

PSY-493, Section 004
Neurobiology of Drug Addiction, Spring 2020
Giltner Hall, Rm 346
Mon & Wed, 8:00am-9:20am

Instructor Info:

Dr. Amy Arguello

Office: Giltner 213A

Email: arguell5@msu.edu

Office Hours: By appointment

Course Description:

This course focuses on the neurobiological mechanisms underlying drug addiction. We will discuss and evaluate 1) current theories of drug addiction, 2) animal models used to study specific aspects of addiction, 3) molecular and cellular neuroadaptations that occur with acute and chronic drug use. Emphasis will be placed on critical analysis and discussion of primary literature and current methodologies used in the addiction field.

Supplemental Reading:

1. Drugs, Addiction, and the Brain (2014) by Koob, Arends & LeMoal.
Available as MSU online resource: <http://catalog.lib.msu.edu/record=b10642232~S39a>
2. Primary literature to be posted on D2L

Grading:

1. **Attendance and Participation: Total possible points: 10.0**
 - Participation during discussions is an essential component of the class and attendance is mandatory.
 - There are 29 classes and you can earn 0.345 point/class, for a total of 10.0 points.

****Absences for *more than 3 classes* will result in an automatic deduction of *5 points from the final grade*, in addition to 0.345 for each missed class.**
2. **Weekly Article Summaries: Total possible points: 10.0**
 - 1-page, double-spaced summary of articles to be discussed during class.
 - Five summaries (up to 2.0 points each) will be due.
3. **Midterm Exam: Total possible points: 20.0**
 - Short answer and essay questions based on lectures and primary literature discussed during class.
4. **Group Presentation: Total possible points: 15.0**
 - Groups (4-5) will choose from a list of articles and lead the analysis and discussion. *10.0 points*
 - Audience groups will develop 1-2 questions for post-presentation discussion. *5.0 points*
5. **Neurobiological Mechanism Exam: Total possible points: 10.0**
 - Short answer and essay questions based on primary literature discussed during class.
6. **Final Paper Outlines: Total possible points: 5.0**
 - 1-2 page, double-spaced outlines for the final paper. Four outlines will be due:
Introduction (1.0 point), Results (1.0 point), Discussion (1.0 point), Future Directions (2.0 points).
7. **Final Paper: Total possible points: 30.0**
 - 10-page, double-spaced research paper (Detailed final paper rubric posted on D2L).
 - You will 1) Review and critically analyze two assigned articles, as per class discussions.
2) Support your arguments based on the theories of addiction discussed in class.
3) Design a novel experiment to test your hypothesis, using techniques discussed in class.

****For all assignments, detailed rubrics will be posted on D2L and outlined in lecture slides. Lecture slides will be posted on D2L after class. It is essential that your D2L notification settings for this class are enabled.**

Class Dates:

#	Date	Class Topic	Assignment
1	Mon 1/6	Class Intro & Syllabus	Syllabus Survey
2	Wed 1/8	What is Drug Addiction?	
3	Mon 1/13	Theories of Drug Addiction	
4	Wed 1/15	Craving & Relapse	
5	Mon 1/20	(Holiday)	Weekly Summary 1 due,
	Wed 1/22	Article Discussion	
6	Mon 1/27	Opponent Process	Weekly Summary 2 due
7	Wed 1/29	Article Discussion	
8	Mon 2/3	Habit/Incentive-Sensitization	Weekly Summary 3 due
9	Wed 2/5	Article Discussion	
10	Mon 2/10	General Theory of Addiction?	Weekly Summary 4 due
11	Wed 2/12	Article Discussion	
12	Mon 2/17	Drug Memory Reconsolidation	Weekly Summary 5 due
13	Wed 2/19	Article Discussion	
14	Mon 2/24	Mid-Term Review	Research Papers Posted
15	Wed 2/26	Mid-Term Exam	
	Mon 3/2	SPRING BREAK	
	Wed 3/4	SPRING BREAK	
16	Mon 3/9	Neurobiological Mechanisms-	Introduction Outline Due
17	Wed 3/11	Technique Discussion	
18	Mon 3/16	Neurobiological Mechanisms -	Results Outline Due
19	Wed 3/18	Technique Discussion	
20	Mon 3/23	Can we treat Addiction?	Group Paper Options Posted Discussion Outline Due
21	Wed 3/25	NeuroBioExam Review	
22	Mon 3/30	NeuroBioExam	Future Directions Outline Due
23	Wed 4/1	Group Work Day	
24	Mon 4/6	Group-led Discussion #1	Introduction Due
25	Wed 4/8	Group-led Discussion #2	
26	Mon 4/13	Group-led Discussion #3	Results Due
27	Wed 4/15	Group-led Discussion #4	
28	Mon 4/20	Group-led Discussion #5	Discussion & Future Directions Due <i>Return Comments, Potential to Revise</i>
29	Wed 4/23	Input Day: Paper/Resume/ Crafting emails	
	Mon 4/27	FINALS	Final Paper Due 9:30 AM

