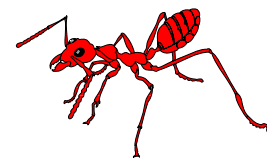


# ENY 2040 -- The Insects (Spring 2010)

(M,W,F 12:50-1:40; Pugh 170)



**Instructor:** Dr. Rebecca Baldwin

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## Course Description:

An introduction to insect biology, insect-other organism interactions and insect associations with man. Features discussion of basic biological principles and concepts using insects as examples.

## Course Web Site:

<http://entomology.ifas.ufl.edu/baldwin/webbugs/>. Check it often for announcements, particularly prior to examinations for material to be covered, and after examinations for the recorded grades! Links to the study questions for the videos are under the "Links and Downloads" section on the ENY 2040 course page.

## E-mail:

1. E-mails from any e-mail account other than Gatorlink accounts may not be received and/or answered!
2. Observe the e-mail rules posted on the website, non-adhering e-mails may be rejected!  
These "common sense" rules facilitate the communication in a large class.
3. Check your Gatorlink e-mail on a regular basis for messages sent to the ENY 2040 class list.
4. Please check the syllabus for an answer to your question before sending an e-mail.

## General Course Objectives:

1. List and describe the characteristics and major biological features of the major arthropod classes.
2. Associate common insects with the appropriate insect order name.
3. Recite the major characteristics and type of metamorphosis of 18 major orders of insects.
4. Describe the structural & chemical adaptations of insects to carry out their various vital functions.
5. Discuss the ecological roles of insects in various communities.
6. Discuss the beneficial and destructive impacts of insects on man.
7. Know answers to study questions on common insects from the "Readings 1 & 2" assignments (Topic 7 & 14).
8. Be able to identify the 65 arthropods from the pictures from "Readings 1 & 2" assignments (Topic 15 & 16).

**Note: Most individual lecture outlines contain specific educational objectives.**



## Tentative Class Schedule

| Date        | Day       | Lecture Topic   |
|-------------|-----------|---|
| January 6   | Wednesday | Course introduction; Zoological Nomenclature (Topic 1)  |
| January 8   | Friday    | Arthropod classes (Topic 2)   |
| January 11  | Monday    | Common arachnids (Topic 3)  |
| January 13  | Wednesday | <b><u>Class dismissed.</u></b><br>View "Webs and Other Wonders" online. Links to the study questions for the videos are under the "Links and Downloads" section on the ENY 2040 course page.  |
| January 15  | Friday    | Insect structure and development; Insect classification. (Topic 4)  |
| January 18  | Monday    | <b>Holiday - <u>Class dismissed.</u></b>  |
| January 20  | Wednesday | Biology of insect orders (Apterygote orders) (Topic 5)  |
| January 22  | Friday    | Biology of insect orders (Exopterygote orders) (Topic 5)  |
| January 25  | Monday    | Biology of insect orders (Exopterygote orders) (Topic 6)  |
| January 27  | Wednesday | <b><u>Class dismissed.</u></b><br>Work on Readings 1 (Topic 7) from online software (Silverfish to Crickets).   |
| January 29  | Friday    | Biology of insect orders ; (Topic 6)<br>View "Subterranean Termite Biology" video online and answer study questions.  |
| February 1  | Monday    | Biology of insect orders. "Headlice" video (in class – no study questions for this video)   |
| February 3  | Wednesday | <b><u>Class dismissed.</u></b><br>Review insect orders and work on Readings 1(from course pack) (Topic 7) (Snowy Tree Cricket to Crab Louse).   |
| February 5  | Friday    | <b><u>Class dismissed.</u></b><br>Work on Readings 1 (Topic 7) (Bedbugs to Antlions);<br>Review for online exam. Check <b>Gator-link</b> e-mail for online exam instructions and access code.   |
| February 8  | Monday    | Biology of insect orders ( <b>in class</b> ) ( <i>Lecture material for online exam ends here.</i> )<br>View "Cicada: Insect Methusaleh" online and answer study questions.  |
| February 10 | Wednesday | <b><u>Class is dismissed in lieu of examination.</u></b><br><b>First Examination (online)</b> Topics 1-7 will be covered, (no video questions).<br><br><b>The exam may be taken any time between 12:00 noon Wednesday, February 10 and 12:00 noon, Friday, February 12. Students taking the exam after the deadline without permission will have 5 points deducted from their test score.</b> Once you begin the examination, you will be allowed <b>40 minutes</b> to complete it. Check course web site for any last minute examination information prior to taking the exam. |
| February 12 | Friday    | Biology of insect orders (Endopterygote orders)   |
| February 15 | Monday    | <b><u>Class dismissed.</u></b><br>View "An Inordinate Fondness for Beetles" online and answer study questions.  |
| February 17 | Wednesday | Biology of insect orders (Endopterygote orders)   |
| February 19 | Friday    | Biology of insect orders (Endopterygote orders) "Butterflies" video ( <b>in class</b> )   |
| February 22 | Monday    | Biology of insect orders (Endopterygote orders)   |
| February 24 | Wednesday | <b><u>Class dismissed.</u></b><br>View "The Good, the Bad, and the Beautiful" online and answer study questions.  |
| February 26 | Friday    | <b><u>Class dismissed.</u></b><br>Review Readings 1 section (Topic 7) and video questions<br>- see Video Review Exam 2 link under Links and Downloads section of course website.  |
| March 1     | Monday    | Biology of insect orders (Endopterygote orders)   |

