

AGRY 515: Plant Mineral Nutrition (Fall 2012)

Week	Date	Lecture Topic	Reading
1	August 21 (Lect. 1) 23 (Lect. 2)	Introduction Yield response and nutritional physiology	Ch 1; (Ch 5; Ch 9 – part.)
2	August 28 (Lect. 3) 30 (Lect. 4)	Soil nutrient availability Nutrient movement in soils	Ch 12
3	September 4 (Lect. 5) 6 (Lect. 6)	Root system morphology Roots and the rhizosphere	Ch 13; Ch 14 (part.)
4	September 11 (Lect. 7) 13 (Lect. 8)	Ion uptake at the root surface Short distance transport cont. Problem Set 1 handed out	Ch 2
5	September 18 (Lect. 9) 20 (Lect. 10)	Long distance transport Phloem mobility Problem Set 1 due at 5pm	Ch 3
6	September 25 (Lect. 11) 27 (Lect. 12)	Classification revisited - conc. and function N intro / review	Ch 6 (pp 135-151)
7	October 2 4 (Lect. 13)	1st MIDTERM EXAM (Lect. 1 – 11) N assimilation and function (Guest Lecture: J. Volenec)	
8	October 9 11 (Lect. 14)	<i>No Class - October break</i> Biological N fixation	Ch 16
9	October 16 (Lect. 15) 18 (Lect. 16)	P and K assimilation and function (Guest Lecture: J. Volenec) Ca, Mg, S assimilation and function	Ch 6 (pp 158-165; 178-189) Ch 6 (pp 151-158; 165-178)
10	October 23 25 (Lect. 17)	No Class – Tri-Societies Mtgs; Micronutrient I TBD – Guest Lecture (Exam will cover content)	Handout
11	October 30 (Lect. 18) November 1 (Lect. 19)	Micronutrient I Problem Set 2 handed out Micronutrient II and beneficial elements	Ch 7 Ch 8 (part.)
12	November 6 (Lect. 20) 8 (Lect. 21)	Nutrient deficiency diagnosis Problem Set 2 due at 5 pm Nutrition and disease resistance	Ch 11 Ch 10
13	November 13 (Lect. 22) 15	Adaption to adverse soil chemistry / review 2nd MIDTERM EXAM (Emphasis: Lect. 12 – 21)	Ch 17
14	November 20 22	Modeling nutrient accumulation Problem Set 3 handed out <i>No Class - Thanksgiving</i>	Handouts
15	November 27 29	Modeling and knowledge gaps Nutrient Use Efficiency Revisited Problem Set 3 due at 5 pm	
16	December 4 6	Nutrient and C fluxes in terrestrial systems & other hot topics Mycorrhizae	Ch 18 Ch 15
17	December 10 - 15	FINAL EXAM WEEK (AGRY 515 exam may be optional)	