PLS 2313 Economic Entomology- 22071

Instructor: David R. Drake, Ph.D. Adjunct Professor and Extension Program Specialist Integrated Pest Management (IPM) Texas A&M AgriLife Extension

Lab Assistant: TBA

Email: David.Drake@etamu.edu or drdrake@ag.tamu.edu

Office Info: Agronomy Lab at the Plant Science Center, 2033 CR 4320 Campbell, TX 75422 (3.5 miles south of Commerce on Hwy 24) Phone:903-468-3295

Class: TR 9:30a-10:20 Plant Science Classroom (PSC) 101 2069 CR 4320 Campbell, TX 75422 (3.5 miles south of Commerce on Hwy 24)

Lab: T 1:00-2:50 STC 211 Labs may also be held at the Plant Science Center – 2069 CR 4320 Campbell, TX. Location change will be announced in lecture.

Note: We **Will** hold lab the first week of classes (Jan 13, 2025).

Course Description: (as in catalog) This course introduces students to the major orders of insects and other arthropods of economic importance with specific emphasis on those beneficial and harmful to agricultural and horticultural crops, livestock, pets, and food products. Control techniques using Integrated Pest Management will be included.

Student Learning Outcomes:

Skills: Identify arthropods to class by inspection
Identify insects to order by inspection
Collect, process, and store insects for study

Knowledge: Insect morphology and its use in identification of unknown specimens
Insect anatomy and physiology to understand adaptation, behavior, and resistance mechanisms
Insect life cycles and their importance in reproduction, pestilence and control
Important arthropod classes, insect orders and major family descriptions
Impact and control of major plant, animal, and human arthropod pests

Class Format:

The format for this course will vary from traditional lecture, group discussions, video presentations, online assignments and hands on lab activities. PowerPoint slides will be accessible on D2L or can be copied to a drive in lecture. Students are expected to print their own slide sets if they do not want to take notes during class.

Course Information:

Text
Entomology and Pest Management, 7th Edition
Pedigo, Larry; Rice, Marlin; Krell, Rayda
Textbook ISBN 978-1-4786-3992-3 (older editions are acceptable)
Text (Not Required)
Borror and DeLong's Introduction to the Study of Insects, 7th Edition

The instructor reserves the right to modify this syllabus during the semester, if needed. The instructor also reserves the right to extend credit for alternative assignments, projects, or presentations.

PLS 2313 Economic Entomology

Norman F. Johnson; Charles A. Triplehorn Textbook ISBN-10: 0-03-096835-6

Important Dates
January 13, 2026 Spring first class day and lab.

March 9th - 13th 2026 Spring Break

March 27, 2026 Last day to drop – no refund

May 1, 2026 Spring last class day

Final Exam Thursday May 7, 2026 8:00 am – 10:00 am PSC 101

Grading Policy:

Exams (3 @ 100 points each) 300
Cumulative Final Exam 150
Insect Collection 200
Insect Fact Sheet 150
Attendance 50
Quizzes 100
Lab Participation 50
Note: Lecture and lab grades are combined for a single grade

Grade Distribution:
A 900-1000
B 800-899
C 700-799
D 600-699
F <600
Exams
Exams will be short answer, fill in the blank, matching and short essay. There will be 3 exams during the semester and one cumulative final exam. There will not be make-up exams for unexcused absences. If you have an excused absence, I must be made aware of this before exam day to schedule the make-up. The tentative test dates are as follows:
-Exam 1-February 5th
-Exam 2-March 5th
-Exam 3-April 2nd
Final Exam May 7, 2026 8:00 am

The final exam is cumulative. The final exam score can be used to replace the lowest test grade of the semester, as long as 1) you did not miss an exam due to an unexcused absence and 2) you have had no more than 2 unexcused lecture absences and no more than 1 unexcused lab absence during the semester.

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Insect Collection
A detailed handout will be given in lab to describe the specifics of what insects & arthropods should be collected for this assignment. There will be a minimum of 20 insects & 5 arthropods in the collection. You may have to collect more than 25 specimens to meet all requirements.
Failure to submit a collection will result in a failing grade.
Insect Fact Sheet
Students will be assigned an insect/arthropod to produce a short fact sheet. The single sheet (front and back) Fact Sheet will be made informing the general public about an insect/arthropod that is pertinent to your major. The insect will be assigned, unless the student presents the instructor with an insect/arthropod idea they would like to cover and it is approved. Students will prepare a 5 minute presentation about their fact sheet to be presented in lab near the end of the semester.
Attendance
Attendance will be taken at the beginning of class and lab. Attendance points will be deducted for each unexcused absence. Excused absences should be discussed with the instructor before the missed class period. During this discussion plans will be made to schedule any allowed makeup work.
Quizzes
Quizzes will be given during class and lab. Quiz grades will be averaged and totaled to 100 points at the end of the semester.
Participation
Participation grade will be based upon presence, effective listening, being active in group work and participating in any class discussion.

Students with Disabilities:

The Americans with Disabilities Act (ADA) is a federal anti-discrimination statute that provides comprehensive civil rights protection for persons with disabilities. Among other things, this legislation requires that all students with disabilities be guaranteed a learning environment that provides for reasonable accommodation of their disabilities. If you have a disability requiring an accommodation, please contact:

Office of Student Disability Resources and Services
Texas A&M University-Commerce
Gee Library Room 132
Phone (903) 886-5150 or (903) 886-5835 Fax (903) 468-8148
StudentDisabilityServices@tamuc.edu

Office Hours:

Tuesday & Thursday 10:30am-Noon or by appointment

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Course Content:
Lecture Week
1/12 Syllabus & Introduction to Insects
1/19 Arthropod Classes & Insect Morphology
1/26 Insect Anatomy
2/1 Insect life cycles, reproduction, and development & EXAM I
2/9 Molting Insect Classification & Ametabola Order Thysanura
2/16 Hemimetabola: Orders Ephemeroptera, Odonata
2/23 Hemimetabola: Orders Orthoptera
3/5 Hemimetabola: Orders Blattodea, Isoptera Review EXAM II
3/9 Spring Break
3/16 Hemimetabola: Orders Hemiptera, Suborders Heteroptera, Homoptera
3/23 Neuroptera, Coleoptera, Lepidoptera
3/30 Review and Exam III
4/6 Diptera, Siphonoptera, Hymenoptera
4/13 FFA CDE IPM: Monitoring, Scouting, Decision making, Biological Controls
4/20 Insecticide application, classes, mode of action, toxicity, and environmental impact & Pesticide certifications and legal requirements in Texas
4/27 Gene Drive Technology
5/2 Final Exam Week
Final Exam Thursday May 7, 2026 8:00 am

*Subject to change based upon speed material is absorbed by students

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