Chapter 1: The Science of Mind

I. Psychology
   1. What is psychology?
   2. Scientific study

II. Ways of Classifying Psychologists
   1. Training
      A. Clinical Psychology
      B. Cognitive Psychology
      C. Developmental Psychology
      D. Evolutionary Psychology
      E. Social Psychology
      F. Biological Psychology
   2. Research interests (species, time, type of behavior).
   3. Field of Study

III. Psychology Subfields

IV. Common Sense/Intuition vs. Psychological Science
   1. Naïve Realism
   2. Intuitions on Free Will

V. History of Psychology
   1. Structuralism
   2. Functionalism
   3. Gestalt Psychology
   4. Neurobiological
      A. Brain-behavior
      B. Genetic Influences
   5. Behavioral
   6. Cognitive
   7. Psychoanalytic
   8. Phenomenological
   9. Bio-psycho-social perspective
   10. Introspection

VI. Research Methods
   1. Scientific Skepticism
      A. Critical Thinking
   2. Experimental Method
      A. Experiment/Control Groups
      B. Independent Variable
C. Dependent Variable
D. Hypothesis
E. Theory
F. Confounding
G. Random Assignment
H. Blinding

3. Descriptive Statistics
   A. Mean, Median and Mode
   B. Correlation
   C. Variability
   D. Validity
   E. Reliability
   F. Normal Distribution

VII. Research Methods
1. Experimental
2. Observational
3. Survey
4. Test
5. Case Histories
   A. Retrospective
   B. Longitudinal/prospective

6. Behavioral Genetic Approaches
   A. Family studies
   B. Twin studies
   C. Adoption Studies

VIII. Measurement in Psychology
1. Experimental Design
   A. IV, DV
   B. Experimental group vs control group
   C. Control over extraneous confounds
   D. Placebo effect

2. Inferential Statistics
   A. Mean
   B. Median
   C. Mode
   D. Variance/Standard Deviation (The Normal Distribution, Skew)
   E. Statistically significant differences

3. Statistical Significance
4. Measurement in Psychology
   A. Correlation
   B. Coefficient of correlation (r)
      1) Positive
      2) Negative
      3) None
Key Terms from the textbook:

- behaviorism,
- biological psychology,
- case study,
- clinical psychology,
- cognitive psychology,
- control group,
- correlation,
- critical thinking,
- culture,
- dependent variable,
- developmental psychology,
- evolutionary psychology,
- experiment,
- experimental group,
- functionalism,
- Gestalt psychology,
- humanistic psychology,
- hypothesis,
- independent variable,
- individual differences,
- introspection,
- mean,
- median,
- mind,
- mode,
- naturalistic observation,
- normal distribution,
- personality,
- psychology,
- random assignment,
- reliability,
- science,
- social psychology,
- structuralism,
- survey,
- theory,
- validity,
- variability,

Chapter 2: The Biological Mind

IX. Biological Bases of Psychology
1. The Nervous System
   A. The Peripheral Nervous System
   B. The Central Nervous System
2. Anatomy of a neuron
   A. Cell body (soma)
B. Dendrites
C. Axon
D. Terminal buttons
E. Myelin sheath

3. Three types
   A. Sensory
   B. Motor
   C. Interneuron

4. Nerve
5. Axonal conduction
   A. Resting potential
   B. Depolarization and threshold
   C. Action potential
   D. Propagation
   E. Refractory period

6. Action Potential Properties
   A. All-or-none Response

7. Two types of signal transmission
   A. Axonal
   B. Synaptic

8. Synaptic transmission
   A. Synaptic gap or cleft at the synaptic junction
   B. Synaptic vesicles
   C. Post synaptic receptor cells

9. Lock and Key Mechanism
10. Synaptic transmission
    A. Types of Postsynaptic Potentials (PSP’s)
        i. Excitatory (EPSP)
        ii. Inhibitory (IPSP)
    B. After release
        i. Re-uptake
        ii. Degradation

X. Organization of the nervous system
1. Central nervous system
   A. Brain
   B. Spinal cord
2. Peripheral nervous system
   A. Somatic system
   B. Autonomic system
      i. Sympathetic NS (flight or fight)
      ii. Parasympathetic NS (rest and digest)

XI. The common household brain
1. Overview of brain
A. The primitive central core
B. Limbic system
C. Cerebrum (AKA cerebral hemispheres)
   - Ontogeny
   - Phylogeny Bio Bases

2. Specifically,
   1. Primitive central core
      a. Cerebellum
      b. Thalamus: "Gateway to the cortex"
      c. Hypothalamus: 4 F's
   2. Reticular system
   3. Limbic system
      a. Hippocampus
      b. Amygdala
   4. The cerebral hemispheres
      a. Grey matter vs white matter
      b. Four lobes: (frontal, parietal, occipital, temporal)
      c. Motor area (Homunculus and contralateral control of body)
      d. Somatosensory area
         - heat, cold, touch, pain
         - contralateral
         - topographic organization—Homunculus
      e. Visual area
         - Primary vs. Secondary
         - Contralateral visual field
      f. Auditory area
         - bilateral representation
         - contralateral stronger
   g. Association areas
   h. Phylogeny of Association Cortex

Key Terms from the Textbook:
- action potential,
- amygdala,
- autonomic nervous system,
- axon,
- basal ganglia,
- biological psychology,
- brainstem,
- cell body,
- central nervous system (CNS),
- cerebellum,
- cerebral cortex,
- cingulate cortex,
- corpus callosum,
- dendrite,
- endocrine system (ES),
- frontal lobe,
- hippocampus,
- hypothalamus,
- medulla,
- midbrain,
- myelin,
- neuron,
- neurotransmitter,
- nucleus accumbens,
- occipital lobe,
- orbitofrontal cortex,
- parasympathetic nervous system,
- parietal lobe,
- peripheral nervous system (PNS),
- pons,
- prefrontal cortex,
- receptor,
- resting potential,
- reticular formation,
- reuptake,
- somatic nervous system,
- spinal cord,
- sympathetic nervous system,
- synapse,
- temporal lobe,
- thalamus,