|          |           |   |
|----------|-----------|---|
| March 3  | Wednesday | Biology of insect orders (Endopterygote orders)   |
| March 5  | Friday    | <b><u>Class dismissed.</u></b><br>View "Birth of the Bees" online and answer study questions.   |
| March 8  | Monday    | <b>Spring Break- Class dismissed</b>  |
| March 10 | Wednesday | <b>Spring Break- Class dismissed</b>  |
| March 12 | Friday    | <b>Spring Break- Class dismissed</b>  |
| March 15 | Monday    | <b><u>Class dismissed.</u></b><br>View "1,000 Million Million Ants" online and answer study questions.  |
| March 17 | Wednesday | <b><u>IN CLASS</u></b><br><b>Second Examination - (Students with last names beginning with A-L)</b><br>Topics 1-8 will be covered plus video questions.   |
| March 19 | Friday    | <b><u>IN CLASS</u></b><br><b>Second Examination - (Students with last names beginning with M-Z)</b><br>Topics 1-8 will be covered plus video questions.   |
| March 22 | Monday    | <b><u>Class dismissed.</u></b><br>View "Death Trap" online and answer study questions;<br>Work on Readings 2 (Topic 14) (Dobsonflies to Sulphur Butterflies).   |
| March 24 | Wednesday | The insect exoskeleton, hormones and molting (Topic 9)  |
| March 26 | Friday    | Chemical communication in insects (Topic 10)  |
| March 29 | Monday    | <b><u>Class dismissed.</u></b><br>View "Flights of Fancy" online and answer study questions;<br>Work on Readings 2 (Topic 14) (Whirligig Beetles to Clothes Moths).   |
| March 31 | Wednesday | Chemical Defenses -- "Secret Weapons" video ( <b>in class</b> ) -- answer study questions on video.<br>Work on Readings 2 (Topic 14). (Tobacco Hornworms to Yellowjackets).   |
| April 2  | Friday    | Adaptive Coloration (Topic 11)  |
| April 5  | Monday    | Honey bee communication -- "Language of the Bee" video ( <b>In class</b> )<br>Insects and Pollination Biology (Topic 12)  |
| April 7  | Wednesday | Introduction to Beekeeping" video ( <b>In Class</b> )   |
| April 9  | Friday    | <b><u>Class dismissed.</u></b><br>Review orders of insects, Readings 2 and photographs of insects from Readings 1 and 2 (Topics 15 and 16)  |
| April 12 | Monday    | <b><u>Class dismissed.</u></b><br>View "Sexual Encounters of the Floral Kind" online and answer study questions   |
| April 14 | Wednesday | Insects and Health  |
| April 16 | Friday    | Insects and Health  |
| April 19 | Monday    | <b><u>Final Examination (In Class during regular class period)</u></b><br><b>(Students with last names beginning with A-L)</b><br>Topics to be covered: 1-6, and 8-16 plus video questions. Topics 15 and 16 are the common insect pictures. The Readings 1 section (except for pictures) will not be included. |
| April 21 | Wednesday | <b><u>Final Examination (In Class during regular class period)</u></b><br><b>(Students with last names beginning with M-Z)</b><br>Topics to be covered: 1-6, and 8-16 plus video questions. Topics 15 and 16 are the common insect pictures. The Readings 1 section (except for pictures) will not be included. |

**REMINDER:** Check the course web site (<http://entomology.ifas.ufl.edu/baldwin/webbugs/>) on a regular basis for changes to the schedule and important announcements. In particular check prior to examinations for changes to the material to be covered, and after examinations to check your recorded grades!

