Though the idea of mental illness may seem uniquely human, it is unlikely that we will uncover the causes and mechanisms that underlie psychiatric disorders without the help of animal research. In this course, we will explore the approaches used by behavioral neuroscientists to model mental illness in animals. We will read and critique journal articles, focusing on experimental design, techniques, and interpretations. Our discussion topics will include research on models of Major Depressive Disorder, PTSD, schizophrenia, alcohol abuse, and drug addiction.
Your Grade

This is a writing intensive course, with an emphasis on critical thinking. There are no quizzes or exams. You are expected to have read the papers assigned each week (available on Blackboard) and come to class with thoughts, questions, and discussion points. Each week, you must submit one written response (approx 300 words) to our blog on any of the papers we read that week, by midnight the night before that paper is discussed. You can respond to something someone has already written or bring up new ideas, but your work must be your own. You are also responsible for being the discussion leader during one class. Finally, you will have a 10-page paper to write at the end of the semester, expanding on the class topic of your choice. You will give a 10-minute presentation on your paper topic during one of the final two classes. Your final paper must include at least five references to papers we did not read during the course.

30% Attendance and participation
25% Weekly online paper responses
25% In-class presentations
20% Final paper

Academic Integrity

Academic dishonesty is a serious offense, recognized by the Northeastern University students themselves in the Academic Integrity Policy, and renders the offender liable to disciplinary action. I trust that any work you submit is your own and reflects your understanding and thoughts of the course material. Students who violate academic policy will be subject to penalties ranging from grade reduction on the particular exam to grade reduction or failure of the entire course.
Week 1: Class Intro & Neurogenesis Primer
Week 2: Neurogenesis & Anti-depressant actions
Week 3: Dopamine circuits and recovery from stress
Week 4: Alternative depression treatments: Ketamine and safety learning
Week 5: Modeling PTSD – fear conditioning and extinction
Week 6: Understanding the memory trace or engram
Week 7: The cellular and circuit basis of fear and extinction
Week 8: Developmental models of schizophrenia
Week 9: Environmental models of schizophrenia
Week 10: Sex differences in drug abuse behavior
Week 11: Long-term effects of alcohol exposure
Week 12: Paper topic presentations