

AGRN 477
Weed Science Competition
Spring 2023

I. General Information

Students will prepare for a regional weed science contest by learning to identify weeds and herbicide symptoms, troubleshoot crop problems, calibrate sprayers and calculate agronomy application problems.

National Weed Science Contest
Hosted by Bayer Crop Science
Union City, Tennessee
July 25-July 27, 2023

Lab: M W, 3:00-3:50, KH 226 or Agricultural Field Laboratory Greenhouse or Agronomy Shed

Instructor: Dr. Mark Bernards
Knoblauch Hall 321
Office: 309-298-1569
Mobile: 309-313-5917
Email: ml-bernards@wiu.edu

Office Hours: M, Th 11:00-11:50 a.m.; T, Th 1:00-1:50 p.m. or by appointment.

Required Texts:

1. Bradley KW, Bish M. 2016. Practical Weed Science for the Field Scout. University of Missouri Extension, Columbia, MO. (Available for \$37.00 at <https://extension2.missouri.edu/ipm1007>).
2. Loux MM et al. 2023. Weed Control Guide for Ohio, Indiana Illinois and Missouri. Ohio State University Extension Publication 789. Available for purchase (\$29.50) at <https://extensionpubs.osu.edu/2023-weed-control-guide-for-ohio-indiana-illinois-and-missouri/>
3. Spraying Systems. 2015. TeeJet Technologies Catalog 51A.

Reference Texts:

Bissonnette et al. 2010. Field Crop Scouting Manual. University of Illinois Extension, Champaign, IL.
Bryson, C.T. and M.S. DeFelice. 2010. Weeds of the Midwestern United States and Central Canada. University of Georgia Press, Athens, Georgia.
Stubbendieck, J., M.J. Coffin, and L.M Landholt. 2003. Weeds of the Great Plains. Nebraska Dept of Agriculture, Lincoln, NE.
Uva, R.H., J.C. Neal and J.M Ditomaso. 1997. Weeds of the Northeast. Cornell University Press, Ithaca, NY.
Whitson, D., ed. 1996. Weeds of the West. Western Society of Weed Science, Newark, CA.

II. University Policies and Expectations

Student rights and responsibilities: A complete description is available at www.wiu.edu/provost/students.

Disruptive Student Policy: Students who interfere with normal class function or the ability of other students to learn may be asked to leave the class for the day. For repeated offenses, a student may be removed from the course. Details may be found at: <http://www.wiu.edu/vpas/policies/disrupst.php>

Academic Integrity: <http://www.wiu.edu/policies/acintegrity.php> Western Illinois University, like all communities, functions best when its members treat one another with honesty, fairness, respect, and trust. . . It is the student's responsibility to be informed and to abide by all University regulations and policies on Academic Integrity. Plagiarism, cheating, and other forms of academic dishonesty constitute a serious violation of University conduct regulations. Students who engage in dishonesty in any form shall be charged with academic dishonesty. . . Any student, faculty member, or staff person who has witnessed

an apparent act of student academic dishonesty, or has information that reasonably leads to the conclusion that such an act has occurred or has been attempted, has an ethical responsibility for reporting said act(s).

The policy for AGRN 477: Any confirmed act of academic dishonesty (especially plagiarism, cheating, copying another person's assignment or allowing someone to copy yours) will result in the loss of all points associated with that assignment, and may result in an "F" for the course. Acts of academic dishonesty are reported to the WIU Registrar and become part of a student's academic record.

Equal Opportunity: <http://www.wiu.edu/policies/affirmact.php> Western Illinois University complies fully with all applicable federal and state nondiscrimination laws, orders, and regulations. The University is committed to providing equal opportunity and an educational and work environment for its students, faculty, and staff that is free from discrimination based on sex, race, color, sexual orientation, gender identity and gender expression, religion, age, marital status, national origin, disability, or veteran status.

