

**Nancy Blum, Ph.D. – PSY 150 Principles of Human Behavior**  
**Study Guide Exam 1 Chapters 1-4**

**Chapter 1 – Introduction to the Science of Psychology**

Definition of psychology  
Subfields of psychology, especially:  
    Social psychology  
    Personality psychology  
    Cognitive psychology  
    Developmental psychology  
    Community psychology  
    Clinical psychology  
History of psychology, especially:  
    Empiricism  
    Structuralism  
    Functionalism  
Approaches to the science of psychology:  
    Biological approach  
    Psychodynamic  
    Behavioral  
    Cognitive  
    Humanistic  
Critical thinking  
Research methods in psychology:  
    Naturalistic observation  
    Case studies  
    Surveys  
    Experiments (and know all the terminology)  
Statistical analysis

**Chapter 2 – Biology and Behavior**

Cells of the nervous system  
    Neurons, glial cells, axon, dendrite, mitochondria  
Action potentials  
Synapses and communication between neuron (know about neurotransmitters & synapses)  
Peripheral nervous system: somatic nervous system, autonomic nervous system,  
    sympathetic nervous system, parasympathetic nervous system  
Techniques for studying human brain function & structure:  
    EEG, MRI, PET,  
Structures of the hindbrain: medulla, reticular formation, cerebellum

Structures of the midbrain  
Structures of the forebrain: cerebral cortex, thalamus, hypothalamus, amygdala, hippocampus, corpus callosum  
Anatomical areas (e.g., frontal, temporal, parietal, & occipital lobes) & functional areas (e.g., association cortex, visual cortex, auditory cortex motor cortex, somatosensory cortex, Broca's area, Wernicke's area) of the cerebral cortex  
Neurotransmitters: acetylcholine, norepinephrine, serotonin, dopamine, GABA, glutamate, endorphins

## **Chapter 3 – Sensation and Perception**

Sensory systems: accessory structures, transduction, receptors, adaptation  
Absolute threshold & internal noise  
Judging differences between stimuli (Weber's law & just-noticeable difference (JND))  
Structure & function of the eye (understand how the eye focuses light and how it converts light into images)  
Seeing color (hue, saturation, brightness)  
Theories of color vision (Trichromatic theory & Opponent-process theory)  
Colorblindness  
Structure & function of the ear  
Deafness (conduction deafness & nerve deafness)  
Coding sounds (place theory & volley theory)  
Role of the thalamus in relaying sensory messages to the brain  
Smell & the olfactory bulb  
Principles of perceptual organization (figure & ground and grouping)  
Perception of depth and distance (both stimulus cues and cues based on properties of the visual system)  
Perception of motion (looming & stroboscopic motion)

## **Chapter 4 – Consciousness**

Subliminal messages  
Stages of sleep including developmental differences  
Circadian rhythm  
Hypnosis (state theory, role theory, dissociation theory)  
Meditation  
Psychopharmacology (blood-brain barrier, agonists, antagonists)  
Substance abuse (psychological dependence, physical dependence, addiction, withdrawal, tolerance)  
Expectations and drug effects