

Weed Management, PS634
Course Syllabus, Fall 2016 Revision 1.1

Plant Sciences (dept code = 44506) 634 Advanced Weed Science
Lecture Monday and Tuesday (4:00-5:35 PM) Room 160 Plant Biotech Building

Course Text: **no text associated with class.**
Instructor: Dr. Thomas C. Mueller, Professor of Weed Science
Office: 252 Plant Biotech Building
Office hours: by appointment
Phone: Office: 974-8805
 E-Mail: tmueller@utk.edu (this is the best way to contact me).

Specific Course Objectives

To provide recent, state-of-the-art knowledge with respect to herbicide chemistry, herbicide modes of action, weed biology, and several aspects of essential skills related to the discipline of weed science. Specific outcomes include:

1. Complete understanding of Herbicide classification system
2. Thorough background in how herbicides work, with emphasis on key modes of action
3. Introduction to general concepts related to the discipline of weed science, including:
 - A. Various different experimental systems (ie pasture, turf, agronomics, greenhouse)
 - B. Weed biology concepts and nomenclature

Rules for class:

1. No cell phones or computers are allowed to be used in class
2. No cheating
3. Class participation is encouraged and graded
4. No ear buds, or headphones, unless for medical reasons
5. Use caution in lab settings to avoid injury to yourself and others. Unsafe behavior in the laboratory will result in lost points due to poor class participation.
6. Students in the class will decide when each exam is to be given during the semester. Students shall discuss and present their wishes, but Mueller decides. All University grading procedures will be followed.

Lecture Schedule¹ Revision 1.0

Date	Material	page, company
August 22	No class, Mueller at American Chemical Society (ACS) Meeting	
August 23	No class, Mueller at (ACS) Meeting	
August 29	Weed Biology lecture 1	
August 30	Weed Biology Lecture 2- Overview of Weed Biology Test Systems	
September 5	No Class, Labor Day	
September 6	IWM: Why Herbicides are not the Only Answer Lab demo 1 - lab safety, lab procedures, (Sara Mueller)	
September 12	Herbicide/Plant Interactions	12
September 13	Weed Resistance to Herbicides- Field Observations (Dr. Larry Steckel)	76
September 19	DWWIGT - no class meeting	
September 20	DWWIGT- no class meeting	
September 26	Soybean Breeding for Transgenic Herbicide Traits, IP issues	
September 27	University-Industry Relations from Company View Dr. John Cranmer (Potential meeting after class period)	Valent
October 3	Herbicide Mode of Action - Group A (AccAse)	130, Bayer
October 4	Herbicide Mode of Action - Group B (ALS)	52, Dupont
October 10	Weed management and herbicide stewardship considerations in forages (Dr. Neil Rhodes)	
October 11	Herbicide Mode of Action - Group C (PSII) and D (PSI)	44, BASF
October 17	Herbicide Mode of Action - Group E (PPO)	36, FMC
October 18	Herbicide Mode of Action - Group F (Bleachers)	69, NuFarm
October 24	Herbicide Mode of Action - Group G (EPSPS)	23, Monsanto
October 25	Herbicide Mode of Action - Group H (glutamine synthetase)	136, Adama
October 31	Herbicide Mode of Action - Group N, K, and K3 (VLCFA)	125, 110
November 1	Herbicide Mode of Action - Group O (Auxins) Herbicide Active Ingredient Discovery Process	89, DowAgro 102
November 7	misc Herbicide MOA	57, Syngenta
November 8	Herbicide/Soil Interactions	5
November 14	Test Systems for Weed Control in Turf (Dr. Jim Brosnan)	
November 15	Herbicide Safeners, Synergism and Antagonism	84
November 21	TBD	
November 22	TBD	

1*****Syllabus subject to change with notice *****

November 28	Weed Resistance mechanisms, genetics	17
November 29	to be announced	
Final	to be announced	

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Criteria for Grade Determinations

Topic	date of exam	points
Class participation	all days, attendance, attitude, professionalism, lab safety	100
Exam on Lab safety	to be determined (TBD) by class	100
Exam on Chemical Structures	TBD	100
Exam on weed scientific names	TBD	100
Exam on chemical names	TBD	100
Final exam (cumulative)	TBD	500

TOTAL POSSIBLE POINTS

1000

Grading Scale:

Percentage

900 - 1000	A
800 - 899	B
700 - 799	C
600 - 699	D
< 600	F

