

# **Entomology 322.500**

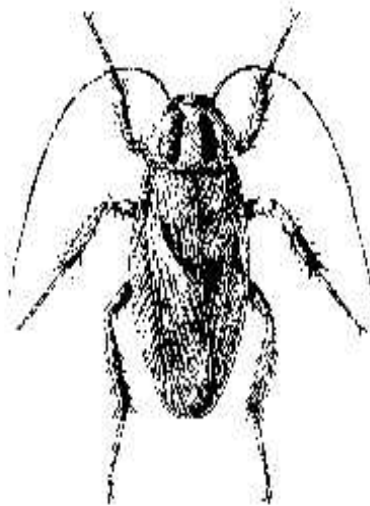
## **Insects in Human Society**

**Spring 2014 (CRN 20363)**

**Dr. Roger E. Gold, Professor & Endowed Chair**

**Teaching Assistants:**

**Elly Espinoza & Cassie Schoenthal**



**Center for Urban and Structural Entomology**

**Department of Entomology**

**Texas A&M University**

**College Station, TX 77843**

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**Entomology 322 – Insects in Human Society (Sec. 500)**  
Room 101, Heep Center; 10:20a-11:10a

**Official Syllabus**

Spring 2014 (CRN 20363)  
Dr. Roger E. Gold, Professor & Endowed Chair  
E-mail: [r-gold@tamu.edu](mailto:r-gold@tamu.edu);  
Room 100 Center for Urban and Structural Entomology (Bldg. 1051)  
(on Agronomy across from the Vet School parking lot)  
Office hours: 11:10-12:30p, M-W-F, &/or by appointment

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**Introduction to the Course**

This is an introductory course on insects and related arthropods for non-entomology majors. Throughout the course, student will be introduced to examples of ways that arthropods are used to describe, explain, and predict natural phenomena which involves the use of the scientific method. The course deals with insects as resources for both food and space, and also as competitors with humans and other animals. Insects are the most abundant and diverse multi-cellular life forms on earth, and their role in nature is essential for human existence. Insects have affected the development of human civilizations and cultures through impacts ranging from health, sanitation, food production and storage, to music, art and architecture. Arthropods are part of the human experience on planet Earth, and this course offers an overview of the historic, present day, and future roles of insects and other arthropods in affecting the culture of all countries and societies.



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## **ENTOMOLOGY 322-INSECTS IN HUMAN SOCIETY (Sec. 500)**

### **Schedule of Lectures Spring 2014 (CRN 20363)**

**Dr. Roger E. Gold (email: [r-gold@tamu.edu](mailto:r-gold@tamu.edu) )  
Professor & Endowed Chair**

**Teaching Assistants  
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### **OFFICIAL SCHEDULE**

<b>Day</b>	<b>Date</b>	<b>Lec. #</b>	<b>topic</b>
Mon	1/13/14	1	Course overview-syllabus review
Wed	1/15/14	2	Intro. To Course & to Insects
Fri	1/17/14	3	Classification of Insects & Other Arthropods ( <b>Syllabus confirmation due</b> )
Mon	1/20/14		Martin Luther King Holiday-no class
Wed	1/22/14	4	Putting Order Into the Insect World
Fri	1/24/14	5	Insect Museums and Collections ( <b>Writing assignment # 1 due</b> )
Mon	1/27/14	6	Entomologist's Paraphernalia
Wed	1/29/14	7	Insect Structure & Function (Morphology 1)
Fri	1/31/14	8	Morphology 2 (cont'd) ( <b>Writing assignment # 2 due</b> )
Mon	2/3/14	9	Insect Structure & Function-Internal (Physiology 1)
Wed	2/5/14	10	Physiology 2 (cont'd)
Fri	2/7/14	11	Insect Metamorphosis & Growth ( <b>Writing assignment # 3 due</b> )
Mon	2/10/14	12	Insect Metamorphosis & Growth (cont'd)
Wed	2/12/14	13	<b>1st MAJOR EXAM (1-12) 100 PTS* (exam 1 window opens at noon)</b>

Fri	2/14/14	14	Insects in Music, Literature & Poetry ( <b>exam 1 window closes at 11:59pm</b> )
Mon	2/17/14	15	Insect Reproduction & Behavior cont'd ( <b>TEAM assignments made</b> )
Wed	2/19/14	16	Insect Reproduction & Behavior (sex, bugs & rockn' roll)
Fri	2/21/14	17	Insect Communications (Demonstration)
Mon	2/24/14	18	Insects as Models for Survival
Wed	2/26/14	19	Insect Movement and Dispersal ( <b>Poems/songs due</b> )
Fri	2/28/14	20	Insects That are Beneficial to Humans
Mon	3/3/14	21	Insects That are Beneficial to Humans (2)
Wed	3/5/14	22	Insects as Food (Entomophagy)
Fri	3/7/14	23	Insects in Art, Cartoons & Movies
Mon	3/10/14	24	Spring break
Wed	3/12/14	25	Spring break
Fri	3/14/14	26	Spring break
Mon	3/17/14	27	Insect/Plant/Animal Interaction
Wed	3/19/14	28	Insect/Plant/Animal Interaction (cont'd)
Wed	3/19/14		<i>optional daytime collecting trip, Lick Creek 5:00-7:00pm</i>
Fri	3/21/14	29	Entomophobia, Delusory Parasitosis & Allergies
Mon	3/24/14	30	Relationships of Insects to Human Disease (1)
Wed	3/26/14	31	<b>2nd MAJOR EXAM (13-30) 100 PTS* (exam 2 window opens at noon)</b>
Wed	3/26/14		<i>optional night collecting trip, Brazos Ctr, 7:00-9:00pm</i>
Fri	3/28/14	32	Relationships of Insects to Human Disease (2) ( <b>Team Projects Due</b> )
Fri	3/28/14		<b>(exam 2 window closes at 11:59pm)</b>
Mon	3/31/14	33	Relationships of Insects to Human Disease (3)
Wed	4/2/14	34	Insect Population Dynamics
Fri	4/4/14	35	Control of Insect Populations
Mon	4/7/14	36	Integrated Pest Management
Wed	4/9/14		<i>optional pinning session, Urban Ctr, 5:00-7:00pm</i>
Wed	4/9/14	37	Integrated Pest Management (cont'd)
Fri	4/11/14	38	Insects as Endangered Species
Mon	4/14/14	39	Insects in a green society ( <b>SEMESTER PROJECTS DUE*</b> )
Wed	4/16/14	40	Economic Impact & Future of PC
Fri	4/18/14		reading day, no class
Mon	4/21/14	41	Forensic Entomology (pick up graded projects)
Wed	4/23/14	42	Using Insects for Teaching & IPM in the Classroom
Fri	4/25/14	43	<b>3rd MAJOR EXAM (31-42) 100 pts* (window opens at noon)</b>
Sun	4/27/14		<b>3rd exam window closes at 11:59pm</b>
Mon	4/28/14	44	review for optional final--last class
Tue	5/6/14	45	<b>OPTIONAL COMPREHENSIVE FINAL 100 pts**</b>
			<b>Final window opens Monday 5/5/14 at 12:01am, and closes Tuesday 5/6/14 at 11:59pm</b>

