

Course Prefix/Number/Title: **PLSC 223 Introduction to Weed Science**

Number of Credits: 3

Course Description: Introduction of a basic knowledge of weeds, herbicide groups, the use of pesticides, economic and environmental considerations, personal safety, modes of action and terminology. Safe application of pesticide and an opportunity to earn a private or commercial pesticide applicators license.

Pre-/Co-requisites: none

Course Objectives:

- 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

Instructor: Raquel Dugan-Dibble

Office: Molberg 21

Office Hours: By appointment

Phone: 701-228-5481

Email: [R.DuganDibble@dakotacollege.edu](mailto:R.DuganDibble@dakotacollege.edu)

Lecture/Lab Schedule: Tu Th 9:30 am - 10:45 am via Teams

Textbook(s): Bryson, CA. 2010. Weeds of the Midwestern United States and Canada. University of Georgia Press.

Course Requirements: Students' knowledge and understanding of the reading and supplemental materials will be assessed through exams, critical thinking assignments, and presentations. Grading is based on a standard curve, where students earn a grade based upon the percent of total possible points they obtain. Although, slight modification may occur based on the discretion of the instructors. The course consists of 640 points. **No late assignments will be accepted!**

Tentative Course Outline: **Schedule and assignments are subject to change. Laboratory exercises and assignments will be incorporated into the lecture periods.**

Requirement	Points
Critical Thinking Assignments	30%
Lab/Worksheets	40%
Tests	30%
<b>Total</b>	<b>100%</b>

<b>Chapter 1</b>	<b>Weeds and Their Importance</b>
<b>Chapter 2</b>	<b>Why Weeds are Successful</b>
<b>Chapter 3</b>	<b>The Ecology of Weeds and Invasive Plants</b>
<b>Chapter 4</b>	<b>The Mechanisms of Plant Invasions</b>
<b>Chapter 5</b>	<b>The Plant System</b>
<b>Chapter 6</b>	<b>The Soil System</b>
<b>Chapter 7</b>	<b>Management Methods for Cropland and Invasive Species</b>
<b>Chapter 8</b>	<b>Introduction to Herbicides</b>
<b>Chapter 9</b>	<b>Plant-Herbicide Interactions</b>
<b>Chapter 10</b>	<b>Soil-Herbicide Interactions</b>
<b>Chapter 11</b>	<b>Herbicide Resistance</b>
<b>Chapter 12</b>	<b>Herbicide Groups with Significant Foliar Use I</b>
<b>Chapter 13</b>	<b>Herbicide Groups with Significant Foliar Use II</b>
<b>Chapter 14</b>	<b>Herbicide Groups with Significant Foliar Use III</b>
<b>Chapter 15</b>	<b>Herbicide Groups Applied Almost Exclusively to the Soil</b>
<b>Chapter 16</b>	<b>Weed Life Cycles and Management I</b>
<b>Chapter 17</b>	<b>Weed Life Cycles and Management II</b>
<b>Chapter 19</b>	<b>Weed Management in Annual Crops</b>
<b>Chapter 20</b>	<b>Weed Management in Perennial Crops</b>
<b>Chapter 23</b>	<b>Herbicide Application – Parts of a sprayer/calibration</b>

Letter Grade	Points (Percent)
A	(89.5% - 100%)
B	(79.5% - 89.4%)
C	(69.5% - 79.4%)
D	(59.5% - 69.4%)
F	(<59.5%)

General Education Competency/Learning Outcome(s) OR CTE Competency/Department Learning Outcome(s): This course meets the CTE department learning outcome of employing industry-specific skills in preparation for workplace readiness by:

### **Expand Critical thinking competence**

- Understand global and social interdependencies as they relate to agriculture and food crops.
- Describe the important factors in plant health, growth, and nutrient density.
- Discuss benefits and consequences of the evolution of our food system from production to consumption.

Relationship to Campus Focus: This course is part of our Plant Science Program, and it addresses the campus theme of Nature, Technology and Beyond through learning about weed science and how to best utilize management practices. The latest science is discussed and demonstrated.

Classroom Policies: Be polite and respectful of the instructor, other students, and any guests in our class. We will follow any COVID-19 classroom policies currently in force by the University system. Ear buds

are not allowed during class or lab. Cell phone use is only permitted for interactive lectures. Class attendance contributes significantly to academic success. Students who attend class regularly earn higher grades and have higher passing rates in courses. You will receive participation points that will be deducted for absence from class and cell phone use. In addition to exams, a significant portion of your grade will be determined by lab assignments and quizzes that will be completed in class.

**Student Email Policy:** Dakota College at Bottineau is increasingly dependent upon email as an official form of communication. A student's campus-assigned email address will be the only one recognized by the Campus for official mailings. The liability for missing or not acting upon important information conveyed via campus email rests with the student.

**Academic Integrity:** According to the DCB Student Handbook, students are responsible for submitting their own work. Students who cooperate on oral or written examinations or work without authorization share the responsibility for violation of academic principles, and the students are subject to disciplinary action even when one of the students is not enrolled in the course where the violation occurred. The Code detailed in the Academic Honesty/Dishonesty section of the Student Handbook will serve as the guideline for cases where cheating, plagiarism or other academic improprieties have occurred.

**Disabilities or Special Needs:**

Students with disabilities or special needs (academic or otherwise) are encouraged to contact the instructor and Disability Support Services.

**Title IX:**

Dakota College at Bottineau (DCB) faculty are committed to helping create a safe learning environment for all students and for the College as a whole. Please be aware that all DCB employees (other than those designated as confidential resources such as advocates, counselors, clergy and healthcare providers) are required to report information about such discrimination and harassment to the College Title IX Coordinator. This means that if a student tells a faculty member about a situation of sexual harassment or sexual violence, or other related misconduct, the faculty member must share that information with the College's Title IX Coordinator. Students wishing to speak to a confidential employee who does not have this reporting responsibility can find a list of resources on the DCB Title IX webpage.