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BIOO 462.00: Entomology

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Entomology (BIOO 462)

Spring 2022

[Masks required in class!]

Instructor: **Dr. Art Woods**

art.woods@mso.umt.edu, BioResearch 005, 406-243-5234

<http://hs.umt.edu/dbs/labs/woods/>

This is a four-credit class introducing students to the biology of insects. Lectures will cover the mechanics of being an insect (how insects are put together and how they function), the diversity of insects, including how to tell the major groups of insects apart, the basics of their evolutionary histories, and their development, ecology, natural history and behavior. I will end with several lectures addressing the impacts of insects (both good and bad) on humans.

Learning outcomes

At the conclusion of this class, you will be to

1. identify the major external features of insects.
2. describe the internal structures and physiology of insects.
3. describe major classes of insect behaviors.
4. describe insect development and the major different kinds of insect life cycles.
5. identify unknown insects to the family level.
6. explain the evolutionary history of insects.
7. explain the roles, positive and negative, that insects play in human societies.

Lectures will be complemented with labs that provide students with a hands-on introduction to the external and internal anatomy of insects, as well as how to use taxonomic keys to the major insect families.

Components of the class

- The two lecture exams will cover material covered in the lectures, including slides and lecture notes (and including the supplementary reading/ journal articles provided on Moodle). The final is not comprehensive. Exams will include multiple choice, fill-in-the-blank, matching, and short answer/essay questions.
- Each student will also give an oral presentation on some aspect of insect biology. Presentations will take place during a mini-symposium at the end of the semester. Further details regarding the oral presentation will be provided as the date approaches.

- Lecture notes will be provided on Moodle in an incomplete form—you should bring an electronic or paper version to lectures and fill in the rest of the information. I will not provide 'keys' to the lecture notes.
- The two lab practicals will differ significantly—the first is closed book and covers basic anatomy (typical lab practical exam). The second is open book (Borrer only) and covers keying out insects. Further details regarding the lab practicals will be provided during the lab period.

Required book

Borrer and DeLong's *Introduction to the Study of Insects*

By Johnson, Norman F. / Triplehorn, Charles A.

Edition : 7TH 05

Publisher : CENGAGE L

ISBN 13 : 9780030968358

Available in the UM bookstore.

We will also do selected readings from Gullan and Cranston's *The Insects: An Outline of Entomology*, which I will make available in class.

Course Grading

Midterm Exam (lecture).....	20%
Final Exam (lecture).....	20%
Oral Presentation (lecture).....	10%
First Lab-Practical (anatomy).....	10%
Second Lab-Practical (taxonomy).....	15%
Lab participation/discussion.....	5%
Insect rearing.....	10%
Insect Collection.....	10%

Grades will be assigned in the +/- system, according to the following scheme:

Grade	Percent of Total Points
A	93-100%
A-	90-92.99%
B+	87-89.99%
B	83-86.99%
B-	80-82.99%
C+	77-79.99%
C	73-76.99%
C-	70-72.99%
D+	67-69.99%
D	63-66.99%
D-	60-62.99%
F	Below 60%

Course Teaching Assistant

The course TA this semester is Jackson Birrell Jackson.birrell@umontana.edu

Students with disabilities

The University of Montana assures equal access to instruction through collaboration between students with disabilities, instructors, and the Office for Disability Equity (ODE). If you anticipate or experience barriers based on disability, please contact the ODE at: (406) 243-2243, ode@umontana.edu, or visit www.umt.edu/disability for more information. Retroactive accommodation requests will not be honored, so please, do not delay. As your instructor, I will work with you and the ODE to implement an effective accommodation, and you are welcome to contact me privately if you wish.

Land Acknowledgment

The University of Montana acknowledges that we are in the traditional territories of the Salish, Pend d'Oreille, Kootenai, Blackfeet and Kalispel people. We honor the path they have always shown us in caring for this place for the generations to come.

Cultural and Ceremonial Leave Policy

Cultural or ceremonial leave allows excused absences for cultural, religious, and ceremonial purposes to meet the student's customs and traditions or to participate in related activities. To receive an authorized absence for a cultural, religious or ceremonial event the student or their advisor (proxy) must submit a formal written request to the instructor. This must include a brief description (with inclusive dates) of the cultural event or ceremony and the importance of the student's attendance or participation. Authorization for the absence is subject to approval by the instructor.

Appeals may be made to the Chair, Dean or Provost. The excused absence or leave may not exceed five academic calendar days (not including weekends or holidays). Students remain responsible for completion or make-up of assignments as defined in the syllabus, at the discretion of the instructor.

Food Insecurity

Any student who faces challenges securing food or housing, and believes that this could affect their performance in this course, is urged to contact any or all of the following campus resources: Food Pantry Program (umpantry@mso.umt.edu), ASUM Renter Center (<https://medium.com/griz-renter-blog>), and TRiO Student Support Services (www.umt.edu/trioss/apply.php). Please also feel comfortable approaching us. We understand the challenges you face and want to help.

Room Behavior

Please conduct yourself as a responsible, courteous adult in class. This means arriving on time and engaging with what's happening in class. Things you should not do include talking to your neighbors (except during designated classes), texting, reading materials online, watching movies, sleeping, etc. If we see you doing these things, we may ask you to leave the classroom.

Email

Please also be courteous when sending emails. For example, use a salutation and sign-off, and write in good English (not text-ese).

Lecture Schedule and Recommended Readings

See this gsheet, which I will update throughout the semester

<https://docs.google.com/spreadsheets/d/1te1nW5Ch9i9orXobHyG2ZvC5ikOQo8CTGD2IF2Zh4FA/edit?usp=sharing>