## Goals of the Course

1. Students will be able to comprehend and evaluate the unique roles that insects have on planet Earth, and to define and comprehend the roles of this diverse life form, particularly as they relate to humans and their companion animals. Students will observe and evaluate unique teaching techniques and demonstrations that will enable them to synthesize and integrate the principles of entomology, to hold their interest, and to clarify the most pertinent information needed to perform well on assignments and examinations. They will learn the scientific methods used in Entomology, understand the steps involved, and demonstrate their abilities to differentiate between hypotheses, theories, and laws.
2. Students will be able to comprehend the taxonomic processes used to collect, identify and organize at least 24 insect orders and Suborders commonly found in Texas. They will synthesize this information and properly label and preserve these specimens as a reference collection.
3. Students will be able to demonstrate their abilities to comprehend and appreciate the influence that insects have had in defining the history of the world, and the role they have had in art, music and literature. Students will be able to synthesize this information and have the opportunity to increase their communication skills by writing and performing original songs and poems about insects in class as individuals or in small groups.
4. Students will be able to recognize and define terms, phrases and concepts relating to the morphology, physiology and biology of various insect groups by matching characteristics taught in class with choices on examination and oral reviews. Through comparing and contrasting, they will be able to evaluate insect structures as compared to human anatomy and behavior. Role playing and demonstrations will be done by students and the instructor, wherein they will apply the information learned and demonstrate insect movement, communication and control practices.
5. Students will experience, and comprehend the concept of entomophagy by eating insects in prepared foods, and by discerning and categorizing different insect types and numbers found in common food items. They will be able to evaluate the importance of insects in human diets and evaluate food choices based on Defect Action Levels.
6. Students will comprehend, appreciate and demonstrate their knowledge of insects, and comprehend their role as vectors of pathogens of humans and livestock, and synthesize and discuss methods used to protect themselves from insect attack and invasion.
7. Students will discuss and synthesize ideas for the “integrated management” of insect populations, and compare and contrast historical chemical controls with current “best management practices”.

8. Students will learn to work in teams to solve common challenges and demonstrate their abilities to provide an objective evaluation of their own, and other team members', participation on that team.
9. Students will learn and demonstrate their interests in improving academic performance by following directions, attending classes, participating in group discussions, completing assignments on time, and by setting goals and time schedules for special assignments, extra credit opportunities, required examinations and the semester project. The examinations will require the use of both empirical and quantitative skills, as will the semester and team projects.

#### Course Format

The course utilizes a lecture format, online resources, and projects. Demonstrations and guest lecturers will augment the lecture and reading materials. The students are expected to check ecampus for supplemental information about each topic covered in lectures.

#### Prerequisites

None.

#### Requirements of the Course **Attendance (Student Rule 7.1)**

**No "blanket" excuses for activities during the semester will be accepted, so students must present an excuse for each lecture missed.**

Students in Ento 322 are expected to be punctual and attend and participate in the entire class period, and in all phases of this course. Attendance will be taken.

The university views class attendance as an individual student responsibility. **Students are expected to attend class and to complete all assignments.** Instructors are expected to provide notice of the dates on which major exams will be given and assignments will be due on the course syllabus, which must be made available by the first class period. Graduate students are expected to attend all examinations required by departments or advisory committees as scheduled formally.

Students who are requesting an excused absence are expected to uphold the Aggie Honor Code.

7.4 The instructor is under no obligation to provide an opportunity for the student to make up work missed because of an unexcused absence.

**The students** must have access to Texas A&M University ecampus through their own computer resources. All information, lectures, assignments, examinations, and communications will be done through ecampus, so plan accordingly. The student must use Firefox (v 21), Safari (v 6), or IE (v 10), (but NOT Google Chrome) as their internet browser. It is the student's responsibility to have an internet connection via phone, wi-fi, or cable, and the use of a computer, or laptop. We are NOT responsible for technical difficulties.

