BSPM 365 INTEGRATED TREE HEALTH MANAGEMENT Fall 2013

4 credits-----3 lectures/week------1- 3-hour lab/week-------Prerequisite: One class in basic Biology

Instructors: Dan West, Bioagricultural Sci. and Pest Man., Room E 3 Plant Sci, 491-4671, dan.west@colostate.edu
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COURSE OBJECTIVES: Students will:

1. Know and understand the impact and nature of the change or disturbance to forest ecosystems and forest products caused by insects and diseases.

2. Be able to diagnose the major insect and diseases affecting forest ecosystems of North America.

3. Know and understand the factors affecting the development of diseases and insects in forest ecosystems, the interaction of insect and diseases with each other and with other components of the ecosystem, and the relation of this information to the selection of economically and biologically feasible management strategies and tactics.

4. Be able to present written and oral management solutions for insect and diseases

Cheating and Plagiarism: We will follow CSU's policies on cheating and plagiarism. If you have not looked at them please do so. The honor pledge: I have not given, received or used any unauthorized assistance.

Lectures: Monday, Wednesday, Friday - 8:00- 8:50 a.m., Room C358 Clark

Laboratory: Section 1 - Tuesday - 10:00 am - 1:00 p.m., E-009 Plant Science
Section 2 - Thursday – 2:00 pm – 4:50 p.m., E- 009 Plant Science

Text: **Required**:

1. BSPM 365, Integrated Tree Health Management Laboratory, University Text- Includes lecture notes- available in CSU Bookstore.

2. Insects and Diseases of Woody Plants of the Central Rockies, Colorado State University, Extension Publication 506a, available at the Cooperative Extension Resource Center, General Services Bldg. (ask for class discount by mentioning Dr Jacobi is the professor)

Highly Recommended:

1. Manion, P.D. 1990, Tree Disease Concepts, Prentice-Hall.
2. Coulson and Witter 1984, Forest Entomology, John Wiley and sons
3. Sinclair, W.A., et al. 2005, Diseases of Trees and Shrubs Second Edition, Cornell Univ. Press.
4. Johnson and Lyon 1988, Insects that Feed on Trees and Shrubs, Cornell University Press
5. Tainter and Baker 1996, Principles of Forest Pathology, Wiley and Sons, INC
6. Edmonds, Agee, and Gara. 2000. Forest Health and Protection. McGraw-Hill, 630 pp
7. Barbosa, P. and Wagner, M. R. 1989. Introduction to forest and shade tree insects. Academic Press, INC.
8. Ciesla, W. M. 2011 Forest Entomology, a Global Perspective 400 pp.

Course Grading and Requirements:

Lecture exams (2)		200
Final Exam (1)		150
Management Report (2@50)		100
Insect and Disease Col. (6@10)		60
Laboratory quizzes (12 of 13 @ 15)		180
Inoculation experiment lab report		25
Lab mastery (checkout) (13@ 5)		65
Campus walk (10) Microscope (5)		15
Field trip report		30
Oral Report on Management Report		25
Lecture Group problems		20-30
Bonus Points (Available throughout the semester)		10
	Total	870+pts

Grades will follow the plus/minus system. The following percentage ranges will be used.

Grade	***Course Credit***	***Numerical Equivalent***	***Indicates***
A +	*4.0*	*95-100*	
A	*4.0*	*90-94.9*	*Excellent*
B+	*3.3*	*85-89.9*	
B	*3.0*	*80-84.9*	*Above Average*
C+	*2.3*	*75-79.9*	
C	*2.0*	*70-74.9*	*Average*
D	*1.0*	*60-69.9*	*Below Average*
F	*0*	*0-59.9*	*Failure*

1. We will have two lecture exams and one final that covers the last third of the class (70%) plus comprehensive questions (30%).

2. Two management guides - one for each of two tree health situations you found while compiling your insect and disease collection, is due in October- see schedule for due date.

3. An insect and disease collection consisting of 6 items is required in September- see schedule for due date.

4. There will be 13 laboratory quizzes covering the previous lab(s) contents. The lowest quiz grade will be dropped. At least 25% of the quiz material will be "practical" or sight identification.

5. A required all day field trip to the Poudre Canyon and Pingree Park area, 7:30 to 4:30 on Saturday. See schedule for date. Good notes are due at end of field trip- quizzes and hour exams will cover this material. If you cannot attend the field trip you will need to provide an additional 3 insect and 3 disease specimens for your collection.

