NRMT/BIOL 3217 Course Syllabus
Forest Entomology
Faculty of Natural Resources Management
Lakehead University
Winter 2018

Instructor information

Instructor: Dr. Don Henne
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Office hours: M-F 11:30 AM-12:30 PM, if my door is open, or by appointment.
Teaching Assistant: Steven Beery (E-mail: sbeery@lakeheadu.ca)

Course identification

Course number: NRMT/BIOL 3217
Course name: Forest Entomology
Lecture location: ATAC 2005
Laboratory location: BB 1006
Lectures: Wednesdays and Fridays @ 2:30-3:30 pm
Laboratories: Mondays @ 8:30-11:30
Prerequisites: N/A

Course description

Insects are among the most diverse and important organisms on the planet, but few people recognize or appreciate the benefits that insects bring to our existence. In managed forestry systems, as in managed agricultural systems, there are certain insects that are serious pests of all parts of forest trees. The ability to properly manage these pests requires correct identification of the pest, understanding their biology and ecology, effectively applying methods of sampling and monitoring, and knowledge of different control strategies.

Course learning objectives

This course examines the theory and practice of Forest Entomology. In this course, you will become familiar with the major insect orders and families. Emphasis will be placed on the biology, ecology, and damage caused by insect species that threaten or cause damage to forests. You will become familiar with current methods and strategies for controlling these insects and limiting the damage they cause to forests. Laboratory periods will focus on insect anatomy and identification. At the end of the course you should be able to identify and recognize select forest insect orders, families, and species.

Lecture schedule/outline

Date	Tentative Lecture Topic
January 10	Syllabus. Introduction to forest entomology
January 12	External insect anatomy
January 17	Internal insect anatomy
January 19	Insect physiology
January 24	Insect reproduction
January 26	Insect ecology
January 31	Insect ecology and biodiversity
February 2	Insect population dynamics
February 7	Insect population sampling and monitoring
February 9	Insect population control and IPM
February 14	Weather and insects
February 16	Midterm Exam
February 21/23	No classes: February study break
February 28	Defoliating insects - Lepidoptera
March 2	Insects as forest disturbance agents - spruce budworm
March 7	Cone and seed insects
March 9	Tip, shoot, and regeneration insects – weevils (final drop date)
March 14	Invasive forest insects
March 16	Invasive forest insects
March 21	Wood boring insects
March 23	Bark beetles
March 28	Sucking insects
March 30	No class – Good Friday
April 4	Gall insects
April 6	Insect detritivores and other agents of decomposition
April 10	Makeup class due to Good Friday

Laboratory schedule/outline

Date	Tentative Laboratory Topic
January 15	The dissection microscope and external insect anatomy
January 22	Arthropod classification and cover exopterygota (incomplete metamorphosis)
January 29	Laboratory Quiz #1 and cover endopterygota (complete metamorphosis)
February 5	Immature insects
February 12	Laboratory Quiz #2 and cover defoliating insects and hardwood defoliators
February 19	No laboratory: February study break
February 26	Mid-term laboratory exam
March 5	Softwood defoliators
March 12	Laboratory Quiz #3 and cover leaf mining, sap sucking, and gall forming insects

March 19	Laboratory Quiz #4. Cover xylem and phloem borers
March 26	Laboratory final exam
April 2	No laboratory – Easter Monday

Assignments and evaluations

Lecture midterm exam	15%
Insect research assignment	10%
Lecture final exam	30% (comprehensive)
Laboratory Quizzes (4)	20%
Laboratory midterm exam	10%
Laboratory final exam	15%

Insect research assignment (Due March 28th)

Students will be required to conduct a literature review on any forest insect pest of interest. This review should include information about the taxonomy, biology, and ecology of the pest, its hosts and damage caused, and its control. Length should be 3-5 pages (not including title page and references), double-spaced, 2.5 cm margins, 12-point font.

DO NOT use Wikipedia or other internet webpages as a primary source of information. Find actual journal articles, review articles, and books from the library. Learn how to use literature search engines to find information. Also, remember that plagiarism can be easily identified using Grammarly and other plagiarism detecting software (**see below for link to our University policies regarding plagiarism and other forms of academic dishonesty**).

Late assignments

Consistent with Lakehead University academic policy, assignment due date extensions are normally not permitted, except with a valid medical (doctor's) note. Please notify me at least one day prior to the due date for all other events beyond your control. Otherwise, a late submission penalty of 2 marks per calendar day will be deducted.

Important dates

Final date to register (add): Friday January 19, 2018
Final date for withdrawal: Friday March 9, 2018
Examination period: April 13-24, 2018
Marks due: Tuesday May 2, 2018

Other dates

Family Day: Monday February 19, 2018
February break: Monday February 19 – Friday February 23, 2018
Good Friday: Friday March 30, 2018
Easter Monday: Monday April 2, 2018
Winter term study break: April 11-12, 2018

Appendix: University policies

Other University policies governing plagiarism and other forms of academic dishonesty can be found at the following link:

http://navigator.lakeheadu.ca/Catalog/ViewCatalog.aspx?pageid=viewcatalog&catalogid=24&chapterid=6364&loaduseredits=False