### **Notice about All Assignments**

All assignments must be turned in on time! "On time" means by the end of the day (5 pm) the project is due. If the student knows that they will be absent the day the project is due, turn it in early. If the student is absent the day an assignment is due, it will be counted late, unless an official TAMU excuse is presented. Late work will be penalized at the rate of 10 points per weekday. All work must be the original work of the student; cheating and plagiarism will not be tolerated. **Your assignments must be submitted via ecampus by 5:00 pm on or before the day they are due.** After the time limit has expired, the site is closed and there is no option for submitting late work. **The collection must be submitted directly to the Urban Center, Bldg. 1051 Agronomy Rd., and this cannot be submitted via ecampus.** All questions resulting from a disputed grade or absence must be resolved within 7 days of its posting. If there are questions regarding the grade on any assignment, the student must talk to the TA the same day that the assignment is returned. Grading sheets that the TA's will use to grade the projects are provided in the syllabus. Any email communication between students and the professor &/or the TA must be from the students' University account (the student cannot use hotmail, yahoo, or gmail, etc.).

### **Writing Assignments (Required: 50 points)**

**This assignment is to understand the "scientific method", as it applies to science.**

1. Read an abstract and identify the hypothesis (10 points)
2. Read an abstract and answer 5 questions (10 points)
3. Read an assigned paper and write an abstract of 300 words (30 points)

**Critical reading assignments** will expose the student to primary literature on insects from current research articles published in major journals. The student will have a minimum of 3 weeks to complete each assignment. Students will be required to read the article associated with each assignment and answer a series of short answer questions about what has been read. All writing assignments will be available from the start of the semester. **Writing Project** will challenge students to use what has been learned about scientific writing and Entomology to write a summary/abstract of a current research article. The student will have most of the semester to complete this project. Check the schedule for the due date. **NO ATTACHMENTS WILL BE ACCEPTED.** **After the time limit has expired, the site is closed and there is no option for submitting late work. Submit via the submission box.**

### **Confirmation of the Syllabus (5 points)**

Each student will be REQUIRED to complete the provided assessment in ecampus to confirm receipt and comprehension of the class syllabus. The assessment will consist of questions pertaining to the provided syllabus. Class expectations and rules will also be emphasized.

### Semester Project (Required\*: 100 points)

#### Requirements for SEMESTER PROJECT: Hexapoda Collection (REQUIRED: 100 possible points):

The following instructions must be followed **EXACTLY** to make a PASSING grade on this project.

- The student must collect, preserve, and submit **exactly 30 individually labeled arthropod specimens**. **No credit will be issued for projects with fewer than 30 specimens. A completed project must be submitted in order to pass this class!**
- “Used” arthropods from another class, or someone else’s collection cannot be used—these must be “fresh” collections, made during this semester. A violation of this provision will result in “0” points for the project. (See also “Note to Student”, page 16, concerning plagiarism.)
- Insect pins and vials will be provided (sewing pins are not acceptable for this project). The student must supply 70% alcohol, a display container with a lid that closes completely, and a Styrofoam bottom into which the specimens are secured. Only vials that we provide may be used.
- Collection nets are available for check out. They **MUST** be returned or the student will receive an Incomplete (I) as their final grade. If the net is lost or stolen, the student must provide a comparable net as a replacement.
- Hard bodied arthropods go on an arthropod pin while, soft bodied specimens go in a vial with 70% alcohol. Consult [ecampus.tamu.edu](http://ecampus.tamu.edu) for specific instruction on preservation.
- **Two** separate labels will be required per specimen. The first label includes location of where the arthropod was collected, the date the arthropod was collected, and the collector. The second label is the identification of the specimen (where credit is sought. i.e. Order: Orthoptera). Labels must be separated by at least ¼” for grading.
- Labels must be placed on the pin in the following order: Insect (closest to the head of the pin), location label, classification label. Labels must be NO larger than ½” X 1”. The labels must be on the arthropod pin for hard bodied arthropods, and must be easily read, in order to be graded.
- Specimens placed in alcohol must be in a sealed vial with two labels in each vial. The separated labels **must be placed back to back**, printed side out, and must be written in pencil or printed on a laser printer. **Only the vials provided may be used.**
- Small, adult specimens may have to be “pointed”. See the syllabus for instructions.
- “Pointed” specimens should be placed on a 1/8” X 1/4” cardstock paper point. Specimens must be adhered using a small amount of standard white glue.
- Vials must be secured into holes cut in the Styrofoam, bottom end down. **DO NOT** glue vials to the display container. Only 1 specimen will be graded per vial, so do not put multiple specimens in the same vial. **Only vials that we provide will be acceptable; therefore very large specimens will not be accepted, and please use common sense for the size of the vial. (i.e. don’t use a large vial for a flea!) Both labels must be readable from the outside**



- Students are expected to perform their own identifications. The student should consult <http://ecampus.tamu.edu>, field guides, the internet, and lecture notes for assistance. Be sure to use a Subphylum, Class, Order, or Suborder that was covered in class. Other classifications found on the internet will **NOT** count. This format must be used (example): Order: Diptera.
- Neatness is considered in grading. Please take care in preparing the specimens and labels.
- Students should make every attempt possible to attend the pinning sessions when they are offered. Help on an individual basis may be limited or not available outside of designated times.
- Projects must be **HAND-Carried** to the staff in Building 1051, Agronomy Road (The Urban Center) by 5:00 pm on or before the date projects are due. Make sure your project is individually “logged in” when presented. It is recommended that you take a photo image of your work before submitting it.
- Organize your collection in such a way that it follows the grading sheet. Make sure all labels (2 per specimen) can be easily read and interpreted. If you cannot read it, the grader will not be able to grade the project.

