Study Guide Exam 2

Use the powerpoint lectures to determine the things we consider important.

Read chapters 4 and 7 in the textbook as well as the Kolb retina paper and the pages on the vestibular system (both online).

Sensory systems:

The general page on the properties of sensory systems in the bat lecture gives key points – know the concepts on this page.

You should know the anatomy of the cochlea, vestibular system and retina. What are the cells, how are they arranged and how do they contribute to transduction?

You should be able to describe the steps of transduction in the vestibular, auditory and visual system in some detail (see steps in powerpoint).

Specific things:

How do we detect tilt or acceleration or rotation?

How can we use the vestibular-ocular-reflex in clinical setting?

How do we determine what frequency we hear?

What are the specializations of the CF bats compared to the FM bats?

Why do you see stars best if you look slightly out of the side of your eye rather than focus straight ahead? (What is a fovea? How is it different from the rest of the retina?)

Why does the electric fish use electricity to sense the world?

JAR is an important concept in this chapter. What is it? Why do fish do it? What are the properties of the signal? What are the fish rules for JAR? What is the evidence to show the rules? How is it perceived at the receptors?