

<b>Organismal microbiomes and host-pathogen interactions</b>				
Books: Janeway's Immunobiology ed. 9 (although 7/8 would work as well); Brock Microbiology 15th edition (although 14 and 13th would work as well, use the index).				
Grade: quizzes (<10), two midterms, a final exam and a written assignment (weighted 10%, 20%, 20%, 35%, 15%, respectively). Exams are multiple-choice questions.				
		topic		reading
1	Th 8/24/2023	Intro		
	T 8/29/2023	Bacteria!		Brock ch.2 (you can ignore material on microscopy, archaea, eukaryotes)
2	Th 8/31/2023	Antibiotics and antibiotic resistance		Brock's Ch. 28.5, also p. 141-143
3	T 9/5/2023	Horizontal gene transfer (intro to bacteriophages)		Brock's 5.4-5.6, 9.6-9.9, 9.11, Soucy 2015
4	Th 9/7/2023	bacterial genomics and genomic islands		Brock's ch. 13.10, Lukjachenko 2010, Morran et al (2011) Running with the Red Queen: Host-Parasite Coevolution Selects for biparental sex. Science
5	T 9/12/2023	Symbiosis, co-evolution, arms race		Brock ch. 23, Sachs PNAS 2011,
6	Th 9/14/2023	arms race, pathogenesis and virulence factors		Brock's 1.12, Finlay 2009 (EPEC), Hinnebusch 2017 (Y. pestis)
7	T 9/19/2023	pathogenesis and virulence factors (Molecular version of Koch postulates, toxins, transposon mutagenesis)		Brock's Ch. 25 9.11 for transposon mutagenesis
8	Th 9/21/2023	pathogenesis and virulence factors		
9	T 9/26/2023	Midterm I		
	Th 9/28/2023	Introduction to immunity, innate immunity and its evasion I		Brock's 10.13, Janeway's Ch. 1
	T 10/3/2023	Innate immune recognition -	Abstract writing	Janeway's Ch. 2 and 3

		phagocytosis and activation		
10	Th 10/5/2023	Bacterial evasion of recognition and immune activation - TTSS		Brock's 4.13, Galan 2006, Shao 2008
11	T 10/10/2023	Adaptive immunity		Janeway's Ch. 4 and 5
12	Th 12/12/2023	Adaptive immunity and its evolution I		Janeway's Ch. 4 and 5, Pancer et al., 2004
13	T 10/17/2023	Adaptive immunity and its evolution II		Janeways's Ch. 5.17, Swann 2020
14	Th 10/19/2023	mucosal homeostasis and its disruption		Janewys's Ch. 12, Mowat 2018, Allaire 2018
15	T 10/24/2023	Midterm II		
	Th 10/26/2023	Mutualisms - Aphids and their symbionts, vertical transmission	Abstarct writing	Brock's Ch 23.6, Oliver et al. 2010, Shigenobu and Wilson 2011
	T 10/31/2023	Mutualisms - squid and vibrio, horizontal transmission and a molecular dialogue		McFall-Ngai 2014, Schwartzman and Ruby 2015
16	Th 11/2/2023	The human gut microbiome - introduction and its coming together		Feretti 2018, Yassour
17	T 11/7/2023	Shaping of the gut microbiome		Yatsunenکو 2012 (human populations), Sonnenburg and Backhed 2016 (diet), Goodrich 2014 (Genetics)
18	Th 11/9/2023	Contributions of the gut microbiome to the host		Koh 2020, Rivera-Chavez 2016, Morais et al., 2020,
19	T 11/14/2023	The microbiome and gastrointestinal disease		Federici et al., 2022
20	Th 11/16/2023	Microbiome - evolution and significance		Zilber-Rozenberg 2008, Brooks 2016, Moeller, 2021
21	T 11/21/2023	archaic microbiomes and		Maixner 2021, Sanders 2023

		the lost microbiomes			
22	T 11/28/2023	The gut-brain axis			Cryan et al., 2019
23	Th 11/30/2023	Probiotics			Buffie 2015, Zmora 2018, Sanders 2019
<b>Finals</b>					