**Grading of the Arthropod Collection (see grading rubric, page 11)**

- Three points may be awarded for each properly labeled and presented specimen, up to 90 total possible points.
- An additional 10 points will be awarded based on neatness, and the student’s ability to follow instructions.
- Each of the Subphyla, Classes, Orders, and Suborders may have a **MAXIMUM** of two representatives for each classification. However, the two specimens must be different species.
- You do **NOT** need specimens from all 32 orders discussed in class to receive full credit.
- Do not submit the work of others, even with permission. **There is a 10-point per day late penalty.**
- If the student has a disability or valid reason preventing him/her from fulfilling this requirement, see the professor within the **first week of class**. Optional projects are available, and will be granted on an individual basis, with justification and instructor’s approval.

**\*THE SEMESTER PROJECT MUST BE COMPLETED TO PASS ENTOMOLOGY 322\***

**List of Possible Classifications (For the Required Project)**

**Each Classification May Be Used A MAXIMUM of 2 Times**

**\*\*\*If You Do Not See A Classification On This List That You Are Using In Your Collection, It Is WRONG For The Purposes of Entomology 322, And You Will Not Receive Credit For It\*\*\***

**Subphylum:**

Atelocerata (Insects, Millipedes, Centipedes) (Alcohol, Pinned, and Pointed)  
Chelicerata (Spiders, Scorpions, Ticks) (Alcohol)  
Crustacea (Pill Bugs/Sow Bugs/Rolly Pollies, Shrimp, Lobsters, Crabs) (Alcohol)

**Class:**

Arachnida (Spiders, Scorpions, Ticks) (Alcohol)  
Chilopoda (Centipedes) (Alcohol)  
Diplopoda (Millipedes) (Alcohol)  
Hexapoda (Insects) (Alcohol Pinned and Pointed)  
Malacostraca (Pill /Sow Bugs, Shrimp, Lobsters, Crabs) (Alcohol)

**Order:**

Blattodea (Cockroaches) (Immatures in Alcohol, Adults Pinned or Pointed)  
Coleoptera (Beetles) (Immatures in Alcohol, Adults Pinned or Pointed)  
Collembola (Springtails) (Alcohol)  
Decapoda (Shrimp, Lobsters, Crabs) (Alcohol)  
Dermaptera (Earwigs) (Alcohol)  
Diptera (Flies, Gnats, Mosquitoes) (Immatures in Alcohol, Adults Pinned or Pointed)  
Embiidina (Web-spinners) (Alcohol)  
Ephemeroptera (Mayflies) (Alcohol)  
Hemiptera (True Bugs) (Immatures in Alcohol, Adults Pinned or Pointed)  
Hymenoptera (Ants, Bees, Wasps, Sawflies) (Immatures in Alcohol, Adults Pinned or Pointed)  
Isopoda (Pill/Sow Bugs/Rolly Pollies) (Alcohol)  
Isoptera (Termites) (Alcohol)  
Lepidoptera (Butterflies, Moths) (Immatures in Alcohol, Adults Pinned or Pointed)  
Mantodea (Praying Mantis) (Immatures in Alcohol, Adults Pinned or Pointed)  
Mecoptera (Scorpionflies) (Adults pinned, immatures in Alcohol)  
Neuroptera (Dobsonflies, Lacewings, Antlions, Owlflies) (Immatures in Alcohol, Adults Pinned)  
Odonata (Dragonflies, Damselflies) (Immatures in Alcohol, Adults Pinned or Pointed)  
Orthoptera (Grasshoppers, Crickets, Katydid) (Immatures in Alcohol, Adults Pinned or Pointed)  
Phasmatodea (Walkingsticks) (Immatures in Alcohol, Adults Pinned or Pointed)  
Phthiraptera (Lice) (Alcohol)  
Plecoptera (Stoneflies) (Alcohol)  
Psocoptera (Book Lice, Bark Lice) (Alcohol)  
Siphonaptera (Fleas) (Alcohol)  
Thysanoptera (Thrips) (Alcohol)  
Thysanura (Silverfish) (Alcohol)  
Trichoptera (Caddisflies/Rockrollers) (Alcohol)

**Suborder:**

Anoplura (Sucking Lice) (Alcohol)  
Mallophaga (Chewing Lice) (Alcohol)  
Auchenorrhyncha (Cicadas, Leafhoppers) (Immatures in Alcohol, Adults Pinned or Pointed)  
Heteroptera (True Bugs) (Immatures in Alcohol, Adults Pinned or Pointed)  
Sternorrhyncha (Aphids, Scales, White Flies) (Use alcohol, or pin the leaf with Scale attached)

**THIS SHEET MUST BE ATTACHED TO YOUR SEMESTER PROJECT AND HAND DELIVERED TO THE URBAN CENTER, BLDG. 1051 ON AGRONOMY RD.**

Name (please print): \_\_\_\_\_

Seat #: \_\_\_\_\_

		Submitted		ID (1pt)	Labels (1pt)	Preservation (1pt)	Total Points
<b>Subphylum</b>	Atelocerata						
	Chelicerata						
	Crustacea						
<b>Class</b>	Arachnida						
	Chilopoda						
	Diplopoda						
	Hexapoda						
	Malacostraca						
<b>Order</b>	Blattodea						
	Coleoptera						
	Collembola						
	Decapoda						
	Dermaptera						
	Diptera						
	Embiidina						
	Ephemeroptera						
	Hemiptera						
	Hymenoptera						
	Isopoda						
	Isoptera						
	Lepidoptera						
	Mantodea						
	Mecoptera						
	Neuroptera						
	Odonata						
	Orthoptera						
	Phasmatodea						
	Phthiraptera						
	Plecoptera						
	Psocoptera						
	Siphonaptera						
Thysanoptera							
Thysanura							
Trichoptera							
<b>Suborder</b>	Anoplura						
	Mallophaga						
	Auchenorrhyncha						
	Heteroptera						
	Sternorrhyncha						
<b>Total Specimen Points (90 Max)</b>							
<b>Neatness &amp; Follow Directions (10 Max)</b>							
<b>Total Points for Project (100 Max)</b>							

I have read and understood the terms of this project as provided in the syllabus, and agree to follow the directions.

