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 (Trichomatic 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