**ENTOMOLOGY - BIOLOGY 3461**  
**DR. STRENTH - FALL 2017**  
**(MWF @ 1:00 - Room 123)**

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

Supplement 1: *Introduction to Insect Biology and Diversity (2nd Edition)* by Daly, Doyen & Purcell.
Supplement 2: *The Science of Entomology (2nd Edition)* by Romoser
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

<table>
<thead>
<tr>
<th>Component</th>
<th>Percentage</th>
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<tbody>
<tr>
<td>Lecture Exam Average</td>
<td>50%</td>
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<tr>
<td>General Collection</td>
<td>25%</td>
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<tr>
<td>Laboratory Average</td>
<td>25%</td>
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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.
**BIOLOGY 3461 - ENTOMOLOGY**

**SCHEDULE FOR FIELD TRIPS AND LAB EXERCISES**

**FALL 2017**

Aug. 30  
Check out collecting, pinning and storage equipment. Go over pinning, labeling and storage techniques.

Sept. 6  
Non-insect arthropods

Sept. 13  
Field Trip to Christoval

Sept. 20  
Field Trip to Foster Park

Sept. 27  
Field Trip to Head of the River Ranch (Anson Springs)

Oct. 4  
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. 11  
Apterygota → Isoptera

Oct. 18  
Embioptera → Neuroptera

Oct. 25  
Coleoptera → Diptera

Nov. 1  
Lepidoptera → Hymenoptera

Nov. 8  
Using and preparing entomological keys

Nov. 15  
**FIRST LAB PRACTICAL** (This date is firm)

Nov. 22  
Thanksgiving??

Nov. 29  
Insect anatomy

Dec. 6  
**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 – Tim’s Jewel Scarab research

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)
DR. STRENTH

BIOLOGY - FALL 2017

My office is Sci. 108B

If not in office, try:
Teaching Lab Sci. 110
or
Research Lab Sci. 117

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.

E-mail ned.strenth@angelo.edu

OFFICE HOURS

Mon. - 10:00-12:00
Wed. - 10:00-12:00
Fri. - 10:00-12:00

Other hours by appointment.