**PSYCH 130** Introduction to Biological Psychology

Final Exam Study Guide

*NOTE: Questions may appear in a different order than they are listed on this study guide.*

**Chapter 7 + Lectures (Sex and Gender)**

* How does the sex drive differ from other basic drives?
* What regions of the hypothalamus play important roles in regulating sexual behavior?
* What roles do dopamine and oxytocin play in mating and sexual behavior?
* What is the technical difference between *sex* and *gender*?
* What is the SRY gene and what does it do?
* What hormones play a role in sexual differentiation? What specific roles do they play?
* What is the default sex of the human body?
* Hormones have both *activating* and *organizing* effects … what does this mean?
* What is Androgen Insensitivity Syndrome (AIS)?

**Chapter 8 + Lectures (Emotions & Stress)**

* What physiological, physical, and psychological changes are involved in emotions?
* According to research, what happens to the emotional experience of women who have Botox treatment?
* What is the limbic system? What is its connection to emotions?
* What regions of the prefrontal cortex play key roles in emotional responses? What are their roles?
* What roles do the amygdala and hypothalamus play in emotions?
* How do psychologists define stress? Is stress always a negative experience?
* What organs and glands coordinate to release glucocorticoids (like cortisol) in the stress response?
* Be prepared for two questions about the film *Stress: Portrait of a Killer*.

**Chapter 9 + Lectures (Sensation & Auditory System)**

* What is an *adequate stimulus*?
* In sensation, what is the *proximal stimulus*? What is the *distal stimulus*?
* Know the difference between sensation and perception.
* What is the adequate stimulus for the auditory system?
* What structures in the ear conduct vibrations into the cochlea?
* What is the cochlea? What function does it play in the auditory system?
* What is the Organ of Corti? What are the specialized receptors that detect sound waves?
* Where is the primary auditory cortex located in the brain?
* What are the functions of the dorsal and ventral streams of the auditory system in the brain?

**Chapter 10 + Lectures (Vision)**

* What is the adequate stimulus for the visual system?
* What are the five layers of cells that make up the retina?
* How are rods and cones different from each other? How are they similar?
* Why do we have a blind spot in each retina?
* Know how information from each visual field gets routed to the brain?
* What is the sequence of structures that visual information travels from the eye to the brain?
* What are the differences between the parvocellular and magnocellular systems?
* What are the functions of the dorsal and ventral streams of the visual system in the brain?
* What is prosopagnosia?

**Chapter 14 (Psychological Disorders)**

* What are the symptoms of schizophrenia?
* How do *positive* symptoms of schizophrenia differ from *negative* symptoms?
* According to the dopamine theory of schizophrenia, what causes the symptoms of the disorder?
* What neurotransmitters appear to play a role in schizophrenia?
* What physical brain abnormalities have been found in individuals with schizophrenia?
* The first antidepressant drug was discovered by accident. What was it originally intended to treat?
* According to the monoamine hypothesis, what causes the symptoms of depression?
* *Lithium* is the “gold standard” medication used to treat which disorder?
* What abnormalities have been found in the amygdala of people with PTSD (and other anxiety disorders)?
* Dysfunction in what brain region(s) have been implicated in obsessive-compulsive disorder?

**Chapter 15 + Lectures (Sleep and Consciousness)**

* Why is sleep a useful behavior for studying consciousness?
* What brain structure is the main biological clock that regulates our circadian rhythms?
* What hormone does the pineal gland release to induce sleepiness?
* Be familiar with the four stages of non-REM sleep. How do they differ? What occurs in each?
* What occurs during REM sleep?
* What factors seem to have the biggest influence on how much non-REM sleep we get?
* What is *adenosine*? What role does it play in sleep?
* What brain regions are part of the arousal system that maintains wakefulness and alertness?
* What are PGO waves? What role do they play in sleep?