On my honor as an Aggie, I have neither given nor received unauthorized aid on this academic work.

Signature of Student: \_\_\_\_\_

**Taxonomic Puzzle (Required: 30 Points Possible)**  
**See Schedule of Lectures for Due Dates**

This assignment is designed to supplement the lectures on the classification of insects and other arthropods, and to encourage the student to stay current in learning the “orders of the day”, which will be covered on the first two major examinations. This information will also be critical to the students when completing other assignments including: Virtual Collection Jar (team project), Semester Project (Arthropod Collection) and Poem or Song. This assignment is based on the format of a cross word puzzle wherein pictures (across and down) will be given which pertain to the taxa that are assigned to the specific arthropods for identification and communications among scientists and students. The assignment is to match the possible taxa (Domain, Kingdom, Phylum and the other designation listed on **page 10** of the syllabus. Word bank will be provided). Only those terms are acceptable answers. The responsibilities are for the student to consider the pictures, and fill in the cross word puzzle making sure the spelling is correct and the number of letters in the answer fit the puzzle matrix. The student will receive an individual puzzle on eCampus, and will submit the answers through eCampus using the format at that site. Each picture has one of 42 possible answers, so the pictures must be considered carefully before submitting the work. After the time limit has expired, the site is closed and there is no option for submitting late work. Again, you must use either Firefox or Safari web browser.

**Student Poem/Song (15 required points; Extra credit possible: 5/10 points)**  
**See Schedule of Lectures for Due Dates**

Each student will submit a song or a poem on the eCampus website. Written submissions of poems/songs will not be accepted. Students may work individually or in groups of 3 or more, with each student contributing a minimum of six lines to the poem. The song or poem must be about an arthropod and the Order/Class of the subject must be indicated. This work may be of any reasonable length (minimum of 6 lines). Be creative, but sensitive, to your fellow students! Refrain from using offensive language and themes. Check the schedule for the due date. Be sure that a confirmation message is received from the instructor that the work has been received on time. After the time limit has expired, the assignment will close and late work will not be accepted. Work turned in after the due date receives “0” (zero) credit.

**Students have an opportunity to earn an additional 5 (individual) or 10 (group/per person) points in addition to submitting the poem on eCampus.** The student or group may create a video of the poem/song performance and submit via eCampus. A select number of videos will be shared with the class during the music/poetry lecture. The student will not get credit if the poem or song is not submitted on time, prior to video submission. Submit text of poem via submission box. Submit video via attachment or link to non-private YouTube video.

**TEAM PROJECT: Virtual “Collecting Jar” (Required: 100 total possible points)**  
**See Course Schedule for Due Dates**

The instructor will divide the class into five (5) member teams, with one member being elected (by the group) as the “Team Leader”. Only the Team Leader will be responsible for submitting the groups answers via eCampus. All team members will share in the points earned based on the number of correct answers, and their level of individual participation in the processes involved in completing the assignment.

From digital files, each team will be given 80 images of various arthropods which they will classify into the appropriate taxa, as indicated with the image. All taxa to be used are on **page 10. USE ONLY TAXA ON PAGE 10**. The answers to the questions concerning classification will then be submitted BY THE TEAM LEADER to the instructor via the assignment tab on ecampus. All of the answers must be spelled correctly to receive full credit (check the syllabus or **page 10**). There will be a 10 point-per-day penalty for late work.

The students will be required to use the group discussion forums located in ecampus to communicate with their group. Each student must participate and there must be clear evidence of communication, otherwise the non-participating student will receive a “0” (zero) for the assignment. A survey document will be used by the student to evaluate both their and other team member’s participation on this assignment. The results of this evaluation will be used to assign points for this project. Students will **lose** points for failing to complete the peer survey. A total of 80 points will be awarded based on correct answers submitted by the group leader. An additional 20 points may be awarded based on participation. If a group member does not participate, no points (at all) will be awarded. Any disputes concerning the grade received, must be resolved with the instructor within 7 days after the grade is posted. After the time limit has expired, the site is closed and there is no option for submitting late work.

**Required Examinations: 300 Possible Points (Minimum of Three Examinations)**  
**See Schedule of Lectures for Dates**

There will be three REQUIRED major examinations during the semester. Each major examination is worth 100 points and will cover the lectures (including videos of the Insect Orders on ecampus ) presented since the last examination (see schedule for details), and information from the syllabus. If an order is mentioned in a lecture, it can be included in the next examination.

Note: There will be assignments to find, view, consider, and understand references, or link to a specific website, article or video presentations which will supplement lecture topics. That information will be used as questions in any of the exams. Each exam is closed book and you are not allowed to use notes or other “help” devices or sources. Violations will result in a failing grade.

The optional, comprehensive examination is available for students who have missed an exam or achieved a poor score on one of the major examinations. This comprehensive exam is worth 100 points, and must be taken at the time and place of the final examination for the semester. The score from this examination will be substituted for a missing examination, or for the lowest exam score during the semester. NOTE: the comprehensive final does NOT take the place of the required semester project, team project, or student classroom presentation.

Make-up examinations will ONLY be given if the student presents an **official** University excuse. Any make-up examinations must be taken within 1 week (7 calendar days) of the regularly scheduled exam.

