merryleaf Press  
College Level: Yes  
Flesch-Kincaid reading level: 12
  - c. Required: Castner, J. (2004). Photographic Atlas of Entomology and Guide to Insect Identification Gainesville, FL Feline Press.  
College Level: Yes  
Flesch-Kincaid reading level: 12
7. Entrance Skills: *Before entering the course students must be able:*
8. Course Content and Scope:

Lecture:

- a. Introduction to Entomology
  - i. Position of Insects in the animal World
  - ii. Abundance, Size, and Reproductive Capacity of Insects
    - 1. Beneficial and Injurious Insects
- b. Arthropoda: Insects and their Allies
- c. Insect Structure and Function
  - i. General External Anatomy
  - ii. General Internal Anatomy
  - iii. Physiology: Digestive, Circulatory, Excretory, Respiratory, Reproductive, Muscular, Nervous, and Hormonal Systems
- d. Insect Life Cycles and Metamorphosis
- e. Collecting, Mounting and Identifying Insects
- f. Insect Orders—The Diversity of Insects
  - i. Minor Orders:  
Thysanura, Collombola, Ephemeroptera, Odonata, Isoptera, Dermaptera, Mallophaga, Anoplura, Thysanoptera, Neuroptera, Siphonaptera, Blatteria, Mantodea, Phasmida
  - ii. Major Orders:  
Orthoptera, Hemiptera, Homoptera, Coleoptera, Lepidoptera, Diptera, Hymenoptera
- g. Insect Families within the Major Orders
- h. Insect Ecology
- i. Insect Behavior
- j. Insects as Pests, including human interactions
- k. Principles of Insect Pest Management

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

- a. Insect Structure and Function
  - i. General External Anatomy
  - ii. General Internal Anatomy
  - iii. Physiology: Digestive, Circulatory, Excretory, Respiratory, Reproductive, Muscular, Nervous, and Hormonal Systems
- b. Insect Life Cycles and Metamorphosis
- c. Collecting, Mounting and Identifying Insects
- d. Insect Orders—The Diversity of Insects
  - i. Minor Orders:  
Thysanura, Collombola, Ephemeroptera, Odonata, Isoptera, Dermaptera, Mallophaga, Anoplura, Thysanoptera, Neuroptera, Siphonaptera, Blatteria, Mantodea, Phasmida
  - ii. Major Orders:  
Orthoptera, Hemiptera, Homoptera, Coleoptera, Lepidoptera, Diptera, Hymenoptera
- e. Insect Families within the Major Orders
- f. Insect Ecology
- g. Insect Behavior

9. Course Student Learning Outcomes:

1.

Demonstrate a basic knowledge of and be able to discuss and summarize insect structure and function, reproduction, adaptability, and behavior.

10. Course Objectives: *Upon completion of this course, students will be able to:*

- a. Recall, discuss and compare basic knowledge of 20 insect orders, 50 to 100 common families, and specific insects of major importance.
- b. Determine appropriate pest management procedures based on insect biology, ecology, economics and environmental concerns.
- c. Demonstrate an understanding of the problems of insects pest management.

11. Methods of Instruction: (*Integration: Elements should validate parallel course outline elements*)

- a. Demonstration, Repetition/Practice
- b. Discussion
- c. Laboratory
- d. Lecture

Other Methods:

a. Use of video microscope b. Use of various media for presentations, including PowerPoint, CD/DVD, video, slides. c. Students will have opportunities to work as partners and in small groups

12. Assignments: (*List samples of specific activities/assignments students are expected to complete both in and outside of class.*)

In Class Hours: 108.00

Outside Class Hours: 108.00

a. Out-of-class Assignments

1. Read assigned chapters in textbook
2. Write answers to selected chapter questions
3. Semester project: prepare an extensive insect collection
4. Study and learn assigned vocabulary and taxonomic groups
5. Complete lab exercises and assigned lab reports

b. In-class Assignments

1. Lab exercises and lab reports

13. Methods of Evaluating Student Progress: *The student will demonstrate proficiency by:*

- College level or pre-collegiate essays
  - Written homework
  - Reading reports
  - Laboratory projects
  - Group activity participation/observation
  - True/false/multiple choice examinations
  - Mid-term and final evaluations
  - Student participation/contribution
  - Other
- Grading of an extensive insect collection that is required

14. Methods of Evaluating: Additional Assessment Information:

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 with a Lab

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

B2 - Life Science

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.

Exhibit effective written, oral communication and interpersonal skills.

IO - Scientific Inquiry

Recognize the utility of the scientific method and its application to real life situations and natural phenomena.

IO - Critical Thinking and Communication

Apply principles of logic to problem solve and reason with a fair and open mind.

Summarize, analyze, and interpret oral and written texts, with the ability to identify assumptions and differentiate

fact from opinion.

16. Comparable Transfer Course

University System	Campus	Course Number	Course Title	Catalog Year
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17. Special Materials and/or Equipment Required of Students:

18. Materials Fees:  Required Material?

Material or Item	Cost Per Unit	Total Cost
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19. Provide Reasons for the Substantial Modifications or New Course:

periodic review of course no major changes

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]: CCC000255120
- 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*): DESERT ECOLOGIST, FIELD RANGER, NATURAL RESOURCES

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

23. Enrollment - Estimate Enrollment

First Year: 0  
 Third Year: 0

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 Kurt Leuschner      Origination Date 08/25/17