STUDY SHEET FOR EXAM 3: PSYCH 2210

FORMAT:
- Multiple Choice and True/False Questions
- Exam is during class time
- Best way to study: try to define/identify terms below without looking at notes or text. Then go back and check.

TEXT MATERIAL:

Cognitive Control:
Chap 15, 502-3: Attention
Ch 12, p378-381 Types of memory; brain structures & memory.
Required articles: Nass, Cognitive Control in Multi-taskers; Poldrack

Emotions:
You are responsible for all material and key terms from Chap 8: p 231-241, & p 250-255. We did not cover hemispheric and facial asymmetry, but it may be on the exam.

LECTURE MATERIAL:

Gender Differences
Simon Baron-Cohen studies
- prenatal testosterone and eye contact, play behavior, and corpus callosum asymmetry
Gender Differences and cognition
- male vs. female pattern on spatial and language tasks
- relationship to prenatal testosterone
- pattern in gay and lesbian individuals

Self-Regulation, Cognitive Control, & Technology

- Original Marshmallow Test
- methods, basic results (Adult outcomes)
- Hot vs. Cool systems: characteristics, neural circuits
- Cognitive control- definition, components
- Go No-Go Task: Basic characteristics
- Behavioral & Neural Correlates of Delay of Gratification article: results for go no-task (cool vs. hot versions) for low vs. high delayers; brain imaging results for low vs. high delayers
- Implications for individual & society functioning: Heatherton imaging study in college freshmen (hot vs. cool stimuli and behavioral results one year later); association between credit scores, heart disease, and impulse control in Dunedin Study
- New Marshmallow Test
-texting behavior and class performance: results of texting study

*Multi-tasking*

- Survey results about multimedia use, class performance
- Consequences of “continuous partial attention”: Design & results of “Facebook made me do it” study

*Multi-Media Effects on Attention & Memory*

- 3 Stage Model of memory & Attention: Sensory Memory, Working Memory; long term Memory
- Cognitive Load Theory: definition of Cognitive load; attentional bottleneck
- Nass article, Cognitive Control In media Multi-taskers: General Methods & Results

*Effects of Multi-tasking on long-term memory*

- Poldrack article: Modulation of competing memory systems
- Declarative vs. Procedural memory
- brain structures associated with each
- methods & results from Poldrack expt
- Google effects on Long term Memory
- spatial navigation vs. cue and response navigation strategies: brain circuits associated with each; changes after GPS use.
- suggestions on how to increase attention

**Emotions**

*Definition of emotion:* 3 characteristics associated with emotion

- Types of emotion:
  - primary vs. complex emotions
  - Universal emotions
  - Display rules & culture

- Physiological changes
  - Sympathetic vs. Parasympathetic activity
  - Polygraph: uses; problems

- Functions of Emotions: Evolutionary adaptations
  - communication
  - co-ordination of behavior

*Theories of Emotion*

James-Lang:
  - Theory
  - Predictions
  - Evidence (e.g., Ax experiment; patterns of activation (brain areas & body maps); botox studies)
- Cannon-Bard: How it differs from James-Lang

-Schacter-Singer Two Factor Theory:
  - Predictions
  - Evidence: experiment details, results

*Misattribution of Emotion*
- Dutton and Aron Bridge Study
- misattribution of arousal; excitation transfer

**Anatomy of Emotion**

*Role of the Orbitofrontal Cortex*
- Somatic Marker Hypothesis
  - “Elliot” case study: effects of tumor definition of somatic marker; anatomical substrate consequences of damage to orbitofrontal Cortex: Iowa Gambling test; response to emotional stimuli
  - Acquired “sociopathy”- Phineas Gage
  - Developmental psychopathy

*Role of the amygdala*
- S.M. case study
  - consequences of lacking an amygdala; recognition & experience of emotions; eye-movement patterns
- Amygdala and recognition of fear in normal subjects
- Fear conditioning
  - methodology
  - conditioned vs. instructed fear response
  - results in patients with amygdala damage
- Tranel Study: role of amygdala in response to external vs. internal threats

*Role of the Insula*
- results in perception of disgust
- Sanfey article on decision-making in the ultimatum game: methods & results
  - interaction between DLPFC and insula activity in Ultimatum game

*Moral decision-making*
- trolley/footbridge dilemma; imaging results
- Raine article on moral decision-making in adult psychopaths: methods & results

*Psychopaths vs. Altruists*
- Raine studies on children who lack conditioned fear response and consequences for adult behavior
- differences in amygdala structure & function
- ability to recognize fear expressions in both
- Marsh study in altruists