

Day of the week	Lecture Dates	Lecture Topics	Instructor	Exams
Monday	1/22/2007	Organizational meeting Membranes and Principles of Plant Mineral Ion Transport	Olena Vatamaniuk	
Wednesday	1/24/2007	Membrane structure and function (Lecture 1)	Olena Vatamaniuk	
Friday	1/26/2007	Membrane structure and function (Lecture 2)	Olena Vatamaniuk	
Monday	1/26/2007	Solute transport (Lecture 1: Genes and proteins in solute transport)	Olena Vatamaniuk	
Wednesday	1/31/2007	Solute transport (Lecture 2: Genes and proteins in solute transport)	Olena Vatamaniuk	
Friday	2/2/2007	Solute transport (Lecture 3: Thermodynamics of solute transport)	Leon Kochian	
Monday	2/5/2007	Solute transport (Lecture 4: Thermodynamics of solute transport)	Leon Kochian	
Wednesday	2/7/2007	Solute transport (Lecture 5: Membrane electrical properties and transport)	Leon Kochian	
		Inorganic Nutrient Requirements Of Cells		
Friday	2/9/2007	Overview of function and classification of mineral nutrients (Lecture 1)	Leon Kochian	
Monday	2/12/2007	Overview of function and classification of mineral nutrients (Lecture 2)	Leon Kochian	
Wednesday	2/14/2007	Diagnosis of nutrient deficiency, yield response	Leon Kochian	
		Modern Technologies For Studying Plant Mineral Nutrition		
Friday	2/16/2007	Preparation of nutrient solutions: an art that is becoming a science	Ross Welch	
Monday	2/19/2007	Chelate buffering systems: improving science-to-art ratio	Bud Norvell	
Wednesday	2/21/2007	Studying ion channels via the patch clamp technique and other electrophysiological approaches (Lecture 1)	Miguel Pineros	
Friday	2/23/2007	Studying ion channels via the patch clamp technique and other electrophysiological approaches (Lecture 2)	Miguel Pineros	
Monday	2/26/2007	Elemental profiling as an approach to study nutrient status of plants and soil health	Mike Rutzke	
Wednesday	2/28/2007	Using molecular/genomic approaches to understand mineral nutrition	Olena Vatamaniuk	
		The Role Of Root Structure/Function And Soil Intercation In Mineral Nutrition		
Friday	3/2/2007	Nutrient availability in soils and soil-root interface in relation to mineral nutrition	Bud Norvell	
Monday	3/5/2007	Where and how do minerals enter the root symplast	Olena Vatamaniuk	
Wednesday	3/7/2007	Mineral ion loading into the xylem (Lecture 1)	Olena Vatamaniuk	
Friday	3/9/2007	Mineral ion loading into the xylem (Lecture 2)	Olena Vatamaniuk	
		Macronutrients		
Monday	3/12/2007	Potassium nutrition	Leon Kochian	
Wednesday	3/14/2007	Phosphorus nutrition	Leon Kochian	
Friday	3/16/2007	Role of mycorrhizae in mineral nutrition	Maria Harrison	
Monday	3/19/2007	SPRING BREAK	SPRING BREAK	Mid-Term Exam (Take-home format)
Monday	3/19/2007	SPRING BREAK	SPRING BREAK	
Monday	3/19/2007	SPRING BREAK	SPRING BREAK	
Monday	3/19/2007	SPRING BREAK	SPRING BREAK	
Monday	3/26/2007	Nitrogen nutrition	Olena Vatamaniuk	
Wednesday	3/28/2007	Sulfur nutrition	Olena Vatamaniuk	
Friday	3/30/2007	<i>Student-led presentations (Ca and Mg)</i>		
		Micronutrients		
Monday	4/2/2007	Functions and transport of iron (Lecture 1)	Olena Vatamaniuk	
Wednesday	4/4/2007	Functions and transport of iron (Lecture 2)	Olena Vatamaniuk	
Friday	4/6/2007	<i>Student-led presentations (Mn and Mo)</i>		
Monday	4/9/2007	Zinc nutrition and transport	Olena Vatamaniuk	
Wednesday	4/11/2007	Selenium	Li Li	
		Metal ion toxicity		
Friday	4/13/2007	<i>Student-led presentations (Silicon and Boron)</i>		
Monday	4/16/2007	Acid soils and aluminum toxicity	Owen Hoekenga	
Wednesday	4/18/2007	Mechanisms of aluminum tolerance	Owen Hoekenga	
Friday	4/20/2007	<i>Student-led presentations (Cu and Co)</i>		
Monday	4/23/2007	Heavy metals (Lecture 1: Uptake of non-essential heavy metals and toxicity)	Olena Vatamaniuk	
Wednesday	4/25/2007	Heavy metals (Lecture 2: Mechanisms of heavy metal tolerance)	Olena Vatamaniuk	
Friday	4/27/2007	<i>Student-led presentations (Ni and Hyperaccumulating plants - phytoremediation strategies)</i>		
Monday	4/30/2007	Zinc/iron/cadmium interactions in plants	Jon Hart	
		Plant Mineral Nutriions and Society		
Wednesday	5/2/2007	Relating plant mineral nutrition to human health and nutrition (Lecture 1)	Ross Welch	
Friday	5/4/2007	Relating plant mineral nutrition to human health and nutrition (Lecture 2)	Ross Welch	
		FINAL EXAM: Day, time and location to be announced		