

ENTOMOLOGY - BIOLOGY 3461
DR. STRENGTH - FALL 2021
(MWF @ 12:00 - Room 123)

Date	Lecture Topic	Reading Assignment
Aug. 23-27	Introduction to Arthropods Characteristics of Arthropods and Insects	Chap 5
Aug 30 - Sept. 3	Arthropod Evolution & Classification	Chap 3, 5 & 6 (Sup. 1: Chap. 20)
Sept. 8-10	Origin of Insects Factors of Insect Success	pp. 154-156, Chap. 4, (Sup. 1: Ch. 22 - Sup.2: 359-376), (Sup. 2:13-14), pp. 81-93
Sept. 13-17	Wing Origin & Metamorphosis	(Sup. 2:308-312), pp. 39-51
Sept. 20-22	Life Stages & Insect Growth	pp. 39-51
Sept. 24 (Friday)	FIRST HOUR EXAM	
Sept. 27 - Oct. 1	Apterygota, Ephemeroptera & Odonata	Chap 7, 8, 9 & 10
Oct. 4-8	Orthoptera, Phasmida, Mantodea & Blattaria	Chap 11, 12, 20 & 21
Oct. 11-15	Dermoptera, Plecoptera, Embiidina, Zoraptera, Isoptera, Psocoptera, & Phthiraptera	Chap 15, 16, 17, 18, 19, 24 & 25.
Oct. 18-22	Hemiptera & Homoptera	Chap 22
Oct. 25-27	Thysanoptera & Neuroptera	Chap 23 & 27
Oct. 29 (Friday)	SECOND HOUR EXAM	
Nov 1-5	Coleoptera, Strepsiptera, Mecoptera & Diptera	Chap 26, 33, 32 & 34
Nov. 8-12	Siphonaptera, Lepidoptera & Trichoptera	Chap 31, 30 & 29
Nov. 15-22	Hymenoptera & Evolution of Eusocial Behavior	Chap 28 & pp. 70-81, pp. 87-89
Nov. 29	Emergence Patterns & Pheromones	pp. 76-81
Dec. 1-3	Mimicry, Insect Products, Pesticides & Pest Management	(Sup. 3:276-300)
Dec. 6 (Mon.) - 1:00-3:00	FINAL EXAM	

READING ASSIGNMENT

Textbook: **Study of Insects (7th Edition)** by Triplehorn & Johnson (6th Edition will do nicely).

Supplement 1: **Invertebrates (3rd Edition)** by Brusca et al. (2016)

Supplement 2: **The Science of Entomology (2nd Edition)** by Romoser

Supplement 3: **Introduction to Insect Biology and Diversity (2nd Edition)** by Daly, Doyen & Purcell.

**BIOLOGY 3461 – ENTOMOLOGY LABORATORY
SCHEDULE FOR FIELD TRIPS AND LAB EXERCISES
CAVNESS 110 – WEDNESDAY 2:00-4:50 - FALL 2021**

Aug. 25	Check out collecting, pinning and storage equipment. Go over pinning, labeling and storage techniques.
Sept. 1	Non-insect arthropods
Sept. 8	Field Trip to Christoval
Sept. 15	Field Trip to Foster Park
Sept. 22	Field Trip to Head of the River Ranch (Anson Springs)
Sept. 29	Hummer House at Christoval or Jake Newell's Ranch in Glasscock County

The above field trips are tentatively scheduled as early in the semester as possible (prior to the coming of cooler weather). In the event of rain, the below indoor labs will be substituted (in order). We will return to the above field trip schedule as soon as the weather permits.

Oct. 6	Apterygota → Isoptera
Oct. 13	Embioptera → Neuroptera
Oct. 20	Coleoptera → Diptera
Oct. 27	Lepidoptera → Hymenoptera
Nov. 3	Using and preparing entomological keys
Nov. 10	FIRST LAB PRACTICAL (This date is firm)
Nov. 17	Insect anatomy
Nov. 24, 25 & 26	Thanksgiving
Dec. 1	FINAL LAB PRACTICAL (This date is firm)

**OPTIONAL WEEKEND FIELD TRIPS
(DATES ARE TENTATIVE - TO BE CONFIRMED AFTER CLASSES START)
(Be certain to have a Photo ID with you for the west Texas trips)**

Late September/Early October – Lucy's Ranch (Sueno Dorado Ranch) – Shafter, Texas

Late September/Early October - Davis Mtn. State Park – Jewel Scarab research site

Mid-October – Big Oak River Ranch on the Devils River south of Bakers Crossing

(Participation in one, two or three of these field trips - will add five points each to your final lab average)

GENERAL COLLECTION (REQUIRED)

Each order that you collect is worth 5 points. For each additional family that you collect within the order you will receive 3 additional points.