BSPM 365- INTEGRATED TREE HEALTH MANAGEMENT
Fall 2013 Schedule

DATE	**TOPIC**
Aug. 26	Introduction and Organization & Insects and Disease Basics. (West)
28	Insect and Disease Basics (West)
30	Plant Defense, Management Techniques, History (West)
27 & 29	(Lab 1) Campus and Clinic tour, Collection Instruction, Management Report, and Microscopes
Sept 2	**No Class, University Holiday**
4	Abiotic Diseases I (West)
6	Abiotic Diseases II (West)
3 & 5	(Lab 2) Symptoms & Signs, collections, Information Sources, and Abiotic Diseases **-** . **Library Class room 174 at 12:00 sec 1 or 4 pm sec 2**
Sept. 9	Air Pollution & Climate Change (West)
11	Fungi and disease cycles (West)
13	Mycorrhizae and Root Diseases (West)
10 & 12	(Lab 3) Mycology I - **Quiz 1- Inoculation experiment**
Sept. 16	Decay Type Root Diseases (West) Management Report **Outline Due**
18	Decay in living trees (West)
20	Decay recognition (West)
17 & 19	(Lab 4) Mycology II - **Quiz 2**
Sept. 23	Cankers (West)
25	Cankers and Rusts (West)
27	Rusts (West)
24 & 26	(Lab 5) Root Diseases - **Quiz 3**,
Sept 27	**Collection due in Lab room by 4 pm Friday- Sept 27**
Sept 28	**Saturday Field Trip 7:30-4:30**
Sept.30	Insects as disturbances, Entomologists/Pathologists do what? & Research Methods (Sitz)
Oct 2	Principles of Insects I (West)
4	**Exam** (West Monitor)
1 & 3	(Lab 6) Decay, Stains and Hazard trees - **Quiz 4**
Oct. 7	Principles of Insects II (West)
9	Sucking Insects I (Cranshaw)
11	Sucking Insects II (Cranshaw)
8 & 10	(Lab 7) Rusts and Cankers - **Quiz 5**
Oct. 14	Beneficial Insects and Biocontrol Agents (Cranshaw)
16	Cone and seed insects (West)
18	Bud and Shoot Insects (West)
15 & 17	(Lab 8) Insect Classification- **Quiz 6**
Oct. 21	Wood Borers (West)
23	Animal Damage (West)
25	Vascular Wilts (West)
22 & 24	(Lab 9) Sucking, Cone, Seed, Bud and Shoot Insects - **Quiz 7**
Oct. 28	Gall formers (Cranshaw)
30	Bark Beetles I (Mercado)
Nov 1	Bark Beetles II (Mercado)
	Management report "Editing Draft" due Friday Nov 1 to West and 2 peer editors
Oct. 29 & 31	(Lab 10) Bark Beetles and Vascular Wilts - **Quiz 8**

Fall 2013

DATE	TOPIC
Nov. 4	Defoliators I (West)
6	Defoliators II (West)
8	Foliar Diseases (West)
Nov 5 & 7	(Lab 11) Wood Borers and Animal Damages - **Quiz 9**
Nov. 11	Parasitic Plants (West)
13	Bacteria and Phytoplasma Diseases (West)
15	**Exam** (West Monitor)
12 & 14	(Lab 12) Defoliators, Gall Formers and Beneficial Insects - **Quiz 10**
	Final Version Management Report due 4pm, Monday. Nov.18 as hard copy in West's mail box in BSPM Dept office and by email attachment to West
Nov. 18	Virus and Nematode Diseases (West)
20	Pesticide Types and Management (West)
22	Nursery Pest Management (West)
19 & 21	(Lab 13) Foliage, Viral, Bacterial, and Pesticide Safety - **Quiz 11**
Nov. 25-29	**FALL BREAK**
Dec. 2	Tree Declines (West)
4	Diseases and Insects as Ecotype Shapers (West)
6	Impact Assessment Methods, Monitoring and Models (West)
3 & 5	(Lab 14) Parasitic Plants and Nematodes (**Quiz 12-Diagnostic/Practical Exam**) **Electronic versions of Management Reports due, Friday Dec 6th send via email to TA**
Dec. 9	"Real Live tree health issues" (West)
11	Introduce Ecosystem Health and Ecosystem Management case studies (West)
13	Group Eco Oral Reports (West)
10 &12	**Oral Reports on Management Report** - **Quiz 13 (covers lab 13 and 14)**

Final Exam: 4:10-6:10 pm, Tuesday December 17, 2013 in Room C 358 Clark

Integrated Tree Health Management

Student Information Sheet- Please fill out and turn in on Day one of the class. Thanks.

Name_____
Major_____
Concentration _____
Home town _____

I am taking this class because_____

My experience with trees is based on _____

I hope to utilize my college education with a career in (be as specific as you can)

_____

Is there any specific topic on tree health that you are interested in or would like to see addressed this term? _____

Honor pledge: I will not give, receive or use any unauthorized assistance on Quizzes or Exams or Management Reports. Signature: _____

Lecture Group Name_____

Members: Please print
1._____
2._____
3._____
4._____
5._____

SEVEN SKILLS EMPLOYERS WANT

LEARNING to LEARN
(The ability to apply new information quickly and effectively)

LISTENING and ORAL COMMUNICATION

COMPETENCE in READING, WRITING and COMPUTATION

ADAPTABILITY: CREATIVE THINKING and PROBLEM SOLVING

PERSONAL MANAGEMENT: SELF-ESTEEM, GOAL SETTING, MOTIVATION, and PERSONAL CAREER DEVELOPMENT
(Taking responsibility for enhancing job skills to meet new challenges and achieving pride and satisfaction in accomplishments. Looking further ahead to develop broader skills useful for advancement and a satisfying life.)

GROUP EFFECTIVENESS: INTERPERSONAL SKILLS, NEGOTIATION and TEAMWORK
(Workplace success depends on enhancing respect for contributions from all members of an organization.)

ORGANIZATIONAL EFFECTIVENESS and LEADERSHIP
(Employers desire people with a sense of direction and purpose, an awareness of how they themselves can contribute, and the ability to motivate coworkers to contribute the best of themselves.)