Sensation and Perception

sensation	stimulation fo sense organs
perception	selection, organization and interpretation of sensory input

Information Processing in the Retina

receptive field of visual light	the retina area that when stimulated affects firing of that cell
light in the center of receptive field	increases firing rate
light in the outside of receptive field	decreases firing rate
lateral antagonism	occurs when neural activity in a cell opposes activity in surrounding cells

Perceiving Forms, Pattern and Objects

Feature Analysis	process of detecting specific elements in visual input and assembling them in to a more complex form
bottom up	individual to whole
top down	whole to elements
phi phenomenon	illusion of movement created by presenting visual stimuli in rapid success
gestalt principles	how the visual system organizes a scene into discreet forms

Theories of Hearing

place theory	perception pitch corresponds to the vibration of different places along the basilar membrane
frequency theory	perception of pitch corresponds to the rate/ frequency at which the entire basilar membrane vibrates

Taste and Smell

cilia	receptive for smell in nose

Psychophysics

psychophysics	study of how physical stimuli are translated into psychological experience
Signal Detection Theory	the detection of stimuli involves decision proccesses along as sensory processes which are both influenced by a variety of factors besides stimulus intensity

Vision and the Brain

two channels	magnocellular and parvocellular

Perceiving Depth or Distance

binocular depth cues	clues about distance based on the differing views of hte two eyes
retinal disparity	refers to the fact that object within 25 feet project to slightly different locations on the right and left retinas so each eye sees a slight different view of the object
convergence	involves sensing the eye converging towards each other as they focus on closer objects
monocular depth cues	clues about the distance move across the retina at different rates
motion parallax	images at different distances move across the retina at different rates
pictorial depth cues	cues about distance that can be given i na flat picture

Other Senses

kinaesthetic system	monitors the position of the various parts of the body
vestibular system	responds to gravity and keeps you informed of your body's location in space

Sight

amplitude	brightness
wavelength	perception of color

Information Processing in the Visual Cortex

feature detectors	neurons that respond selectively to a very specific features of more complex stimuli

viewing the world in color

wavelength	hue
amplitude	brightness
purity	saturation
subtractive color mixing	works by removing some wavelngth of light, leaving less light than originally there
additive color mixing	works by superimposing lights, putting more light in the mixture than exists in any one light by itself
trichromatic theory	color vision holds that the human eye has 3 types of receptors with differing sensitivities to different light wavelengths
opponent process theory	color vision holds that colour perception depends on receptors that make antagonistic responses to three pairs of colour

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Hearing	
wavelength	frequency or hertz
amplitude	decibels
external ear	vibrations of air
middle ear	vibration of movable bones
inner ear	waves in a fluid
pinna	sound collecting cone

Perceiving Sources of Sound	
most important for finding source of sound	loudness and timing

Touch	
receptive field for touch	when touched neurons fire to the brain alerting it
pain has two pathways to the brain	slow and fast
gate control theory	incoming pain sensations must pass through a "gate" i nteh spinal cord that can be closed, thus blocking ascending pain signals

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