**Required Text (online course pack and videos):**

**The Insects by Dr. Donald. W. Hall**



Available only online at: <http://www.faulknerpress.com/insects/index.html>

**IMPORTANT: Be sure to write your Serial Key in a safe place. You will need it to check your exam 1 grade!!!**

**Examination & Grading:**

**There are 3 exams:**

- 1st** 50 points - The first examination (50 multiple choice questions) will be taken online directly from the online course pack.
  - 2nd** 100 points - The second examination, taken in class (closed book) with a ScanTron form (provided), will be 50 multiple choice questions. Please bring a #2 pencil and be on time.
  - 3rd** 150 points - The final examination, taken in class (closed book) with a ScanTron form (provided), will be seventy-five multiple choice questions. Please bring a #2 pencil and be on time.
- \*Three points will be deducted** from the in class examinations if the student's name, student number, and test form code are not entered and accurately coded on the ScanTron forms.

**Grading Scale (based on 300 possible points):**

| Grade | Percent Ranges | Point Ranges |
|-------|----------------|--------------|
| A     | 90-100%        | 270-300      |
| B+    | 88-89+%        | 264-269      |
| B     | 80-87+%        | 240-263      |
| C+    | 78-79+%        | 234-239      |
| C     | 70-77+%        | 210-233      |
| D+    | 68-69+%        | 204-209      |
| D     | 60-67+%        | 180-203      |
| E     | <60%           | <180         |

Grades are absolute. There will be no extra credit or rounding of grades.  
Requests for exceptions will not receive a response!

**This course will not use the new "minus" grades system.** However, all course syllabi are required to list the following link to the University's official grading policies:

<http://www.registrar.ufl.edu/catalog/policies/regulationgrades.html>.

**Grade posting:**

Grades will posted on the web at: <http://entomology.ifas.ufl.edu/halld/eny2040/grades.html> as soon as they are ready and will be listed by the last 5 digits of the serial key: HAL#####xxxxx. Please do not e-mail inquiring about your grade. **Grades will not be given over the telephone nor by e-mail.**

**Exam Make-Up Policy:**

To make up a missed final examination, you will be required to provide appropriate written documentation (e.g., from a doctor in case of severe illness or a funeral notice or obituary in case of the death of a close relative). **If you miss the final examination for one of the valid reasons listed above, you must contact Dr. Baldwin immediately to receive permission to take the make-up examination. Once an examination is taken, there will be no re-takes.**

### **General Education Purpose of Course Statement:**

General Education courses in the biological sciences introduce students to the basic concepts of science and the scientific method and enhance awareness of scientific developments and their impact on society and the environment. This area provides students with an understanding of scientific terms, concepts and theories, and the ability to formulate empirically testable hypotheses derived from the study of and living things.

Elements of each of the areas listed above are addressed in ENY 2040 The Insects. In addition to the general course objectives listed on the syllabus, each ENY 2040 PowerPoint lecture topic begins with a list of learning objectives. In addition to the course lectures, the course requires reading assignments and viewing of approximately nine hours of video. There are study questions for both the reading assignments and videos at course web site: <http://entomology.ifas.ufl.edu/baldwin/webbugs/>. A student may assess the degree to which the "General Education" objectives have been accomplished by how well she/he has mastered the listed learning objectives and study questions.

### **General Information:**

#### **Classroom Courtesy:**

- Talking: Please be considerate of your classmates by not chatting during lecture. If you disturb class, you may be asked to leave.
- Coming to class late: Please take a seat in the back and don't bang the doors. A banging door is very distracting to me and to your classmates! Please do not leave class early.
- Please silence cell phones before coming into the classroom.
- UF prohibits food and tobacco products in the classroom.

#### **If you have problems:**

If you are having problems in school, please make an appointment to see me, or if appropriate, call one of the counseling services below. Do not wait until the end of the semester!

