



PLSC 223 Introduction to Weed Science

COURSE SYLLABUS

Class Number **22407**

Spring 2016

(11 January 2016—13 May 2016)

Instructor:

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Office: 701-662-1693

Office Hours: Mon, Wed 10:30 AM- 11:30 AM or by appointment

COURSE DESCRIPTION: Identification principles of weeds, understanding herbicide groups and modes of action, the use of pesticides and understanding of Integrated Pest Management principles will be the focus of this class. Safe application of pesticide and earning a commercial pesticide applicators license will also be obtained.

CREDIT HOURS: 3 Credits (includes laboratory)

CLASS HOURS: MWF 9:00 a.m. – 9:50 a.m.

PREREQUISITES: None

REQUIRED TEXTBOOKS: Ross, MA and CA Lembi. 2009. Applied Weed Science Including the Ecology and Management of Invasive Weeds.

Bryson, CA. 2010. Weeds of the Midwestern United States and Canada. University of Georgia Press.

MATERIALS OF INSTRUCTION: Textbooks, website and handouts

LOCATION: DPAC West 40

NOTE: It is the responsibility of the student to read, understand and apply the information available in the Lake Region State College 2013- 2015 catalog and this syllabus.

LRSC PHILOSOPHY OF GENERAL EDUCATION (*Lake Region State College Catalog 2013-2015, pp. 4-5*):

I. An educated person must have a critical appreciation of society and of self. This includes some understanding and experience in thinking about moral and ethical problems which enable

an educated person to make discriminating moral choices – *personal/interpersonal skills*.

1. To understand how a human being behaves individually and how one is linked to one's social and natural environment – *know thyself*
3. To apply knowledge gained in the educational process and use that knowledge in everyday living – *apply knowledge to the real world*

II. An educated person must be able to think, speak, and write effectively – *communication/thinking skills*.

3. To use information objectively for solving problems and arriving at alternative solutions – *problem-solving skills*
5. To nurture creative thinking and intellectual curiosity through opportunities and incentives and to encourage attempts at different, divergent solutions to open-ended questions, problems, and situations – *creativity/intellectual curiosity*

V. An educated person must have an informed acquaintance with and an appreciation for science and mathematics and their contributions to society – *mathematics/ sciences applications*.

2. To understand and appreciate the natural physical environment of the planet Earth, thus promoting an ethic of stewardship and ecology – *environment*
4. To foster an attitude of intellectual inquiry and methodology which will expand one's view of the universe and the place of humanity within it – *scientific method/inquiry*

VII. An educated person must have a continued commitment to life-long learning – *life-long learning experiences/skills*.

1. To develop a pattern of intellectual curiosity and inquiry which promotes life-long learning – *value of life-long learning*

TRADE AND TECHNICAL DIVISION MISSION STATEMENT (*Lake Region State College Catalog 2013-2015, p. 41*): **The Trade and Technical Division offers various specialized programs. The division frequently assesses industry trends and standards and alters curricula to ensure the quality of its programs. It is the mission of the Trade and Technical Division to provide students with current knowledge and training necessary for immediate entry into various specialties within the job market.**

COURSE OBJECTIVES: This course introduces basic principles of the identification and control of weeds and other pests in field crop production with emphasis on using Integrated Pest Management Principles. Pesticide groups, modes of action and possible crop injury symptoms will also be discussed. Students will also gain knowledge of correct pesticide application procedures that insure safety to the applicator and the environment and will obtain a North Dakota Commercial Applicator License.

Student Outcomes/Competencies: After completing this course, the student should be able to:

- Identify weed plants by seed, vegetative, and reproductive stages.
- Describe weed management options.
- Explain factors associated with application and dissipation of pesticides in the environment.
- Explain the concepts and issues associated with herbicide resistance.
- Identify herbicide groups and families within each mode of action.
- Explain major herbicide modes of action.
- Explain regulatory aspects of weed control.
- Demonstrate an understanding of safe and accurate application of pesticides.
- Demonstrate understanding of pesticide labels and labelling.
- Analyze and understand pesticide calibration formulas and equipment.
- Obtain a North Dakota Commercial Applicator License.

MAJOR UNITS OF INSTRUCTION:

Chapter 1	Weeds and Their Importance
Chapter 2	Why Weeds are Successful
Chapter 3	The Ecology of Weeds and Invasive Plants
Chapter 4	The Mechanisms of Plant Invasions
Chapter 5	The Plant System
Chapter 6	The Soil System
Chapter 7	Management Methods for Cropland and Invasive Species
Chapter 8	Introduction to Herbicides
Chapter 9	Plant-Herbicide Interactions
Chapter 10	Soil-Herbicide Interactions
Chapter 11	Herbicide Resistance
Chapter 12	Herbicide Groups with Significant Foliar Use I
Chapter 13	Herbicide Groups with Significant Foliar Use II
Chapter 14	Herbicide Groups with Significant Foliar Use III
Chapter 15	Herbicide Groups Applied Almost Exclusively to the Soil
Chapter 16	Weed Life Cycles and Management I
Chapter 17	Weed Life Cycles and Management II
Chapter 19	Weed Management in Annual Crops
Chapter 22	Herbicide Formulations and Packaging
Chapter 23	Herbicide Application