Sex-Discrimination and Misconduct: University values, Title IX, and other federal and state laws prohibit sex discrimination, including sexual assault/misconduct, dating/domestic violence, and stalking. If you, or someone you know, has been the victim of any of these offenses, we encourage you to report this to the Title IX Coordinator at 309-298-1977 or anonymously online at: http://www.wiu.edu/equal_opportunity_and_access/request_form/index.php. If you disclose an incident to a faculty member, the faculty member must notify the Title IX Coordinator. The complete Title IX policy is available at: <http://www.wiu.edu/vpas/policies/titleIX.php>

Disabilities: Students with disabilities: In accordance with University values and disability law, students with disabilities may request academic accommodations where there are aspects of a course that result in barriers to inclusion or accurate assessment of achievement. To file an official request for disability-related accommodations, please contact the Disability Resource Center at 309-298-2512, disability@wiu.edu or in 143 Memorial Hall. Please notify the instructor as soon as possible to ensure that this course is accessible to you in a timely manner.

Education Majors: The changes within the Illinois State Teaching License requirements, students are required to receive a grade of a "C-" or better in this course in order to meet state requirements.

III. Course Expectations and Policies

1. Live the Golden Rule. Treat others with respect and courtesy in your conversation and actions.
2. Show up. Attendance and punctuality is expected.
3. Participate. Be prepared for class, and work effectively with other students on learning activities.
4. Study. You should plan to spend a minimum of 2 hours outside of class each week to adequately learn the material.
5. The use of tobacco is prohibited in Knoblauch Hall, nor is it allowed during sessions at the AFL.
6. Wear sturdy close-toed shoes and pants when at the School of Agriculture Greenhouses or at the AFL Agronomy farm.

IV. Course Objectives

Foundational Knowledge

1. Identify approximately 125 weeds as plants and seeds.
2. Correctly spell approved common and Latin binomial names of 125 weeds.
3. Know WSSA-HRAC group number for approximately 13 herbicide mode of action and correctly spell each mode of action name.
4. Assign approximately 30 herbicide active ingredients to correct herbicide mode of action and chemical family.

Application

5. Identify herbicide mode of action (and herbicide active ingredient) based on plant injury symptoms and the spectrum of species damaged or controlled.
6. Calibrate a hand-boom sprayer based on an application prescription.

7. Demonstrate proficiency in pesticide application calculations and other agronomic calculations (e.g., fertilizer, irrigation, metric conversions, etc.).
8. Grow contest weed species in the greenhouse.

Integration

9. Professionally handle a field complaint, including systematically assessing the field and plants in the field, and inquiring about the field history to determine possible causes and recommending appropriate solutions

Human Dimension

10. Be prepared to deal with diverse human reactions to agronomic problems, such as anger, blame, manipulation, silence, etc.
11. Be prepared to network with weed science teams from other Midwestern universities.

Caring

12. Appreciate the benefit of competition-preparation to enhance learning.

Learning to Learn

13. Use Extension Weed Science publications to learn common herbicide use recommendations, weed identification, and herbicide injury symptomology.

V. Grading – For those taking the course for credit

Grade components	Portion*
Participation	15%
Assignments	10%
Quizzes	50%
Self-assessment	25%

Grading Scale

Percentage	Grade	Percentage	Grade
93.0-100	A	73.0-76.9	C
90.0-92.9	A-	70.0-72.9	C-
87.0-89.9	B+	67.0-69.9	D+
83.0-86.9	B	63.0-66.9	D
80.0-82.9	B-	60.0-62.9	D-
77.0-79.9	C+	<59.9	F

VI. Learning Assessment

Participation: Each student will receive points based on their attendance and contribution to class activities.

Assignments: Points will be given for accurate completion of assignments.

Quizzes: Quizzes will be held frequently to assess student proficiency of the contest material: 1) Weed and seed identification, 2) Latin binomials, 3) Agronomy math, 4) Sprayer calibration, 5) Herbicide identification, and 6) Troubleshooting field complaints.

Self-Assessment: Students will be asked to assess their performance and degree of improvement at mid-term and at the end of the semester using a course-specific rubric.