A	326 - 350 pts.	C	276 - 300 pts.
B	301 - 325 pts.	D	250 - 275 pts.

SPECIES DESCRIPTION (OPTIONAL)

This will consist of a four-page, double-spaced, typewritten report which includes two figures (one-half page each) complete with legend and scale. It will follow the general outline of head, thorax and abdomen. Due to wide differences in organisms and the nature of your approach you will be given a wide degree of flexibility in organization. It is, however, to be written in a telegraphic style.

SPECIAL COLLECTION (OPTIONAL)

This collection is quite flexible. It normally involves collecting as many families of an order of your choosing. Your grade on this collection will be made in comparison with how your fellow classmates collected this same group. Points acquired by making the special collection will be counted in the general collection.

GRADING

Lecture Exam Average	-	50%
General Collection	-	25%
Laboratory Average	-	25%

Attendance - You are allowed 3 absences from lecture (no questions asked). Each additional absence will result in a loss of one point per absence from your final numerical average. All labs and local field trips are mandatory - each absence from these activities will result in a loss of two points from your final numerical average.

GRADE CONTRACTS

"A" CONTRACT(1)	Final average of 90 or above on the lecture exams, general collection & lab average.
(2)	Grade of A on the special collection.
(3)	Grade of A on the species description.
"B" CONTRACT(1)	Final average of 80 (or above) on the lecture exams, general collection and lab average.
(2)	Grade of B (or better) on the special collection.
"C" CONTRACT	(1) Final average of 70 (or above) on the lecture exams, general collection and lab average

Angelo State University expects its students to maintain complete honesty and integrity in their academic pursuits. Students are responsible for understanding the Academic Honor Code, which is contained in both print and web versions of the Student Handbook. Persons with disabilities which may warrant academic accommodations must contact the Student Life Office, Room 112 University Center, in order to request such accommodations prior to any accommodations being implemented. You are encouraged to make this request early in the semester so that appropriate arrangements can be made. Students who wish to observe a religious holiday during the semester should make that intention made in writing during the first week of classes – arrangements will be made to accommodate any missed class work.

Learning Outcomes – Students are expected to acquire both a knowledge and understanding of the origin and evolution of insects, those adaptations involved with their success, characteristics and identification of the major orders and families, techniques involved with the collection and preservation of select specimens, and a history of man's efforts to utilize and control both beneficial and harmful species.

Assessment of Student Learning Outcomes – Critical Thinking (CT1), Empirical & Quantitative Skills 1 (EQS1 - data analysis) and Empirical & Quantitative Skills 2 (EQS2 - observable fact analysis) will be assessed by means of embedded test questions on the four major lecture exams. Communication Skills (CS1) and Teamwork (TW2) will be assessed by means of weekly laboratory exercises which include group activities involving collaboration, data collection & analysis, as well as communicating final results in a written format.

Information About COVID-19 - Please refer to ASU's [COVID-19 \(Coronavirus\) Updates](#)ⁱ web page for current information about campus guidelines and safety standards as they relate to the COVID-19 pandemic.

DR. STRENGTH - BIOLOGY - FALL 2021

My office is Sci. 108B

If not in office, try:

Teaching Lab Sci. 110

or

Research Lab Sci. 117

E-mail nstreth@angelo.edu

My office phone: 325.486.6647

When leaving a phone message, please give your full name and phone number both slowly and distinctly – give your phone number twice.

OFFICE HOURS

Monday - 11:00-12:00

Tuesday - 11:00-12:00

Wednesday - 11:00-12:00

Thursday - 11:00-12:00

Friday - 11:00-12:00

Other hours by appointment.

ⁱ <https://www.angelo.edu/covid-19/>