

# Microbial Ecology & Diversity

Fall 2020

11:680:491

Mondays & Wednesdays 5:35 – 6:55 pm

Online

Instructors: Tamar Barkay and Costantino Vetriani

Guest lecturers: Liping Zhao, Gloria Dominguez-Bello & Andy Marinucci

	Date	Lec	Topic	Instructor
Introduction and microbial diversity	Sept 2	1	Introduction and historical perspectives	Barkay & Vetriani
	Sept 8	2	Origins of life	Vetriani
	Sept 9	3	Microbial evolution	Vetriani
	Sept 14	4	The prokaryotes (Bacteria and Archaea)	Barkay
	Sept 16	5	Microbial Eukaryotes	Barkay
	Sept 21	6	Viruses in microbial ecology	Barkay
	Sept 23	7	Methods in microbial ecology	Vetriani
	Sept 28	8	Microbial genetics and horizontal gene transfer	Vetriani
Metabolic diversity	Oct 30	9	Modes of microbial metabolism in the environment	Vetriani
	Oct 5		<b>1<sup>st</sup> midterm (Lectures 1-8)</b>	
	Oct 7	10	The carbon cycle	Barkay
	Oct 12	11	The nitrogen and sulfur cycles	Vetriani
	Oct 14	12	Microbe-metal interactions	Barkay
	Oct 19	13	Bioremediation	Marinucci
	Oct 21	14	Cycles and humans	Barkay
Microbial interactions and ecosystems	Oct 26	15	Microbe-animal interaction	Vetriani
	Oct 28	16	Microbe-plant interactions	Barkay
	Nov 2		<b>2<sup>nd</sup> midterm (Lectures 9-16)</b>	
	Nov 4	17	Hydrothermal vent microbiology	Vetriani
	Nov 9	18	-Omics approaches in microbial ecology	Vetriani
	Nov 11	19	Microbiome and nutrition	Zhao
	Nov 16	20	Microbiome and development	Dominguez-Bello
	Nov 17	21	Microbial communities and ecosystems	Barkay
	Nov 23	22	Terrestrial environments	Barkay
	Nov 25		<b>Thanksgiving recess (Fri. class schedule)</b>	
	Nov 30	23	Aquatic environments	Vetriani
	Dec 2	24	Abiotic factors and life in extreme environments	Barkay
	Dec 7		<b>3<sup>rd</sup> exam (Lectures 17-24)</b>	

Midterm 1: 35%

Midterm 2: 30%

Midterm 3: 30%

Participation in class and in polls: 5%