ASSESSMENT TOOLS:

Exam I	125 pts
Exam I	125 pts
Exam II	125 pts
Exam IV	125 pts
Lab/Quizzes	200 pts
Written Assignments	200 pts
Group Work	100 pts
Cap Stone Project	250 pts
Course Total	1250 pts

GRADING SCALE:

90-100% = A
80-<90% = B
65-<80% = C
55-<65% = D
0-<55% = F

ATTENDANCE: Class attendance contributes significantly to academic success. Students who attend class regularly earn higher grades and have higher passing rates in courses. In addition to exams, a significant portion of your grade will be determined by lab assignments and quizzes that will be completed in class. Exams may only be made up in cases of excused absence due to illness, hospitalization, or family emergency. **If you become ill or an emergency situation comes up, please notify us as soon as possible.** If you miss an extended period due to illness, you will need a doctor's excuse. Labs may not be made up due to any absence.

ACADEMIC HONESTY: Plagiarism takes the words and/or ideas of another and uses them as your own without giving appropriate credit to the original source. Any clear violations of these standards and others such as cheating, or violating copyright laws, are handled promptly, firmly, privately, and fairly by the instructor. Other examples of scholastic dishonesty and the grievance process can be found in the LRSC Student Catalogue. Students who either intentionally or unintentionally practice plagiarism will receive a grade of zero for that assignment. Additionally, instructors have the ability to have students submit assignments through TurnItIn via Pearson Learning Studio or the website [<http://www.turnitin.com.%20The>]www.turnitin.com. The website will provide plagiarism check of similar content, citations and sources, provide feedback on grammar, spelling and word usage and critiques on writing from Pearson professional tutors.

1st Offense: Since it is impossible to evaluate a plagiarized paper, no credit can be given. At the discretion of the instructor, a student may also be:

Assigned a reduced grade for the course

Allowed to rewrite and submit the assignment for credit

2nd Offense: Dismissed from the class with a failing grade

Please go to the following site for resource information on Plagiarism:

<http://www.academicplagiarism.com>

Use the following sites to check your papers for plagiarism:

<http://www.plagtracker.com/>

<http://www.dustball.com/cs/plagiarism.checker/>

If you are caught copying another person's assignment, quiz, or test or knowingly allow a classmate to copy your work, you will be given an automatic grade of 0 on that assignment.

Students are expected to adhere to the Student Code of Conduct as listed in the Lake Region State College 2013-2015 catalog pages 38-40. Scholastic dishonesty is addressed in the Lake Region State College catalog on page 38.

ACCOMODATIONS: If you need special accommodations because of a disability, we will gladly work to meet your needs. Please let us know if you need any special accommodations of the curriculum, instruction, or assessments of this course to enable you to participate fully. We will keep any information you share with us confidential.

CELL PHONES, TEXTING, AND COMPUTERS

Please silence your cell phones and put them away during class. Phones are very disrupting for you, your instructors, and your classmates. Computers should be stowed away during class unless we tell you that you need them for an assignment. If you abuse these policies, you may be asked to leave.

**Tentative Course Schedule
PLSC 223 Spring 2016
(Monday, Wednesday, Friday Course)**

	Date	Topic	Assignments
1	Wed. Jan 13	Course Introduction: Lecture Chapter 1	Personal Biography Read Ch. 1
2	Fri. Jan 15	Lecture Chapter 2 Why Weeds are Successful	Read Ch. 2
3	Mon. Jan 18	Campus Closed: MLK Day	Read Ch. 3. Written Assignment 1 Ch. 1 & 2
4	Wed. Jan 20	Lecture: Chapters 3 & 4 The Ecology of Weeds and Invasive	Read Ch. 4. Written Assignment 2 Ch. 3 & 4
5	Fri. Jan 22	Quiz/Lab I: Pesticide Labeling	Commercial Applicator Licensing From: National Pesticide Core Manual
6	Mon. Jan 25	Lecture: Chapters 5 The Plant Systems	Read Ch. 6. Written Assignment 3 Ch. 5
7	Wed. Jan 27	Lecture: Chapter 6 The Soil System	Read Ch. 6. Written Assignment 4 Ch. 6
8	Fri. Jan 29	Exam Review Chapters: 1- 6	In Class Group Work I
9	Mon. Feb 1	Exam I: Chapters 1-6	Read Ch. 7.
10	Wed. Feb 3	Lecture: Chapter 7 Management Methods for Cropland and Invasive Species	Read Ch. 8.
11	Fri. Feb 5	Lecture: Chapter 8 Introduction to Herbicides	Read Ch. 9.
12	Mon. Feb 8	Lecture: Chapter 9 Plant-Herbicide Interactions	Read Ch. 9. Pgs. 154-160 Written Assignment 5 Ch.7, 8 & 9
13	Wed. Feb 10	Lecture: Chapters 1-4 Agricultural Pest Control-Plant Manual	UNL Extension Book
14	Fri. Feb 12	Quiz/Lab II: Pesticide Formulations	Commercial Applicator Licensing From: National Pesticide Core Manual
15	Mon. Feb 15	Campus Closed: President's Day	Read Ch. 10
16	Wed. Feb 17	Lecture: Chapter 10 Soil-Herbicide Interactions	Read Ch. 11 Read Pgs. 192-200
17	Fri. Feb 19	Lecture: Chapter 11 Herbicide Resistance	Written Assignment 6 Ch.10 & 11

