

FORS232: Forest Insects and Disease

9:30-10:50 am TTH

Stone 304

Instructor: Rick Everett

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Office hours: Thursdays 11-1300 (on campus) at Bioresearch 004

OR by appointment (zoom), or other prior arrangement

TA: Taylor Goldquiros, Wednesday/Friday 9:30-10:30 Office, CLAPP 424.

Class objectives and learning outcomes: Students will learn about the array of insects and pathogens affecting western forests. This is not strictly a pest management class, but rather one that covers negative AND beneficial effects of these organisms -In other words it is ecologically based. Topics covered include the identification, ecology, and management of insects and diseases. Students will use the information they learn to identify the main insect and diseases of western conifers in the field and to develop appropriate management approaches given real-world scenarios.

Grading:

Four exams (20% each) (NO makeups without proof of a serious reason for missing exam)

Two in-class group scenarios (5% each). See schedule!

Field Exercises & Collection (10%) (NO late collections accepted- early okay!) Assignment/Collection due May 3!!!

MOODLE: What you need is on Moodle!!! Stay up to date with the schedule, readings, example exams, exam keys, etc.

Grading scale: (please note - this class is offered for a traditional letter grade only)

A = \geq 94%	A- = 90-93%	
B+ = 87-89%	B = 84-86%	B- = 80-83%
C+ = 77-79%	C = 74-76%	C- = 70-73%
D + = 67-69%	D = 64-66%	D- = 60-63% F = <60%

How to succeed in this course: **Attend!!** - Attendance is critical to be exposed to the material and to learn. **Take good notes** - Not only will this ensure you have all the info needed to learn the material and to do well on exams, it is a crucial tool in 'remembering/learning' by itself. Review notes often, not just the days before the exam. **Do the assigned readings BEFORE the lecture.**

If you miss a class, get notes from a classmate. Check Moodle for powerpoints and readings. A lot of what I go over in lecture is not on the powerpoints (so take lots of good notes).

TEXTS

On Moodle: *Bark Beetle Outbreaks in Western North America: Causes and Consequences*, Bentz et al. 2007.

Collection: *Field Guide to Diseases and Insects of the Rocky Mountain Region*, Allen et al. 2010.

Optional but **strongly recommended if you don't know your trees:**

Rocky Mountain Tree Finder, Tom Watts, any edition. \$2.00-\$6.00 online.

Picture This – is an iPhone & Android app for tree & plant identification. If you're having tree id problems, it is useful, even if not that accurate.

LECTURE SCHEDULE (Readings for each lecture are provided in parentheses. These will be on Moodle)

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|------------------|--|
| Jan 18 | Intro to course. How to succeed in this class. Why do we study insects and diseases of forest trees? |
| Jan 1 | Insect biology 101: what they do & are |
| Jan 23 | Insect taxonomy and ID: what groups are important |
| Jan 25 | Insect Ecology, population dynamics and dispersal |
| Jan 30 | Forest insect management |
| Feb 1 | Ambrosia beetles and wood borers |
| Feb 6 | Intro to bark beetles (<i>Bark Beetle Outbreaks in Western North America</i> - Moodle) |
| Feb 8
Moodle) | Case studies: Mountain pine beetle (Kelsey article, example exam available on Moodle) |
| Feb 13 | Bark beetle management (student assignment (scenario) - in class), review |
| Feb 15 | Midterm I |
| Feb 20 | Introduction to defoliators, defoliator management, various defoliators |
| Feb 22 | Various defoliators, Case study: Doug-fir Tussock Moth (MacLauchlin et al. 2018) |
| Feb 27 | Decision-making: Douglas-fir tussock moth example |
| Feb 29 | Defoliator management scenario (example assignment available on Moodle) |
| Mar 5 | Other insect guilds: Gall and sap sucking, root and shoot, seed and cone, animal damage, humans |

Mar 7	Humans Management & review
Mar 12	Midterm II
Mar 14	Intro to forest pathology, disease diagnosis
<i>Spring Break</i>	
Mar 26	Disease management
Mar 28	Collecting Plan on being outside.
April 2	Introduction to fungi, taxonomy and ID
April 4	Various fungal diseases - cankers, rusts, needle diseases
April 9	Case study: <i>Heterobasidion</i> root disease; other root diseases, decays
April 11	Mistletoes and mistletoe management, abiotic diseases, die-offs, example exam available (Mistletoe friend or foe)
Apr 16	Mistletoe scenario, review
Apr 18	Midterm III
Apr 23	Anthropogenic change TBA - invasive pathogens. Case studies: white pine blister rust, Chestnut blight
April 25	Anthropogenic change - invasive insects TBA. Case studies Emerald ash borer (TBA), red bay ambrosia beetle
April 30	Anthropogenic change - climate change effects on insects and pathogens TBA
May 2	Anthropogenic change wrap
May 7	Tuesday 0800-1000 FINAL Exam Form TBA

Subject to change with little notice: keep monitoring Moodle for important alterations

Do you need help?

Helping you be successful academically in this class is one of a lecturer's task. Myself, as well as the rest of the academic staff, are here to help. If you have questions or have extenuating circumstances, please reach out to me. I encourage you to do this sooner than later as it provides more options. If you are experiencing depression or other extracurricular problems,

please don't try to ride it out alone. See (and use) the resources available to you (contact Curry Health Center).

Class expectations

Cell phones and computers

Please turn off electronic devices during class.

Assignment due dates

Due dates are firm. Late assignments will not be accepted unless you have unusually extenuating circumstances *and* have made arrangements prior to the due date. This includes missing an exam: *there are NO make-up exams* without prior arrangement.

Communication

Email is going to be the primary way to get ahold of me. If you e-mail me, please do the following so that the e-mail is read and understood: (a) include "FORS 232" in the subject line, (b) write in complete sentences, with proper grammar, and (c) sign the e-mail with your full name. Generally, I will get back to you in 24 hours.

Classroom environment

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

Accessibility 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. For accommodation you must notify me at the beginning of the course and then prior to each exam. 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.

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 your instructor, the College of Forestry and Conservation, and the University of Montana. This includes plagiarism (copying materials from other sources without citing the source or copying someone's work) and cheating (copying material from other students during tests or quizzes). In both cases, you will fail the assignment/exam or if very serious the course. The incident 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](#). Don't cheat :). It will get you an F in the course.

Course withdrawal (and other) deadlines

- See [calendar](#)
 - <https://www.umt.edu/registrar/calendar/spring-2024.php>