**There are absolutely NO provisions for early, late, or make-up exams for the optional, comprehensive final, except in cases of extreme emergency.**

Tests will be given via the course’s website. Specific instructions will be explained and updated on the website. The testing period will be open for a specified period of time (see schedule), but once you login, **you will only have 1 hour to complete the exam.** The **optional, comprehensive final exam will open at 12:01am on Monday, May 5, 2014, and will close at 11:59pm on Tuesday, May 6, 2014; you are allowed 2 hours to complete the exam.**

The Aggie Honor Code will be utilized and enforced in this class. The code is “On my honor, as an Aggie, I have neither given nor received unauthorized aid on this academic work.” If a student is caught cheating on an examination or assignment, they will receive a score of “F” in the course and will be reported to the Aggie Honor System Office for academic dishonesty.

### Grading

In order to earn a passing grade in this course, ALL required assignments and examinations must be completed and submitted to the instructor. Late work will be penalized. See the “Notice about All Assignments” section for guidelines. Final grades will be calculated based on the total points received during the semester. The instructor reserves the right to scale the grades based on class performance, **attendance**, and extra credit assignments. A summary of the points available is as follows:

		<u>Approximate Grading Scales (%)</u>
Collection	100	
Team Project	100	90-100=A
Poem/Song	15	80-89 = B
Writing assignments (3)	50	70-79 = C
Taxonomic Puzzle	30	60-69 = D
Examinations (3)	300	0-59 = F (non-passing)
Syllabus confirmation	5	
<b>Total</b>	<b>600</b>	

Note: If there is a particular grade that the student “has to have”, then the grade should be earned during the semester! Properly do the extra credit assignments and submit them in a timely manner; properly complete all required assignments and submit them in a timely manner; attend lectures; and do well on the exams. The student should NOT expect any extra consideration or leniency from the professor at the end of the semester. All the grading requirements are clearly spelled out in this syllabus, and adherence to this criterion should result in the desired grade. TAMU policy is that all students attend lectures and this policy will be enforced. Official University grading policies will be specifically followed.

### Suggested Text

Texts that are useful to students, **but not required**, are: *A Field Guide To The Insects* by Borror and White and *A Field Guide to Common Texas Insects* by B.M. Drees and J.A. Jackman. The current version of the note packet, which is prepared specifically for this semester’s class, can be purchased at the MSC bookstore (Barnes & Noble). All information may not be in the packet, so students must take notes during class.

### Guest Lecturers

There will be guest lecturers from time to time during the semester. The student will be responsible for the information presented during these classes. There will also be a number of demonstrations, and the student will also be responsible for this information. The instructor is interested in ways to make this class more interesting, so suggestions and comments are always encouraged. If assistance is needed from a person other than the instructor, Dr. Pete Teel is the Associate Department Head for Teaching in the Department of Entomology. Dr. Teel can be reached at 845-3253.

### Course Web Page

The website is located through the Howdy Portal at: <http://ecampus.tamu.edu>  
This page will give updates on what is happening in the class, recommendations for assignments, current grade reports, and links to interesting entomology pages, as well as copies of the syllabus, the lecture schedule, and reading assignments. **The student is required, and expected, to check the ecampus site frequently for updates and assignments, review sheets, and further suggestions. Students must use Firefox or Safari as their internet browser.**

### **NOTE TO STUDENTS\*:**

The handouts used in this course are copyrighted. By “handouts”, it is meant all materials generated for this class, which include, but are not limited to, the syllabus, quizzes, examinations, in-class materials, review sheets, problem sets, and video clips. Because these materials are copyrighted, no student has the right to copy the handouts, unless the instructor expressly grants permission. The instructor has authorized NO CLASS NOTES other than those made available through this class.

As commonly defined, plagiarism consists of passing off as one’s own the ideas, words, writings, etc., which belong to another. In accordance with this definition, THE STUDENT IS COMMITTING PLAGIARISM IF THE WORK OF ANOTHER PERSON IS COPIED AND TURNED IN AS HIS OWN, EVEN IF PERMISSION FROM THAT PERSON HAS BEEN GIVEN. Plagiarism is one of the worst academic sins, for the plagiarist destroys the trust among colleagues without which research cannot be safely communicated. Plagiarism will not be tolerated in this course. Offenders of this policy will be punished according to University policies, which may include being expelled from the Institution. In addition, there will be no cheating of any type tolerated in this course. **All excused absences will be checked.**

If the student has any questions regarding plagiarism, he or she should consult the latest issue of the *Texas A&M University Student Rules*, under the section “Scholastic Dishonesty”

\* Statement from the Texas A&M University Faculty Senate-January 9, 1997

#### **Academic Integrity Statement**

An Aggie does not lie, cheat or steal, or tolerate those who do. **This policy will be enforced on all assignments and examinations.**

