

Plant Ecology in a Changing World, Fall 2017

Date	Lecture #	Topic
Biomes and Climates of the World (The world as we see it)		
8/22/17	1	Adaptation, biodiversity, and the environment
8/24/17	2	Climate constrains plant distributions
8/29/17	3	Biome and climate relationships (<i>Online Mini-test 20 points</i>)
8/31/17	4	Desert and steppe ecosystems
9/5/17	5	Grassland, savannah, and shrub ecosystems
9/7/17	6	Forest ecosystems
9/12/17	7	Alpine and tundra ecosystems
Plant adaptation (Environment and Resource Capture)		
9/14/17	8A	Microclimate 1 - the biophysical environment
9/19/17		Exam 1 on lectures 1-7 (100 points)
9/21/17	8B	Microclimate 2 - the biophysical environment (Lecture online, no in-class discussion)
9/26/17	9	Plants exchange energy with their environment
9/28/17	10	Plants acquire carbon and energy through photosynthesis (<i>Online Mini-test 20 points</i>)
10/3/17	11	Photosynthetic responses and adaptation to light and temperature
10/5/17	12	Water movement through the soil-plant continuum
10/5/17		Vegetation and adaptation paper due (paper #1, 100 points)
10/10/17		Fall Break
10/12/17		Fall Break
10/17/17		Peer-to-peer review due (25 points)
10/17/17	13	Plant responses and adaptation to water stress
online only	14	Plants acquire nutrients via roots and microbes
10/19/17	15	Environmental stresses limit resource capture and use
Resource Utilization (Integrating plant characteristics to enhance performance)		
10/24/17	16	Plant architecture and carbon balance integrate plant activities
10/26/17	17	Plant phenology and resource allocation enhance performance
online only	18	Leaf economic spectrum and other emergent patterns
10/31/17	19	Life history, and reproduction: its all about timing and provisioning (<i>Online Mini-test 20 points</i>)
online only	20	Plant defense against herbivory and microbes
online only	21	Plants compete for resources
11/2/17		Exam 2 on lecture 8-19 (100 points)
Plant Responses to a Changing World (Sustainability and persistence)		
online only	22	Global anthropogenic changes occurring today that impact sustainability
11/7/17	23	Increased invasive species - characteristics of a serious invasive species
11/9/17	24	Atmospheric changes impact plant performance and evolution (<i>Mini-test, 20 points</i>)
11/14/17	25	Atmosphere and climate impact photosynthetic pathway advantages
11/16/17	26	Global carbon balance, bending the curve, and terrestrial subsidies to anthropogenic emissions
11/21/17	27	Warming impacts: phenology, fires, drought stress, and species range changes
11/21/17		Policy paper due (paper #2, 100 points)
11/23/17		Thanksgiving Break
Engineering Plant Communities (What we design as plant communities)		
11/28/17	28	Envision Utah - what the pioneers saw, what we see, and what our children will see
11/30/17	29	Restoration ecology - plant tolerances and putting the system back together again
12/5/17	30	Urban ecosystems and land-use changes (<i>Online Mini-test, 20 points</i>)
12/7/17	31	Urban green infrastructure