The following are some suggestions as to topics to spend time studying. This list or any list like it cannot be expected to cover each and every topic possible for the upcoming exam. However, it should give you a reasonable idea as to the breadth of material. My suggestion is to use this list as a way to help you organize your notes and your reading. Remember that materials marked with *** must be read in the textbook.

**Be sure to know the historically relevant scientists!**

**Chapter on the Senses**

**(General Topics)**

**(Touch)**

Review material on the senses as described in the integumentary chapter.

**(Special Section on Nociception)**

The ideas of the opiate receptors and pain response.

The ideas of the nicotinic receptors described the types of receptive modalities each special sense uses.

**(Taste)**

Taste bud structure and design.

The various forms of papilla.

The structure and design of the tastebud.

Taste receptor categories.

Nerves leading to the brain from these structures.

Papillae types... circumvalate, fungiform, foliate.

**(Smell)**

The use of second messengers in the detection of odors.

Nerves leading to the brain from these structures.

Olfactory gland function.

**(Vision)**

Color blindness.... reasons, types, abundance, genetics.

Reflected light in the eye, meaning of different colors.

Vision disorders - myopia, hyperopia, presbyopia.

Lenses and types used to treat various vision disorders.

Cranial nerves used in positioning of the eyes.

How lenses affect the projection of the image on the retina.

Sclera function.

Binocular vision - use and function.

Light level regulation in the eye via control of the size of the pupil opening.

Receptor cell types.

Lacrimal system - structure and function.

Rhodopsin.

Strabismus.

Blood supply to the various layers of tissue in the eye.

The various accessory tissues/structures associated with vision.

Structure and design of the retina.

Amacrine cells.

Bipolar cells.

Kitten studies described in lecture.

Nerves leading to the brain from these structures.

Parts of the eye.

**(Hearing & Balance)**

Tensor tympani & stapedius muscles... function and use.

Semicircular canals.

Hair cells (otolith cells).

Kinocilia & stereocilia.

Otoliths.

The bones of the middle ear.

Christa ampullaris - location and function.

Regions of the ear.

Endolymph... use and function.

Nerves leading to the brain from these structures.

Eustachian tube issues and disorders.