

# **EXAM EXPECTATIONS**

## **AP Biology Exam**

### **“Unit 7: Cell Topics”**

**OUTLINE cell fractionation**  
**OUTLINE the structure and function of each organelle (limit to those in the powerpoint)**  
**OUTLINE plasmodesmata, gap junctions and tight junctions**  
**OUTLINE the role(s) of glycoproteins on the surface of the cell**  
**OUTLINE the role(s) of aquaporins**  
**OUTLINE paracrine signaling**  
**OUTLINE transcription factors**  
**OUTLINE cell communication**  
**OUTLINE reception and transduction**  
**OUTLINE evolution**  
**OUTLINE how DNA carries information**  
**OUTLINE the role of reverse transcriptase**  
**OUTLINE why RNA viruses have higher mutation rates than DNA viruses**  
**OUTLINE hypotonic, hypertonic and isotonic solutions**  
**OUTLINE cotransport across a membrane**  
**OUTLINE the mechanism action and cellular response of testosterone on its target cell**  
**OUTLINE the role of phosphorylation in cell communication**  
**OUTLINE the roles of the extracellular matrix**  
**COMPARE prokaryotic cells and eukaryotic cells (structure / organelles)**  
**COMPARE mitochondria and chloroplasts**  
**COMPARE plant and animal cells**  
**COMPARE endocytosis and exocytosis**  
**COMPARE phagocytosis and pinocytosis**  
**COMPARE G-protein linked receptor systems with tyrosine kinase systems**  
**COMPARE phosphatases and kinases**  
**COMPARE the effects of hypotonic, hypertonic and isotonic solutions on plant and animal cells**  
**COMPARE simple and facilitated diffusion**  
**COMPARE electrical and chemical potentials**  
**COMPARE local and long distance signaling**  
**COMPARE protein excretion in prokaryotes and eukaryotes**  
**COMPARE synaptic and hormonal signaling**