#### **American Disability Act**

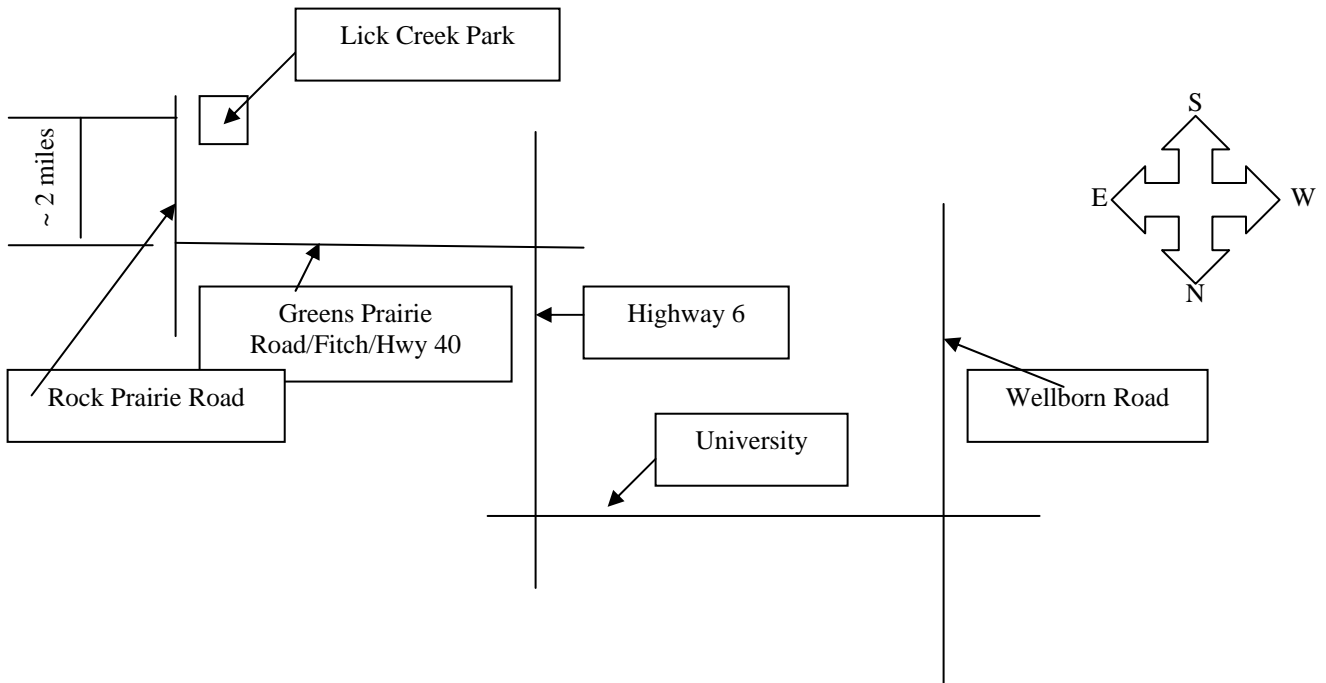
The Americans with Disabilities Act (ADA) is a federal anti-discrimination statute that provides comprehensive civil rights protection for persons with disabilities. Among other things, this legislation requires that all students with disabilities be guaranteed a learning environment that provides for reasonable accommodation of their disabilities. If the student believes he or she has a disability requiring an accommodation, it is their responsibility to contact the Department of Disabilities Services, Cain Hall or call 979-845-1637 (E-mail: [disability@tamu.edu](mailto:disability@tamu.edu)) If the student needs these services, let the instructor know **Two weeks before the first examination.**



# DAY TIME COLLECTING TRIP

See Schedule of Lectures for Date

## Lick Creek Map



### Directions:

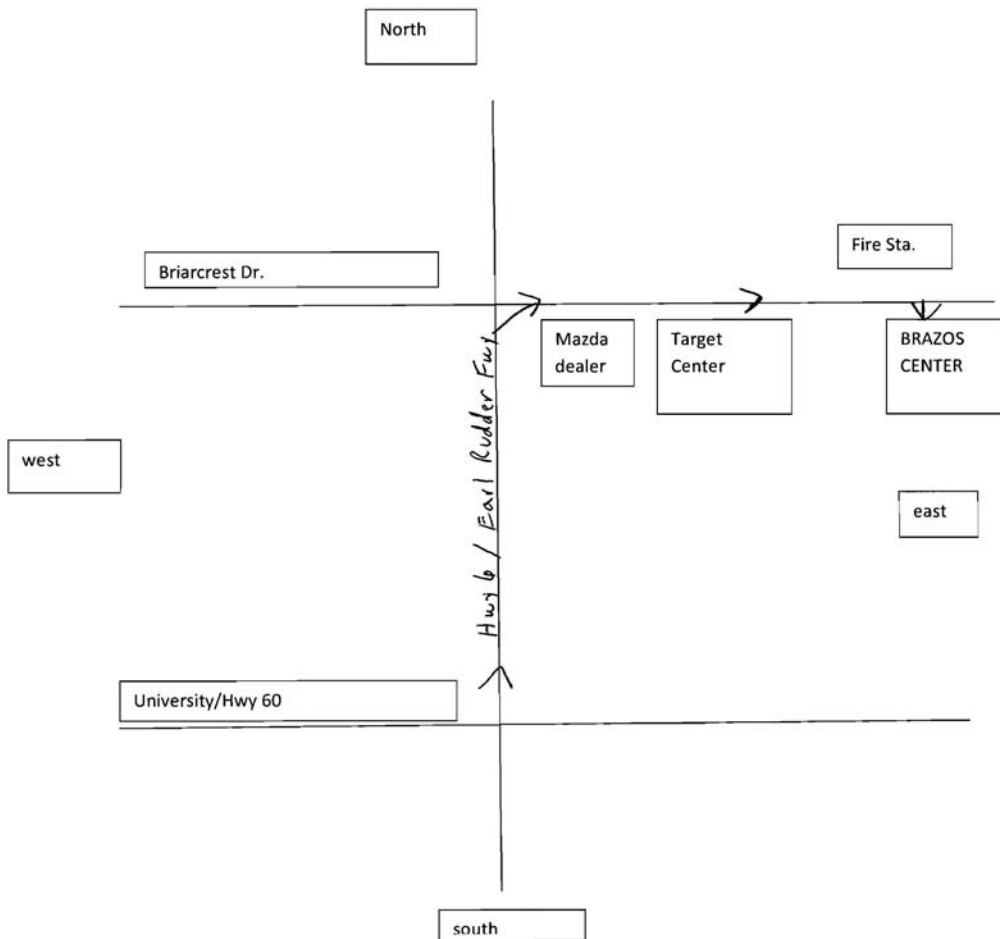
1. From TAMU, go east on University Drive to Highway 6
2. Turn right (south) onto the service road and enter onto the Hwy 6 (South).
3. Follow Highway 6 South until you reach Greens Prairie Road. (This road is now called Wm. Fitch/Hwy 40).
4. Take the Greens Prairie Road exit and turn left (east) on Greens Prairie Road (Fitch/Hwy 40), passing under the overpass.
5. Follow Greens Prairie Road (Fitch/Hwy 40) until you reach a stop sign at Rock Prairie Road.
6. At the stop sign, turn right (south) onto Rock Prairie Road.
7. Follow Rock Prairie road for about 2 miles until you reach the second entrance to Lick Creek Park parking lot on the right. It is marked with white brick pillars.

