STUDY SHEET FOR EXAM 3: PSYCH 2210

FORMAT: - 42 Multiple Choice and True/False Questions (3.5 pts each)
- 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:

*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.

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 Selection

Theories of Emotion

James-Lang:
  - Theory
  - Predictions
  - Evidence (e.g., Ax experiment; patterns of activation (brain areas & body maps); facial-feedback studies; 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
- Raine studies on children who lack conditioned fear response and consequences for adult behavior

Role of the Prefrontal Cortex
- basic functions; activity in psychopaths
- regulation of emotions: interaction between LDPFC and ventromedial/orbital cortex

Disorders
- Psilocybin as treatment for anxiety/depression in cancer patients