**Study Guide for Biopsyc Exam 1**

The majority of the test questions will be on the material represented below. Also, there might be some extra credit questions on material that I did not emphasize in class.

# Ch. 1

Neuroscience Quasi-experimental studies

Biopsychology Case studies

Advantages of Human and Nonhuman subjects Pure vs. Applied Research

Experiments vs. Nonexperiments Coolidge effect

Independent variable and Dependent variable Divisions of Biopsychology

Within-subjects design and between-subjects design Converging Operations

Confounded variable Korsakoff’s syndrome, Jimmie G.

Bad science and examples

# Ch. 3

Main divisions of the nervous system

Afferent vs. efferent

3 meninges

CSF

Ventricular System

Choroid plexus

Basic anatomy of neurons (don’t worry about internal except vesicles and neurotransmitters)

Classes of neurons

Different terms for structures in CNS vs. PNS

Function and main types of supportive cells (including cells that produce myelin in CNS and PNS)

Directions in vertebrate NS

Dorsal vs. ventral root axons (what type of info do they carry to and from the spinal cord?)

Gray matter vs. white matter

Know the 5 major divisions of the brain, the main structures in each division, the associated part of the ventricular system, and the general function of the main structures.

Know the lateral and longitudinal fissures and the central sulcus (or central fissure)

Be able to label some basic human brain diagrams and some major structures on a human brain model.

Be able to label sheep brain structures (on a diagram or on the real thing) that are common to both the sheep brain and the human brain.

Do not worry about: internal anatomy of cells, neuroanatomical techniques, layers of the cortex

# Ch. 4

Membrane potential Resting membrane potential

Ions 2 main forces acting on ions

distribution of ions inside and outside neuron ion channels

sodium-potassium pumps depolarize vs. hyperpolarize

EPSP vs. IPSP Graded responses

Threshold of excitation Refractory period

Nodes of Ranvier Synapses

Synaptic vesicles Ionotropic receptors

Exocytosis Metabotropic receptors

Second messenger Autoreceptors

2 mechanisms to stop neurotransmitter (NT) action classes of neurotransmitters

acetylcholinesterase agonists

5 examples of psychoactive drugs antagonists

Action potential, what it is, how it’s generated (when diff. channels open and close)

Difference between conduction of AP in a myelinated vs. unmyelinated axon

Seven steps in neurotransmitter action

Some mechanisms of drug action

Psychoactive drug examples

You are also responsible for information in videos and any other class activities (Capgras syndrome, human brain model, sheep brain)