Last updated Fall 2011

# NIGHT TIME COLLECTING TRIP

See Schedule of Lectures for Date

## The Brazos Center 3232 Briarcrest, Bryan



### DIRECTIONS TO THE BRAZOS CENTER

Get on Hwy 6, headed north.

Exit at the Briarcrest/Brazos Center exit.

At the light, turn right onto Briarcrest (heading east)

See the Brazos Center on the right, just past the Target shopping center.

(The following is an excerpt from the chapter, "Entomologist's Paraphernalia"), and is intended only as a rough example. For official guidelines, see the grading sheet for the semester project).

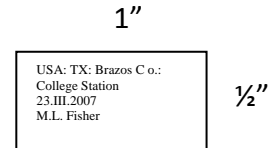
III. Insect Labels:

A. **Required for collections** (must be on pin or in vial). **Maximum size of label is ½" x 1"**. "Points" used to mount insects must be less than 1/8" x ¼".

△ \*\*\*The point shown here is actual size.\*\*\*

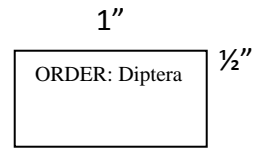
B. (First label) Information needed  
(Listed from most important to least):

1. Location (specific)
2. Date (day, month [in Roman Numerals], year)
3. Collector



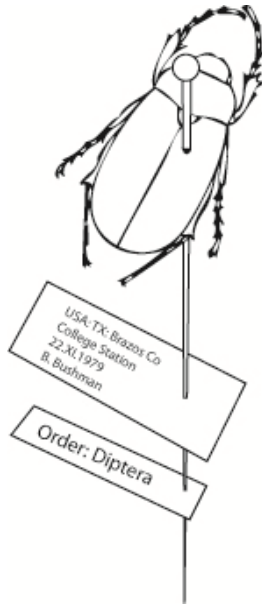
Example 1

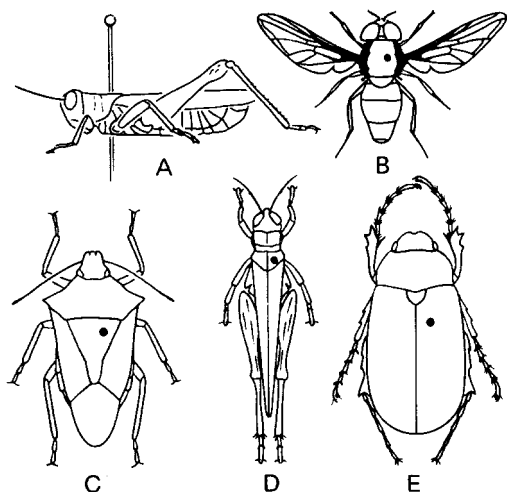
C. Second label—Subphylum, or Class, or Order, or Suborder,  
(see Example #2 to right)



Example 2

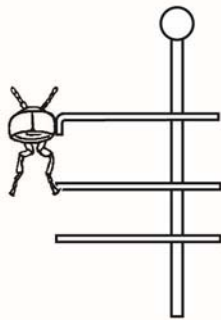
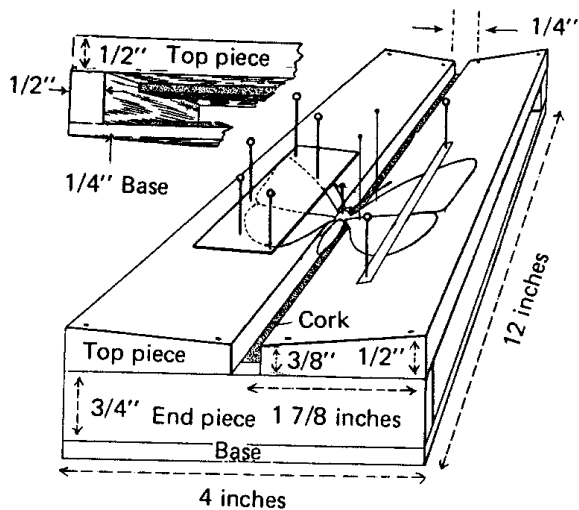
Example of properly pinned insect:





- Positioning of pin should be consistently on the right side of the insect.
- Legs should be uniform and not drooping.
- Antennae should be tucked back
- There should be a space of about 1 cm between the top of the pin and the back of the insect.

- Spreading boards can be used to mount insects with wings.
- Don't pin through the wings. Instead use strips of wax paper, as shown in the graphic, as braces for the wings.
- Let the insect dry for about a week or more.



For very small insects, you can consider some of these pinning techniques. Use cardstock type thick paper when doing this. Points shown here are NOT actual size.

# Spring 2014

Professor: Dr. Roger Gold

It is REQUIRED that each student read the safety waiver, agree, sign and submit to Teaching Assistant.

The Department of Entomology is committed to the safety of all students and employees participating in teaching laboratories. To ensure that a safe environment is maintained in our teaching laboratories, it is expected that all students will adhere to general safety guidelines and emergency procedures, as well as course specific and activity-specific safety instructions provided by faculty and teaching assistants. Laboratory safety and emergency procedures will be reviewed during the first class period and on a regular basis thereafter.

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**Printed name**

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**Signature**

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**Date**