

BIOLOGY 106 (COURSE OUTLINE) – Version 8*

DATE	READINGS**	Lecture Topic	Lab Topic
8/29	1-21	Introductions; What is science? What is microbiology?	No lab
8/30	23-34; 47-57; 59;	Who are the players and how are they classified? Taxonomy	
9/2	91-93; 103-104; 107;	Bacteria, Archaea, Protists,	
9/5	113-117; V1 and V2; 69-78; 81(lysogeny);	Finish fungi; start Viruses	The microbial toolbox; Lab 1: Are their bacteria in environment X?
9/7	S1	Impact assignment discussion; Video discussion	
9/9	Reproduction: 56-57; 106; 117-118 Growth: 135-141	How do microbes reproduce and grow? Reproduction; Start environmental factors	
9/12		Continue	Lab 1 Data analysis and gram stains; Lab 2 Planning: What environmental factors influence the growth of bread mold?
9/14	S2	Case study 1: Biofilms	
9/16	141-153	Metabolism	
9/19	153-155; V3	Continue	Lab 2 Experiments
9/21	183-189;190-194	How can we control microbial growth?	
9/23	195-205		
9/26	222-240; S3		Lab 2 data analysis; Lab 3 Planning: How effective are our various antimicrobial agents?
9/28		EXAM 1	
9/30	160-174	How do we harness the power of microbial genetics? Intro to genetics	
10/3	174-181; 274-276	Cloning therapeutics	Lab 3 experiments; Lab 2 Report due 10/7
10/5	306-315	Microbes and plant biotech	
10/7	S4	Activity	
10/10	207-221; 301-305	How do microbes help with food production? Foods	Lab 3 data analysis; Lab 4 planning
10/12	299-301	Ruminants	
10/14	297-299	Legumes and nitrogen fixation	
10/17		Fall Break	
10/19	317-321	What roles do microbes play in the biosphere? Ecosystems	No labs
10/21	323-326; V4	Biogeochemical cycles: carbon and oxygen	
10/24	326-329; 330-331; 333-344	Water treatment	
10/26		Activity	Lab 3 Report due 10/24 Lab 4: How are food products made using microbial methods?
10/28		EXAM 2	
10/31		How do microbes interact with the human body? Normal flora	
11/2	337-344	Disease principles	Lab 4: cont Lab 5: How is the etiological agent of a disease identified?
11/4		No class	
11/7	V5; 344-358 (as a reference guide)	Host defenses	Lab 5 cont
11/9		Host defenses	
11/11	392-393; 407-408	Bacterial disease	
11/14	395-396; 410-411	In class Activity - Phagocytosis and Pathogens	Lab 5 cont
11/16	366-367; 380	Viral disease	
11/18	372-374; 385-387	Viral diseases	
11/21	84-85	Mad Cow Microbial Musing due	
11/23		Thanksgiving	No lab
11/25		Thanksgiving	
11/28	V6; 339-340	Epidemiology	Pigment lab
11/30		Epidemiology	
12/2		EXAM 3	
12/5		Activity	Pamphlet presentations
12/7	TBA	Bioterrorism	
12/9		Course evaluations	
12/16	FINAL EXAM	Final exam Cumulative 9AM	

* This syllabus will be updated as the semester proceeds. Updated versions will be posted on BlackBoard. Due dates will NOT change.

**Page numbers refer to text and additional materials are listed below

Additional required readings

- S1 = Are Viruses Alive? Scientific American Dec. 2004 p.101-105 (only have to read through 104)
- S2 = Battling Biofilms Scientific American Jul. 2001 p.75-81
- S3 = The Challenge of Antibiotic Resistance Scientific American March 1998 p. 46-53
- S4 = Does the world need GM foods? Scientific American April 2001 p.62-65

Accessing readings

(1) Through UR library course reserves (link on right side of screen on <http://library.richmond.edu/> or in BB under UR library resources)

OR

(2) Through UR library journal located (link under Finding Information at <http://library.richmond.edu/>)


Videos

- V1 = The Unity of Living Systems in Unseen Life of Earth (An Introduction to Microbiology) series
Just the first 15 minutes is required (although you may find the whole segment interesting).
- V2 = Microbial Evolution in Unseen Life of Earth (An Introduction to Microbiology) series
- V3 = Metabolism in Unseen Life of Earth (An Introduction to Microbiology) series
- V4 = Microbial Ecology in Unseen Life of Earth (An Introduction to Microbiology) series
- V5 = Human Defenses in Unseen Life of Earth (An Introduction to Microbiology) series
- V6 = Microbes and Human Diseases in Unseen Life of Earth (An Introduction to Microbiology) series

Accessing videos

(1) Access the Unseen Life of Earth (An Introduction to Microbiology) series at the Annenberg/CPB programs web site

<http://www.learner.org/resources/series121.html?pop=yes&vodid=189766&pid=1365#jump1> . This link is also posted on BlackBoard. Go to the

individual program description listing and click on the icon  .

Free sign up required for first-time users. To hear the sound and view video, you should have Windows Media Player and have Javascript enabled. Also, you will need a relatively fast connect to the internet (DSL, a cable modem, or a LAN connection to a T1 line or greater). If your computer is not set up to do this, you can use a computer in the Gottwald Science Center computer lab.

OR

(2) The Media Resource Center (MRC) is ordering the videos and should have them available for checkout soon.