

Sensory Perception

I. Review

Neurons: Sensory neurons
 Interneurons
 Motor neurons

Processing information

II. Sensory Receptors

A. Classes

Mechanoreceptors
Thermoreceptors
Chemoreceptors
Photoreceptors
Nociceptors (pain)

B. Mechanoreceptors in skin

Meissner's corpuscles
Pacinian corpuscles

III. Special Senses

A. Intro

B. Taste & smell

Chemoreceptors

1. Taste (gustation)

Chemoreceptors on taste buds and other locations
Primary tastes: sweet, sour, salty, sour, bitter, umami

2. Smell (olfaction)

Chemoreceptors in olfactory epithelium in nasal passages
Turbinates

C. Hearing

Mechanoreceptors

Sound – amplitude and frequency

1. Outer ear structures

Pinna Auditory canal Eardrum (tympanic membrane)

2. Middle ear structures

Bones: Malleus (hammer)
 Incus (anvil)
 Stapes (stirrup)

Auditory tube (pharyngotympanic tube; Eustachian tubes)

3. Inner ear structures

Cochlea (hearing)
Vestibular apparatus (balance)

BIO 102 General Biology

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Lecture Outline

4. Sound levels

D. Balance

Vestibular apparatus

Semicircular canals

Maculae

E. Vision

1. Simple eyes

Ocelli

2. Compound eyes

Ommatidia

3. Camera eyes

Vertebrate eye structure

Accommodation

Image pattern

Focusing

Retina

Photoreceptors: Rods and cones

Contralateralization

F. Other specialized senses

1. Sonar (echolocation)

2. Radiant heat (infrared)

3. Lateral line system (water pressure)