

FORS 232 Forest Insects and Disease

Spring 2020 9:00-10:20AM TTH FOR301

2 credits

Instructor: Diana L. Six

Office hours: Tues. 10-11 and by appointment (email)

Office: BioResearch 104 (across from Health Sciences)

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email: diana.six@cfc.umd.edu (best way to contact me!!!)

Text: A Field Guide to Diseases and Insects of Northern and Central Rocky Mountain Conifers. 2003. Hagle, Gibson and Tunnock. Available from instructor. *Must be returned or you will receive an incomplete in the class.*

CLASS OBJECTIVES: To present a general overview of the major insects and pathogens affecting western North American forests and an introduction to their ecology and management. Students will have a basic understanding of the roles of insects and pathogens in forests and how they interact with the biotic and abiotic environment. In-class exercises allow student the opportunity to use information presented in lectures to develop management plans based on ecological principles for areas ranging from wilderness to highly managed forests.

CLASS OUTCOMES: Insects and pathogens are responsible for 2/3 of loss of productivity in North American forests (in contrast to 15% for fire). Students will gain a basic understanding of the ecological drivers behind insect and pathogen dynamics and how these are used to develop appropriate and effective management practices. They will also gain rudimentary identification skills.

EXAMS: Two midterms will be given (each worth 30% of the total grade) and a final (worth 30%, not cumulative). Test questions will come directly from my lectures and from handouts and readings. Example exams will be available at least one week before each exam.

NO make-ups will be given without PROOF of EXTREME hardship!!

FIELD COLLECTION: 10% of your grade will be based on your field collection. Due April 23.

GRADING SCALE:

100-90% A

90-80% B

80-70% C

70-60% D

60-0% F

Your **attendance** is a critical factor affecting your ability to learn the subject matter and to do well on exams. If you miss a class, make certain you see me to get handouts. Also be

certain to get a copy of the notes from someone in attendance that day. **I do not post notes or give out copies of mine.**

Classroom environment

Students at University of Montana are diverse in many ways, including race, gender, age, religion, preparedness, and mobility. Please help create a respectful learning environment by honoring all student contributions and expressing your views in ways that do not diminish other students' perspectives.

Disability modification

- Students with disabilities may request reasonable modifications by contacting me. The University of Montana assures equal access to instruction for students with disabilities in collaboration with instructors and [UM's Disability Services for Students Office](#), which is located in Lommasson Center 154 (406.243.2243). The University does not permit fundamental alterations of academic standards or retroactive modifications. We will work with you and Disability Services to provide an appropriate and reasonable modification.

Academic honesty, plagiarism, and student conduct

- All students must practice academic honesty. Academic misconduct is subject to an academic penalty by the course instructor and/or a disciplinary sanction by the University. All students need to be familiar with the [Student Conduct Code](#).
- Academic dishonesty of any form is unacceptable and will be taken seriously by the instructor, the College of Forestry and Conservation, and the University of Montana. This includes plagiarism, when you copy materials from other sources without citing the source or copy someone's work, and cheating, copying material from other students during tests or quizzes. In both cases, you will fail the assignment/exam and the information will be passed on to the Dean and the Vice Provost of Academic Affairs. It is your responsibility to be familiar with, and adhere to, the [University's definition of plagiarism](#).

FORS 232 Forest Insects and Disease-Course Outline

<u>Lecture</u>	<u>Date</u>	<u>Topic</u>
<u>1</u>	<u>1/14</u>	<u>Intro to the course: objectives, expectations, reading materials, exams, grading, etc. Importance of insects and pathogens in forest ecosystems</u>
<u>2</u>	<u>1/16</u>	The forest/tree as insect/pathogen habitat

3	1/17	Insect life cycles and biology, Part I
4	1/21	Insect life cycles and biology, Part II
5	1/23	Insect classification and guilds
6	1/28	Forest insect management, Part I
7	1/30	Forest insect management, Part II
8	2/4	Forest insect management, Part III – exotics
9	2/6	MIDTERM I
10	2/11	Forest insects: Shoot and root insects
11	2/13	NO CLASS
12	2/18	Forest insects: Defoliators
13	2/20	Forest insects: Defoliator management
14	2/25	Forest insects: Phloem and wood-boring insects. Bark beetles Reading assignment: mountain pine beetle
15	2/27	Mountain pine beetle
16	3/3	Bark beetle management
17	3/5	Forest insects: phloem and wood boring insects. ambrosia beetles, borers, etc.
18	3/10	Forest Insects: Mining, gall, and sap-sucking insects; Seed and cone insects. Review.
19	3/12	MIDTERM II

20	3/16-20	SPRING BREAK
21	3/24	Introduction to forest pathology, cause of disease
22	3/26	NO CLASS
23	3/31	Forest pathology methods
24	4/2	Disease management
25	4/7	Abiotic causes of disease, vertebrate damage
26	4/9	Mistletoe/discussion-how to do the collection
27	4/14	Fungi – The who, how, what, where and why
28	4/16	Root diseases, decay
29	4/21	Foliage diseases and rusts, cankers
30	4/23	Forest declines/global tree die-offs/ <u>collections due!</u>
31	4/28	Class exercise – Detection and planning (5 pts xcredit)
32	4/30	Disease review
		FINAL Thursday 4/7 8-10AM