

Course Syllabus

Course Information

NSC-4357-001, Brain and Memory, Spring, 2013; Monday and Wednesday 10:00-11:15, GR 3.302

Contact Information

Instructor: Christa McIntyre – phone: (972) 883-2235; e-mail: christa.mcintyre@utdallas.edu; office: JO 4.202; Office hours: 11:30-12:30 on Mondays and Wednesdays or by appointment.

Teaching Assistant: Michelle Kapolowicz – phone: (972) 883-2375; e-mail: michelle.kapolowicz@utdallas.edu; Lab: AD 2.232; Office hours: 11:30-12:30 on Mondays and Wednesdays or by appointment.

Course Description

This course will review classic and contemporary research on memory processing in the brain. Course work will include reading and discussing research papers in class and three examinations.

Student Learning Objectives/Outcomes

After completing the course, students should be able to:

- Demonstrate understanding of the history of the neurobiology of memory, including the evolution of theories and methods.
 - Demonstrate an understanding of current research and views in the neurobiology of memory in the context of historical evolution of the field.
 - Weigh support for conclusions and identify weak, contradictory, and inappropriate assertions in published research.
 - Apply concepts, theories, and findings in neurobiology of memory research to issues in everyday life.
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Required Textbooks and Materials

Memory and Emotion: The making of lasting memories, by James L. McGaugh.

The Neurobiology of Learning and Memory by Jerry W. Rudy

Additional papers will be posted on *eLearning*.

Assignments & Academic Calendar

Discussion Questions

Students are required to turn in, at the beginning of the class period, at least 2 written questions for every assigned journal article. These should be questions you might ask the authors of the research paper if you had the opportunity to meet them. This will be used for class discussion and will be graded (20% of your final grade).

Examinations

The class will have three written exams (each 25% of final grade). The exams will be multiple choice and short answer style. They will include material from the books and research papers discussed in class.

Date	In class	Assignment
1/14	Intro	
1/16	Historical perspective	McGaugh, Ch. 1; Rudy, Ch. 1
1/21	A case of unusual autobiographical memory	Parker, Cahill, & McGaugh (2006)
1/23	Is the brain a hard drive?	Thomas and Loftus (2002)
2/1/28	Conceptual issues and methodologies	Rudy, Ch. 7
1/30	Kinds and phases of memory	McGaugh Ch. 2-3
2/4	Phases of memory	Agranoff (1965)
2/6	<i>Exam 1</i>	
2/11	Where is memory?	Scoville and Milner (1957)
2/13	Memory systems	McDonald and White (1993)
2/18	Physical trace	Rudy, Ch. 2
2/20	Synaptic plasticity	Rudy, Ch. 3
2/25	What is memory?	Whitlock et al. (2007)
3/2/27	What is memory?	Garner et al. (2012)
3/4	Strengthening synapses	Rudy, Ch. 4
3/6	<i>Exam 2</i>	
3/11-3/13	SPRING BREAK	
3/18	Memory consolidation	McGaugh, Ch. 4
3/20	Memory consolidation	Rudy, Ch. 9
3/25	Memory modulation	Rudy Ch. 10
3/27	Emotion and memory	McGaugh, Ch. 5-6
4/1	Emotion and memory	Soravia et al. (2006)
4/3	Reconsolidation	Nader and LeDoux (2000)
4/8	Reconsolidation	Rudy, Ch. 11
4/10	Memory and addiction	Volkow et al. (2002)
4/15	Reconsolidation/addiction	Xue et al. (2012)
4/17	Gender and memory	Cahill et al. (2001)
4/22	Sleep and memory	Walker and Stickgold (2004)
4/29	Age and memory	Park et al. (2012)
5/1	Alzheimer's disease	Winblad et al. (2012)
5/6-5/8	READING DAYS	
5/10	<i>Exam 3 (8:00- 10:45am)</i>	

Grading Policy

Research paper questions	25%
Exam 1	25%
Exam 2	25%
Exam 3	25%

Grading Scale

A (94–100), A- (90-93), B+ (87–89), B (84-86), B- (80-83), C+ (77-79), C (74–76), C- (70-73), D+ (67-69), D (60-66), F (\leq 59).

Course & Instructor Policies

Please arrive on time so you may turn in your questions. Questions will not be accepted after the beginning of discussion.

Make-up exams

Make up exams will be granted only in cases of emergencies and when a doctor's note is provided. Please notify the instructor BEFORE the scheduled exam time.

Class Attendance

Class participation and attendance will account for 25% of the final grade.

Classroom Citizenship

Please be courteous and respectful of the opinions of others. Students should feel free to express thoughts and opinions about the course material and intelligent debates are encouraged, but please practice diplomacy and offer *constructive* criticisms.

UT Dallas Syllabus Policies and Procedures

The information contained in the following link constitutes the University's policies and procedures segment of the course syllabus.

Please go to <http://go.utdallas.edu/syllabus-policies> for these policies.

The descriptions and timelines contained in this syllabus are subject to change at the discretion of the Instructor. Please consult the updated syllabus on eLearning at all times.