

Entomology Syllabus

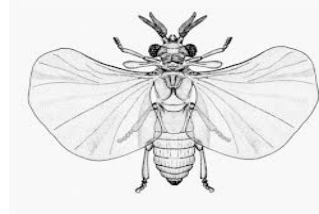
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Texts: Whitfield, J. M. & A. H. Purcell III. 2013. *Daly and Doyen's Introduction to Insect Biology and Diversity*. 3rd Ed. Oxford University Press.

Borror, D.J. and R.E. White. 1970. *A Field Guide to the Insects of America North of Mexico*. Houghton Mifflin.

Course Web site: Canvas.

Class meets: Tu, Th 9:10-10:30 am, CSC 10 (lecture)
 Tu 12:25-2:55 pm, 3:05-5:35 pm, JTB 230 (lab)

Field Trip (Required): 6-8 September, Rio Mesa Center, Utah (<http://riomesa.utah.edu>)

Grading: 3 lecture exams (100 points each)
 2 Lab practical exams (50 points each)
 5 Lab quizzes (10 points each)
 2 Lab reports (25/75 points, 100 total)
 1 Insect collection (150 points)
 TOTAL: 700 points

A	631-700	B-	547-560	D+	456-469
A-	617-630	C+	533-546	D	386-455
B+	603-616	C	484-532	D-	344-385
B	561-602	C-	470-483	E	0-343

Final Exam: none

Exams: Lecture exams will be based on lecture material and assigned reading. The best study guide for the exams is your own lecture and discussion notes. Exams will include short and long essay questions.

Exams will be graded as quickly as possible and returned to you in class. ***There will be no makeup exams.*** In the event of a true emergency, OBTAIN WRITTEN DOCUMENTATION of the emergency and contact me as soon as you are able and I will try to work something out with you. You can arrange to take an exam early if you have a legitimate scheduling conflict, but you cannot take an exam after it is given to the class.

Lab quizzes and practical exams will test your practical knowledge of Entomology. Exams will consist of a series of stations at which you will be asked to identify anatomical features of the organism at the station, identify the organism itself on the spot to order or family, or use a key to make the identification.

Laboratory reports will be formal written documents based on two laboratory exercises. There will be a required peer-review and revision process for the second lab write-up.

Every student is expected to put together an insect collection. Evaluation of each collection will be based on number of correctly identified hexapod families (2 points/family), completeness of the collecting information on the labels (25 points), and proper preparation and organization of the specimens (25 points). Students will be provided with all necessary equipment to make their collection.

Regrade policy: Lecture and laboratory exams are graded with care against a predetermined key, which will be presented in class at the time exams are returned to you. We will correct any addition errors on exams, but we will NOT regrade exams.

Course Drop Policy: The course withdrawal policy is the same as the University of Utah policy described in the Class Schedule.

Americans with Disabilities Act (ADA): The University of Utah Department of Biology seeks to provide equal access to its programs, services and activities for people with disabilities. If you will need accommodations in this class, reasonable prior notice needs to be given to the instructor and to the Center for Disability Services, <http://disability.utah.edu/>, 162 Olpin Union Bldg, 581-5020 (V/TDD) to make arrangements for accommodations. This information is available in alternative format with prior notification.

University Safety Statement. The University of Utah values the safety of all campus community members. To report suspicious activity or to request a courtesy escort, call campus police at 801-585-COPS (801-585-2677). You will receive important emergency alerts and safety messages regarding campus safety via text message. For more information regarding safety and to view available training resources, including helpful videos, visit safeu.utah.edu.

Expected Learning Outcomes

Students in Entomology should have the following Expected Learning Outcomes (ELOs).

1. Learn how to identify taxonomic families of insects using a taxonomic key. Learn how to sight identify many of the insect orders.
2. Learn how to collect insects using a variety of techniques and how to kill, mount, label and identify insect specimens and curate them in an insect collection.
3. Learn how to discuss the evolutionary relationships of insects to other groups of invertebrates, especially the major groups of arthropods and the relationships of arthropods to other major invertebrate phyla.
4. Learn how to discuss the evolutionary relationships of insect orders in the major groups of insects (Paleoptera, Neoptera, Polyneoptera, Paraneoptera and the Holometabola) and the factors that led to the diversification of these groups.
5. Learn how to identify the five basic insect mouthparts and discuss how they have been modified during evolution and the role these modifications have played in insect diversification.
6. Learn how to discuss the diversity of insect development and the role polyphenisms play in insect evolution and diversification.
7. Learn how to discuss the coevolutionary interactions between insects and other organisms, both mutualistic and antagonistic.
8. Learn how to discuss to origins and behavioral ecology of social insects and why their study is fundamental to our understanding of social behavior in general.
9. Demonstrate an appreciation of the diversity and utility of insects in many aspects of our lives.

Entomology Lecture Schedule

Date	Topic	Reading Assignment
Aug	20 Tu Introduction	1-17
	22 Th Taxonomy and Systematics	311-318
	27 Tu Taxonomy and Systematics	
	29 Th Growth and Development	51-60,63-72
Sep	3 Tu Growth and Development	78-91
	5 Th Non-insect Terrestrial Arthropods	183-188
	10 Tu Non-insect Terrestrial Arthropods	
	12 Th Hexapods to Neoptera	107-110, 193-198
	17 Tu Polyneoptera	149-154, 247-249
	19 Th Polyneoptera	199-201
	24 Tu 1 ST EXAM	
	26 Th Paraneoptera	
Oct	1 Tu Paraneoptera	
	3 Th Paraneoptera	
	7-11 Fall Break	
	15 Tu Holometabola	
	17 Th Coleoptera	154-155
	22 Tu Coleoptera	
	24 Th Diptera	201-203
	29 Tu Diptera	
	31 Th 2 ND EXAM	
Nov	5 Tu Lepidoptera	
	7 Th Lepidoptera	
	12 Tu Hymenoptera	232-241
	14 Th Hymenoptera	155-158, 162-179
	19 Tu Insect defenses	203-210
	21 Th Herbivory	212-230
	26 Tu Herbivory	
	28 Th Thanksgiving	
Dec	3 Tu Applied Entomology	256-296
	5 Th 3 RD EXAM, CEL essay due	

Entomology Lab Schedule

Date	Topic/Activity	Reading Assignment
Aug	20 Tu Introduction to lab, specimen prep	641-643, 647-652
	27 Tu CEL, Dichotomous keys (lab report 1)	342-343
Sep	3 Tu Morphology; Report 1 due	18-47, 137-143
	6-8 Required field trip to Rio Mesa Center	
	10 Tu Quiz 1; Ant Behavior lab (lab report 2)	
	17 Tu Red Butte Canyon field trip	
	24 Tu Major arthropod groups, Hexapoda	327-334, 353-354, 359-361, 365-370, 375-377
Oct	1 Tu Quiz 2; Neoptera	382-385, 386-391, 393-395, 400-401, 404-408, 413-415, 446-448, 451-455
	7-11 Fall Break	
	15 Tu Holometabola, Coleoptera; Report 2 due	486-490, 493-497
	22 Tu Quiz 3; Diptera	565-572, 596-599
	29 Tu 1 st Lab Practical Exam	
Nov	5 Tu Lepidoptera	600-607, 630-637
	12 Tu Quiz 4; Hymenoptera	530-538
	19 Tu CEL discussion, curate collection	
	26 Tu Quiz 5; Curate collection	
Dec	3 Tu 2 nd Lab Practical Exam; collection due	