#### **UF Counseling Services:**

1. University Counseling Center, 301 Peabody Hall, 392-1575, <http://www.counsel.ufl.edu>, 392-1575, personal and career counseling.
2. Student Mental Health, Student Health Care Center, 392-1171.
3. Sexual Assault Recovery Services (SARS), Student Health Care Center, 392-1161, sexual assault counseling
4. Career Resource Center, Reitz Union, 392-1601, career development assistance and counseling.

#### **Students with Disabilities:**

Students requesting classroom accommodation must first register with the Dean of Students Office. The Dean of Students Office will provide documentation to the student who must then provide this documentation to the Instructor when requesting accommodation.

#### **Academic Honesty:**

In 1995 the UF student body enacted a new honor code and voluntarily committed itself to the highest standards of honesty and integrity. The University of Florida Academic Honesty Statement:

"We, the members of the University of Florida community, pledge to hold ourselves and our peers to the highest standards of honesty and integrity."

As a result of completing the registration, every student has agreed to this statement:

"I understand that the University of Florida expects its students to be honest in all their academic work. I agree to adhere to this commitment of academic honesty and understand that my failure to comply with this commitment may result in disciplinary action up to and including expulsion from the University."

#### **Software Policy:**

All faculty, staff and students of the University are required and expected to obey the laws and legal agreements governing software use. Failure to do so can lead to monetary damages and/or criminal penalties for the individual violator. Because such violations are also against University policies and rules, disciplinary action will be taken as appropriate.

## Online Courseware

### Topics & Titles for ENY 2040

- Topic 1. Zoological Nomenclature
- Topic 2 The Arthropods
- Topic 3 Common Arachnids
- Topic 4 Insect Structure, Development, and Classification
- Topic 5 Orders 1
- Topic 6 Orders 2
- Topic 7 Readings 1 ("View Textbook Material" link, see graph below)
- Topic 8 Orders 3
- Topic 9 Hormones and Molting
- Topic 10 Chemical Communication
- Topic 11 Adaptive Coloration
- Topic 12 Insect Pollination Biology
- Topic 13 Arthropods and Health
- Topic 14 Readings 2 ("View Textbook Material" link, see graph below)
- Topic 15 Pictures: Insects from Readings 1
- Topic 16 Pictures: Insects from Readings 2
- Topic 17 Beneficial Insects
- Topic 18 The Scientific Method
- Topic 19 Painted lady butterfly life cycle



### Major Insect Orders:

#### For the insect orders - Know:

1. Type of metamorphosis
2. Subclass and series
3. Type of mouthparts
4. Type and number of wings when applicable
5. Unique or significant biological characteristics

| <b>SUBCLASS</b>   | <b>SERIES</b>        | <b>ORDER</b>  | <b>METAMORPHOSIS</b> |
|-------------------|----------------------|---------------|----------------------|
| <b>Apterygota</b> |                      | Thysanura     | Ametabola            |
|                   |                      | Collembola    | Ametabola            |
| <b>Pterygota</b>  | <b>Exopterygota</b>  | Ephemeroptera | Hemimetabola         |
|                   |                      | Odonata       | Hemimetabola         |
|                   |                      | Orthoptera    | Hemimetabola         |
|                   |                      | Isoptera      | Hemimetabola         |
|                   |                      | Dermaptera    | Hemimetabola         |
|                   |                      | Mallophaga    | Hemimetabola         |
|                   |                      | Anoplura      | Hemimetabola         |
|                   |                      | Hemiptera     | Hemimetabola         |
|                   |                      | Homoptera     | Hemimetabola         |
|                   | <b>Endopterygota</b> | Neuroptera    | Holometabola         |
|                   |                      | Coleoptera    | Holometabola         |
|                   |                      | Siphonaptera  | Holometabola         |
|                   |                      | Diptera       | Holometabola         |
|                   |                      | Trichoptera   | Holometabola         |
|                   |                      | Lepidoptera   | Holometabola         |
|                   |                      | Hymenoptera   | Holometabola         |

We will cover only the major orders listed during this class. Authorities (and textbooks) disagree about the orders of insects. The order classification used here is not the most recent, but is used during this class for simplicity. You should not be concerned if you see a book that uses a slightly different classification system.