**Cell Bio Study Guide for Exam 1**

* Review Powerpoints and recorded lectures
* Know the organelles of the eukaryotic cell and their functions
* Review slide describing the model species that are used to study cell function
* Why is it important to use antibiotics when growing cells in culture?
* What is the difference between a cell strain, a cell line and a clone?
* What is a hybridoma? What is it used for?
* What are embryonic stem cells? Are there adult stem cells?
* In cell culture, why is it important to transform cells?
* Be familiar with the different types of microscopy discussed
* What are 3 things fluorescent microscopy can provide?
* What is the basic structure of the plasma membrane?
* What is amphipathic?
* What are the 3 classes of amphipathic lipids?
* Cell membrane – what is the exoplasmic face, what is the cystolic face?
* What are the 3 functions of cell membrane proteins?
* What are glycoproteins? Glycolipids?
* Explain the following statement: The structure of all biomembranes depends on the chemical properties of phospholipids, whereas the function of each specific biomembrane depends on the specific proteins associated with that membrane
* What is able to freely pass through the plasma membrane?
* What is passive and active diffusion?
* Be familiar with what was discussed on channel proteins, ATP pumps
* What is GLUT1?
* What are aquaporins?
* Explain the sodium-potassium pump
* What is the apical surface of a cell? Basolateral?