

## BISC/ES Ecosystem Ecology with Lab Course Schedule

Important note: Course topics and readings are subject to change as the semester progresses! This is a living document. I promise to always give ample notice, both written and oral, for changes to the course schedule.

- Across weeks, we will read from [Chapin, Matson, and Vitousek 2011 \*Principles of Terrestrial Ecology\*](#) and articles from the primary scientific literature.
- *Topics* are listed below for each day of class, and **readings + assignments due** for that class period are listed. More details about assignment due dates and submission formats on the Classroom site.

Week	Tuesday Lecture	Thursday Lab	Friday Lecture
<b>Unit 1: Climate, energy, &amp; water</b>			
Week 1: 1/23-1/27	<i>Welcome + The Ecosystem</i>	Lab 1: Intro to local ecosystems	<i>The Climate System</i>
Week 2: 1/30-2/3	<i>Ecosystem Energy Balance</i>	Lab 2a: Microclimate variation and climate refugia, <b>data collection in the field</b>	<i>Microclimates</i>
Week 3: 2/6-2/10	<i>Ecosystem Water Balance</i>	Lab 2b: Microclimate variation and climate refugia, <b>data analysis in R</b>	<i>Soils</i>
<b>Unit 2: Carbon &amp; nutrients</b>			
Week 4: 2/13-2/17	<i>Grazing management and soil</i>	Lab 3a: Soil identification along habitat gradients, <b>data collection in the field, soil analysis in the lab</b>	<i>Primary productivity</i>
Week 5: 2/20-2/24	<i>No class</i>	Lab 3b: Soil identification along habitat gradients, <b>data analysis in R</b>	<i>Plant phenology</i>
Week 6: 2/27-3/3	<i>Decomposition</i>	Lab 4a: Controls of spring plant phenology, <b>experimental design and set up</b>	<i>Heterotrophic respiration</i>
Week 7: 3/6-3/10	<i>Mycorrhizae &amp; decomposition</i>	Lab 5a: Soil nutrients along terrestrial-aquatic interfaces, <b>data collection in the field, nutrient analysis in lab</b>	<i>Plant nutrient use</i>
Week 8: 3/13-3/17	<i>Nature-based climate solutions</i>	Lab 4b: Controls of spring plant phenology, <b>data collection and analysis in R</b>	<i>Nature-based climate solutions and spring phenology walk</i>

Week 9: 3/20-3/24	<i>Roots and soil thawing</i>	Lab 5b: Soil nutrients along terrestrial-aquatic interfaces <b>data collection in the field, nutrient analysis in lab</b>	<i>Nitrogen cycling</i>
Week 10: 3/27-3/31	<i>Spring break</i>		
<b>Unit 3: Ecosystem dynamics + final project</b>			
Week 11: 4/3-4/7	<i>Green infrastructure</i>	Lab 6a: Final project devo and data collection	<i>Ecosystem disturbance</i>
Week 12: 4/10-4/14	<i>Disturbance</i>	Lab 6b: Final project devo and data collection	<i>Ecosystem succession</i>
Week 13: 4/17-4/21	<i>Boreal forest fires</i>	Final project data analysis in R, Poster workshop	<i>Trophic interactions</i>
Week 14: 4/24-4/28	<i>Class visit from visiting scholar</i>	Poster workshop	<i>Restoration and conservation ecology: What is next?</i>
Week 15: 5/1-5/5	<i>Poster session!</i>	<i>No lab</i>	<i>No class</i>