

Appendix A. “Introduction to Microbiology” in eighteen days

Course goals:

By the end of this course you will:

1. Have an appreciation for diversity in the microbial world
2. Understand how structure and function are interrelated in molecular biology
3. Understand horizontal gene transfer and the evolution of antibiotic resistance
4. Understand the basic properties of human immunity and microbial pathogenesis
5. Be able to grow pure cultures of bacteria using good aseptic technique
6. Be able to design and test a hypothesis using standard microbiological techniques
7. Be able to write a professional laboratory report in the format of a formal research publication
8. Be able to identify a microbiologist’s thesis and summarize her/his argument
9. Be able to develop and defend your own thesis
10. Be able to use Tutt Library resources to complete a major researched project (on Your Favorite Microbe, i.e. “YFM”)
11. Be able to create and deliver a thesis-centered oral seminar on YFM

<u>Day</u>	<u>Morning</u>	<u>Afternoon</u>	<u>Due</u>
1	Welcome; investigative biofilm lab begins	Continue lab	
2	Introduction to microbiology	Continue lab	
3	Microbial diversity & history	Continue lab	YFM stage 1
4	Cultivation & identification; bacterial motility	PL available for questions	
5	Exam 1		
6	Lab check-in with instructor	Design biofilm project	YFM stage 2
7	Structural features of prokaryotes	Work on biofilm project	
8	Bacterial genetics	Work on biofilm project	
9	Genetics continues; antibiotics and antibiotic resistance	PL available for questions	
10	Exam 2		
11	Horizontal gene transfer	Work on biofilm project	YFM stage 3
12	Work on biofilm project		
13	Human microbiota & immunity	Finish biofilm project	
14	Human immunity & pathogenesis	PL available for questions	YFM stage 4
15	Pathogenesis case study		Stage 1 of lab report
16	Work Day! Collect comments on your lab report at 10:00 a.m.		
17	YFM presentations		Full (revised) lab report
18	Final exam (class ends at noon)		