	Date	Topic	Assignments
18	Mon. Feb 22	Quiz/Lab III: Pesticide Application	Commercial Applicator Licensing From: National Pesticide Core Manual
19	Wed. Feb 24	Exam Review Chapters: 7- 11	In Class Group Work II
20	Fri. Feb 26	Exam II: Chapters 7-11	Read Ch. 12.
21	Mon. Feb 29	Lecture: Pest Management Chapters 1& 2	From: National Pesticide Core Manual
22	Wed. Mar 2	Lecture: Pesticide Safety Chapters 5,6 & 7	From: National Pesticide Core Manual
23	Fri. Mar 4	Quiz/Lab IV: Pesticide Equipment Calibration	Commercial Applicator Licensing From: National Pesticide Core Manual
24	Mon. Mar 7	Lecture: Chapter 22 Herbicide Formulations and Packaging	
25	Wed. Mar 9	Lecture: Chapter 23 Herbicide Application	
26	Fri. Mar 11	Quiz/Lab V: Certification Exam	Commercial Applicator Licensing
	Mar 14th -18th	NO CLASSES	SPRING BREAK
27	Mon. Mar 21	Lecture: Chapter 12. Herbicide Groups with Significant Foliar Use I	
28	Wed. Mar 23	Lecture: Chapter 12. Herbicide Groups with Significant Foliar Use I	Read Ch. 12.
29	Fri. Mar 25	Campus Closed: Good Friday	Read Ch. 13.
30	Mon. Mar 28	Campus Closed: Easter Monday	Read Ch. 13.
31	Wed. Mar 30	Lecture: Chapter 13 Herbicide Groups with Significant Foliar Use II	Written Assignment 7 Ch. 12 &13
32	Fri. Apr 1	Quiz/Lab VI: Weed ID	
33	Mon. Apr 4	Lecture: Chapter 13 Herbicide Groups with Significant Foliar Use II	Read Ch. 14.
34	Wed. Apr 6	Lecture: Chapter 14 Herbicide Groups with Significant Foliar Use III	
35	Fri. Apr 8	Exam Review Chapters 12,13,14	In Class Group Work III
36	Mon. Apr 11	Exam III: Chapters 12-14	
37	Wed. Apr 13	Lecture: Chapter 15 Herbicide Groups Applied Almost Exclusively to the Soil	Written Assignment 8 Ch.14 &15
38	Fri. Apr 15	Lecture: Chapter 15 Cont.... Herbicide Groups Applied Almost Exclusively to the Soil	Read Ch. 16.
39	Mon. Apr 18	Lecture: Chapter 16 Weed Life Cycles and Management I	Read Ch. 17.

	Date	Topic	Assignments
40	Wed. Apr 20	Lecture: Chapter 17 Weed Life Cycles and Management II	Read Ch. 19. Written Assignment 9 Ch.16 & 17
41	Fri. Apr 22	Quiz/Lab VII: Weed ID	
42	Mon. Apr 25	Lecture: Chapter 19 Weed Management in Annual Crops	Read Ch. 20.
43	Wed. Apr 27	Lecture: Chapter 20 Weed Management in Perennial Crops	Written Assignment 10 Ch. 19 & 20
44	Fri. Apr 29	Quiz/Lab VIII: Weed ID	
45	Mon. May 2	Cap Stone Project Group Work	
46	Wed. May 4	Exam Review Chapters 15,16,17,19,20	In Class Group Work IV
47	Fri. May 6	Exam IV: Chapters 15,16,17,19,20	
48	May 9th -13th	FINALS WEEK	Cap Stone Project Due

Finals week	Days	Date
Final Exam Preparation & Faculty Consultation Days:	Mon- Friday	Apr 29 th - May 6 th 2016
Final Semester Examinations	Mon-Friday	May 9 th - May 13 th 2016
Final Exam in this course	Friday	May 6 th 2016

Schedule and assignments are subject to change. Laboratory exercises and assignments will be incorporated into the lecture periods.