

BIOL 3388 - Honey Bee Biology

Spring 2015

Course Information

BIOL 3388 – Honey Bee Biology Section 001 (CRN 27030)
Monday/Friday 10am -11:15am Room FN2.202

Professor Contact Information

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Course Pre-requisites or their equivalents

BIOL 2281 – Introductory Biology Laboratory
BIOL 2311 – Introduction to Modern Biology I
BIOL 2312 – Introduction to Modern Biology II

Course Description

This survey course explores the biology of honey bees at the colony, organism, and molecular levels. Topics include honey bee anatomy, nest architecture, caste development and social organization, reproduction and genetic diversity, pheromones and communication, foraging behavior, colony reproduction, pest and disease management, and basic beekeeping.

Required Textbooks and Materials

Caron, Dewey M. and Lawrence Connor. *Honey Bee Biology and Beekeeping, Revised Edition*. Michigan: Wicwas Press, 2013. Print

Additional lecture notes will be made available as handouts or down loads from the eLearning course website.

Academic Calendar and Major Assignments

| Lecture | Day | Date | Topic | Assignment |
|--|------------|---------------|---|---------------------|
| ----- | Mon | 12 Jan | Introduction | ----- |
| 1 | Fri | 16 Jan | History and Evolutionary Relationships | Chapter 1-3 |
| ----- | Mon | 19 Jan | MLK Holiday | ----- |
| 2 | Fri | 23 Jan | External Honey Bee Anatomy | Chapter 5 |
| 3 | Mon | 26 Jan | Internal Honey Bee Anatomy | Chapter 5 |
| ----- | Mon | 26 Jan | Project Proposal Due | ----- |
| 4 | Fri | 30 Jan | Colony organization and Nest Architecture | Chapter 6 |
| 5 | Mon | 02 Feb | Nutrition and Development | Chapter 4 |
| 6 | Fri | 06 Feb | Nutrition and Development | Chapter 4 |
| Exam 1 | Mon | 09 Feb | Exam 1 - Lecture 1-6 | Exam 1 |
| 7 | Fri | 13 Feb | Behaviors | eLearning file |
| 8 | Mon | 16 Feb | Behaviors | eLearning file |
| 9 | Fri | 20 Feb | Colony Reproduction: Swarming | Chapter 9 |
| 10 | Mon | 23 Feb | Queen Mating | Chapter 9/17 |
| 11 | Fri | 27 Feb | Communication – Dance Language | Chapter 7 |
| 12 | Mon | 02 Mar | Communication – Pheromones | Chapter 8 |
| Exam 2 | Fri | 06 Mar | Exam 2 - Lecture 7-12 | Exam 2 |
| 13 | Mon | 09 Mar | Forging and Pollination | Chapter 10 |
| 14 | Fri | 13 Mar | Forging and Pollination | Chapter 10 |
| ----- | Mon | 16 Mar | Spring Break Holiday | ----- |
| ----- | Fri | 20 Mar | Spring Break Holiday | ----- |
| 15 | Mon | 23 Mar | Beekeeping equipment and Apiary Sites | Chapter 11 |
| 16 | Fri | 27 Mar | Honey Production and Processing | Chapter 15 |
| 17 | Mon | 30 Mar | The Products of Bees | Chapter 16 |
| 18 | Fri | 03 Apr | Pollination and Commercial Beekeeping | Chapter 18 |
| Exam 3 | Mon | 06 Apr | Exam 3 - Lecture 13-18 | Exam 3 |
| 19 | Fri | 10 Apr | Honey bee diseases | Chapter 19/20 |
| 20 | Mon | 13 Apr | Colony Collapse Disorder | Handout |
| ----- | Thu | 16 Apr | Electronic Presentations Due via email | Term Project |
| ----- | Fri | 17 Apr | Term Paper and Documentation Due | Term Project |
| 21 | Fri | 17 Apr | Oral Student Presentations | Handout |
| 22 | Mon | 20 Apr | Oral Student Presentations | Handout |
| 23 | Fri | 24 Apr | Oral Student Presentations | Handout |
| 24 | Mon | 27 Apr | Oral Student Presentations | Handout |
| Exam 4 | Fri | 01 May | Exam 4 - Lecture 19-26 | Exam 4 |
| <i>If an official UTD closure occurs during the semester, lectures and assignments will shift accordingly. Exam 4 will be moved to the UTD Final Exam schedule – date/time TBA</i> | | | | |

Grading Policy

| Course Assignments | | | Course Grading Scale | | | |
|--------------------|-------------|------------|----------------------|---------------------|--------------------|---------------------|
| Assignment | Course % | Points | Final Letter Grade | Total Points Earned | Final Letter Grade | Total Points Earned |
| Exam 1* | 15% | 90 | A+ | 582 | C+ | 462 |
| Exam 2* | 15% | 90 | A | 564 | C | 444 |
| Exam 3* | 15% | 90 | A- | 540 | C- | 420 |
| Exam 4* | 15% | 90 | B+ | 522 | D+ | 402 |
| Quizzes | 15% | 90 | B | 504 | D | 384 |
| Term project | 15% | 90 | B- | 480 | D- | 360 |
| Apiary visit | 10% | 60 | | | | |
| | 100% | 600 | | | | |

**The lowest exam grade will be replaced with the rounded average of all four exams. For example, assume you earned the following exam points – 65, 87, 83, and 82. The average of these scores is 79.25. The 65 will be replaced with a 79.*

To encourage pre-reading of course material, on-line quizzes will be conducted through the eLearning website prior to each lecture. Quizzes will cover material from the textbook and any additional reading assignments posted on the eLearning website.

The term project will involve both a written essay and an oral presentation. See additional course handout for specific instructions and grading criteria.

An approximately 1 hour visit to the UTD apiary to perform some basic hive maintenance is *highly encouraged*. However, an alternative assignment will be made available on a case-by-case basis.

Course & Instructor Policies

I will consider rescheduling Exams/Quizzes only with appropriate documentation for major issues (hospitalization, accidents, medical school interviews, etc...).

UT Dallas Syllabus Policies and Procedures

The information contained in the following link constitutes the University's policies and procedures segment of the course syllabus: <http://go.utdallas.edu/syllabus-policies>

The descriptions and timelines contained in this syllabus are subject to change at the discretion of the Professor.