

Community Ecology

Community ecology is the study of interactions between organisms and their environment. It has a rich theoretical basis, a tradition of experimentation and observation and applied implications in the world around us. In this class, we will integrate theory and evidence to see what it takes build and maintain communities from the ground up.

Required textbooks:

Gotelli, N.J.(2008) *A Primer of Ecology: Fourth Edition. (or any).* Sinauer Associates.

Mittelbach, G. (2012) *Community Ecology.* Oxford University Press

This course will meet twice a week for a one hour lecture, with an additional weekly discussion section/lab to be scheduled once the course begins.

Topic	Reading(s)
1] What is Community Ecology anyway?	Velland 1999, Mittelbach Ch. 2
2] Niches and Tradeoffs	Losos 2010, Argawal 2010
3] Basic Populations Models I	Gotelli Ch. 1
4] Basic Populations Models II	Gotelli Ch. 2
5] Life History	Gotelli p.50-62, Stearns 2000
6] Population Genetics	Waits Ch. 3 (Canvas), Clausen 1941
7] Movement, Migration and Metapopulations	Gotelli Ch. 4, Dingle 2007
8] Models of Competition	Gotelli p. 100-114, Mittelbach p. 132-136
9] Models of Predation	Gotelli p.126-140, Mittelbach p. 85-91
10] Competition and Predation in Nature	Goldberg 1992, Chase 2002
11] Mutualism and Facilitation	Mittelbach Ch. 9, Janzen 1966
12] Eco-Evo	Benton 2009, Argawal 2012, Fenster 2004
13] Interaction Networks I	Mittelbach p. 198-205, Mittelbach p. 214-222
14] Interaction Networks II	Mittelbach Ch.11, Beschta 2003,2014
15] Indirect effects	Morin Ch. 8 (Canvas), Amo 2003
16] Disturbance	Mittelbach p. 297-299, Fox 2013, Sheil 2013,
17] Succession	Gleason 1939, del Moral 2014
18] Coexistence	Mittelbach p. 289-297, Mittelbach p. 260-263, Silvertown 2004
19] Metacommunity and assembly theory	Leibold 2004, Fukami 2015
20] Alternate stable states	Mittelbach p. 304-313, Folke 2004
21] Complexity, stability and function	Tilman 1999, Mori 2018
22] Quaternary Biogeography	Tifney 1985, Gavin 2014
23] Invasion	Sax 2007, Richardson 2006
24] Applications	McLachlan 2007, Donlon 2005

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