Grades will be assigned on the following scale:

90-100% = 4.0	75-79% = 2.5	<60% = 0.0
85-89% = 3.5	70-74% = 2.0	
80-84% = 3.0	65-69% = 1.5	

Additional Important Information:

Academic Honesty: The Spartan Code of Honor states, "As a Spartan, I will strive to uphold values of the highest ethical standard. I will practice honesty in my work, foster honesty in my peers, and take pride in knowing that honor is worth more than grades. I will carry these values beyond my time as a student at MSU, continuing the endeavor to build personal integrity in all that I do." Plagiarism or cheating may result in a failing grade on an assignment or in the course. If you have any questions on this topic, please make an appointment so that we can address your questions. You can follow these useful links for more details:

<https://www.msu.edu/unit/ombud/academic-integrity/index.html>

<https://www.msu.edu/unit/ombud/academic-integrity/plagiarism-policy.html>

Professionalism in Class:

Technology: This course is an upper-level, discussion-based class. As such, please respect both your instructor and classmates by silencing all electronic devices or choosing a seat toward the back of the class.

Disruptive Behavior: Article 2.3.5 of the Academic Freedom Report (AFR) for students at MSU states: "The student's behavior in the classroom shall be conducive to the teaching and learning process for all concerned." Article 2.3.10 states that "The student has a right to scholarly relationships with faculty based on mutual trust and civility." General Student Regulation 5.02 states: "No student shall... interfere with the functions and services of the University such that the function or service is obstructed or disrupted." Students whose conduct adversely affects the learning environment may be subject to disciplinary action via the Student Faculty Judiciary process.

Missed Classes or Exams: Make-up exams will only be given in case of: 1) a documented medical or family emergency, or 2) a documented scheduled conflict, such as a religious holiday or required participation in a university-sanctioned event. The instructor must be notified of the above-mentioned conflict by email as soon as possible, otherwise a grade of 0.0 for that exam will be earned. For missed classes with no official documented excuse, 0.345 point will be subtracted as noted in the "attendance and participation" section.

Limits to confidentiality: Class materials are generally considered confidential pursuant to the University's student record policies. However, students should be aware that University employees, including instructors, may not be able to maintain confidentiality when it conflicts with their responsibility to report certain issues to protect the health and safety of MSU community members and others. As the instructor, I must report the following information to other University offices if you share it with me: 1) suspected child abuse/neglect, even if maltreatment happened when you were a child, 2) allegations of sexual assault or sexual harassment when they involve MSU students, faculty or staff or 3) credible threats of harm to oneself or to others. These reports may trigger contact from a campus official who will want to talk with you about the incident that you have shared. In almost all cases, it will be your decision whether you wish to speak with that individual. If you would like to talk about these events in a more confidential setting you are encouraged to make an appointment with the MSU Counseling Center (<https://www.counseling/msu/edu/students>).

Accommodations for Students with Disabilities: MSU is committed to providing equal opportunity for participation in all program, services and activities. Requests for accommodations by persons with disabilities may be made by contacting the Resource Center for Persons with Disabilities at 517-884-RCPD or on the web at <https://www.rcpd/msu.edu>. Once your eligibility for an accommodation has been determined, you will be issued a Verified Individual Services Accommodation (VISA) form. Please present this form to me at the start of the term and/or two weeks prior to the accommodation date. Requests received after this date may not be honored.