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:
Ch 12, p345-6; 351-353: H.M. Types of memory; brain structures & memory.
Required articles posted on syllabus: Nass, Cognitive Control in Multi-taskers;
Poldrack article: Modulation of Competing Memory Systems

Emotions:
Chap 8: p 211-220. NOT COVERED on Exam: hemispheric and facial asymmetry;
stress

LECTURE MATERIAL:

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)
-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. Non-Declarative (Procedural) memory
- Brain structures associated with each
- Methods & results from Poldrack expt: consequences of single vs. dual-task procedure on brain activity, declarative vs. non-declarative memory
- Spatial navigation vs. cue and response navigation strategies: brain circuits associated with each; changes after GPS use.

Structural Changes in Brain Structure in children
- Relationship between amount of media use and myelin in brain regions; consequences for language, cognitive control, etc
  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 in brain areas; botox studies)
- Cannon-Bard: How it differs from James-Lang
- Schachter-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