

WEB Biology Syllabus

Cell biology	
Week 1	Osmosis and tonicity, and keeping a good lab notebook! -Potato Osmosis lab
Week 2	What is a cell? Prokaryotes: Unicellular organisms (Bacteria from your hand lab)
Week 3	What is a cell? Eukaryotes (The animal cell) -Introduction to the microscope
Week 4	What is a cell part II: plant cell (<i>Cell structure project</i>) -Onion cell lab
Week 5	Multicellular organisms I (Plants) Photosynthesis lab
Week 6	Multicellular organisms II (Animals)- tissue differentiation -Group activity: Examining frostbite
Molecular Biology	
Week 7	Membrane Transport In class time to work on projects
Week 8	DNA, RNA, and protein: The building blocks of life and the origin of cells -DNA extraction lab (How DNA can be used in real-life forensics labs)
Microbiology & immunology	
Week 8	Bacterial diversity: Comparing multicellular and unicellular organisms
Week 9	Energetics and metabolism of the cell -Baking yeast lab
Week 10	Immunity I (humans) <i>Introduction to virus group project presentation</i> Class activity: Investigating epidemics (interpreting charts and graphs part 1)
Week 11	Immunity II (Bacteria & insects) Interpreting charts and graphs part II

Week 12	Immunity, human health, and the microbiome Class activity: Microbe “personality quiz” (Note this is not an assessment quiz, but an activity to help you learn about different microbes) Lab: Microorganisms involved in symbiotic relationships
Week 13	Microbial pathogenesis Class activity: Microbial Discovery Box
Week 14	A brief Introduction to Evolution (How are we similar to bacteria?) <i>-Group Presentations of cell structure projects</i>
Week 15	Final semester project presentations Evolution part II: How do viruses evolve and how can science harness this? A brief introduction to gene therapy