



**V89.0300.001:**  
**Special Topics in Cognitive Neuroscience:**  
***Principles of Frontal Lobe Function***

Instructor: Clayton Curtis, Ph.D.  
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 Office Hours: Mon 12:10 – 2:00 pm (feel free to set up appointments by email)

Time and Place: Mondays and Wednesdays  
 3:30 - 4:45 pm  
 194 Mercer Room 202

Reader: The required readings will be a combination of review articles and research papers. These will be made available by PDF download or photocopying.

**Course Description:**

The frontal cortex is thought to be a key cortical area important for the integration of sensory and motor information. Many cognitive and emotional facets of our behavior that make us unique as humans are thought to depend on the frontal cortex, which accounts for almost 1/3 of the cortical surface of the entire brain. In this course we will delve into the issues that have led many clinicians and scientists throughout the years to suspect that the key to understanding what makes us uniquely human depends on understanding the frontal cortex. We will cover important neuropsychological patient studies and theories as well as human and animal empirical studies into the structure and physiology of the frontal lobes as they relate to higher cognitive functions.

Two 'mock' endeavors are emphasized in the class and form the majority of basis for evaluation, the oral communication of research results and the written proposal of a research grant.

**Oral presentations:** Each of you will do a short presentation on one of the class topics. The presentations will be in the form of a conference presentation (20 minute), in which you will present the background and rationale, methods, results, and interpretation of a paper to the class. Afterwards, as a group we will critique the paper's merits and its relationship to other areas of research and theory we have covered. We will formalize the presentation schedule as the class proceeds. *25% of grade.*

**Final paper:** Your final paper will be in the form of a grant proposal, as if you were applying for a postdoctoral research fellowship (i.e., NRSA) to do research in some area of cognitive neuroscience. *50% of grade.*

**Assignments:** You will complete short assignments that will be emailed to me. These assignments include search and summary of on-line scientific and news material. *15% of grade.*

**Class Participation:** This class is designed not as a lecture class, but one in which we as a group discuss material. For example, discussion between students, with only minor intervention of the instructor, will be encouraged and fostered throughout the semester. *10% of grade.*

**Lecture Schedule**

Week	Date	Topic
1	23-Jan	Introduction, Planning
2	28-Jan	History
	30-Jan	Anatomy & Development
3	4-Feb	Attention and Selection
	6-Feb	Attention and Selection
4	11-Feb	Working Memory
	13-Feb	Working Memory
5	18-Feb	Motor Control
	20-Feb	Motor Control
6	25-Feb	<i>No Class - Cognition</i>
	27-Feb	Inhibition
7	3-Mar	Inhibition/Conflict Monitoring & Resolution
	5-Mar	Conflict Monitoring & Resolution
8	10-Mar	Reward & Decision Making
	12-Mar	Reward & Decision Making
9	17-Mar	<i>No Class - Spring break</i>
	19-Mar	<i>No Class - Spring break</i>
10	24-Mar	Language
	26-Mar	Language
11	31-Mar	Episodic Memory
	2-Apr	Episodic Memory
12	7-Apr	Emotion
	9-Apr	Emotion
13	14-Apr	<i>No Class - CNS Conference</i>
	16-Apr	Social Cognition
14	21-Apr	Social Cognition
	23-Apr	Neurological & Psychiatric Disorders
15	28-Apr	Neurological & Psychiatric Disorders
	30-Apr	Neurological & Psychiatric Disorders
16	5-May	Neurological & Psychiatric Disorders
	7-May	<b>** Papers Due 5pm in Mailbox**</b>