Syllabus PSY992, Spring 2021, Neurobiology of Stress, Online Mon 3-5.50 pm

Instructor:
Alexa Veenema; ISTB 4018; Office hours: by appointment; aweenema@msu.edu

Course prerequisites
Students should have a basic knowledge of the nervous system.

Course Description
The course will give an overview of the neural systems involved in the stress response from the molecular and cellular to the behavioral level. We will discuss the roles of the hypothalamic-pituitary-adrenal axis in the stress response and the effects of stress on neuronal plasticity, learning and memory, and mental health and disease. Emphasis will be on the mechanisms mediating vulnerability and resilience to stress. The long-term consequences of early life stress on cognitive, emotional, and social behaviors will also be discussed. Students will present current research articles covering experimental findings in both animals and humans.

Course Readings
The course material consists of scientific journal articles (research reviews and primary research articles). To discuss the very latest discoveries in the stress field, students will present primary research articles from 2019-2021. The journal articles serve as a basis for the class lectures in which we will further elaborate on the specific topics. Please read the journal articles in advance and be prepared to discuss them in class.

Organization of Course

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**Topic 1: Basics of the stress response**
Readings

**Topic 2: Stress and the HPA axis**
Readings

**Topic 3: Stress and Neuronal Plasticity**
Readings
6. Research article(s) to be presented by student(s)

**Topic 4: Stress and Learning and Memory**
Readings
4. Research article(s) to be presented by student(s)

**Topic 5: Stress and Mental Health**
Readings
4. Research article(s) to be presented by student(s)

**Topic 6: Early life stress**
Readings
4. Research article(s) to be presented by student(s)

**Online Course**
This course will be 100% online and synchronous using Zoom. It is expected that all students attend all classes. Please reach out to the professor if this is not possible for you. Lectures and exams will take place during the scheduled class days. Lectures may be recorded and may be posted on D2L after the lecture. The recorded lectures are intended to supplement the classroom experience. These recordings may not be reproduced, shared with those not in the class, or uploaded to other online environments. Doing so may result in disciplinary action.

**D2L**
The syllabus, the required readings, and the lecture slides will be posted on D2L.

**Assignments**
There will be two online exams during class time. The exams consist of multiple choice and short essay-type questions. You will be tested on class lecture material and course readings. The exams will not be cumulative. Furthermore, each student will give a 30-45 min “undergraduate lecture” based on a recent research article within the field of neurobiology of stress. The student lecture should place the selected research article in a larger context and should stimulate a class discussion led by the student.

**Overall grade**
Each of the two exams will count for 1/3, the student lecture will also count for 1/3. It is expected that students will be actively participating in class, including responding to questions, asking questions, and participating in class discussions.

**Grades**
Grades will be assigned according the following scale: 90-100% = 4.0; 85-89% = 3.5; 80-84% = 3.0; 75-79% = 2.5; 70-74% = 2.0; 65-69% = 1.5; 60-64% = 1.0; < 60% = 0.
**Make up exam**

No make-up exams will be scheduled during the semester. If you missed an exam, you will need to discuss your options with the instructor. Please be aware that it is against MSU policy for a professor to give any individual student a special opportunity that is not provided to all students. We will not be allowed to provide individuals special chances for extra credit or extra opportunities to make up exams, etc.

**Other issues**

Please email the professor if you have any concerns about your ability to succeed in this course due to challenges of online learning and/or technology.

Please email the professor if you must miss class due to illness or self-isolation. We will try to work with you so that missed classes will not harm your performance or put you at a disadvantage in the class.

If you stay on MSU campus, please obey all MSU policies including those policies to slow the spread of COVID-19 ([https://msu.edu/together-we-will/keeping-spartans-safe/](https://msu.edu/together-we-will/keeping-spartans-safe/)).

**Academic honesty:** Article 2.3.3 of the Academic Freedom Report states that "The student shares with the faculty the responsibility for maintaining the integrity of scholarship, grades, and professional standards." The Department of Psychology adheres to the policies on academic honesty as specified in General Student Regulations 1.0, *Protection of Scholarship and Grades*; see [https://ombud.msu.edu/resources-self-help](https://ombud.msu.edu/resources-self-help). Cheating will be taken very seriously and any student that violates MSU rules (i.e. is caught cheating on any assignment) will be given a failing grade for the class, the incident will appear permanently on the students’ record and the case will be brought to the attention of the Psychology Department advisors who may take further action.

**Accommodations for students with disabilities:** MSU is committed to providing equal opportunity for participation in all programs, 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 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 Dr. Veenema at the start of the term and/or two weeks before the exam date. Requests received after this date may not be honored.

**Additional resources for students:**

- Spartan Code of Honor
- RVSM Limits to Confidentiality
- Mental Health
- Tolerance and civility
- Religious Observance Policy
- Student Athletes
- Pronouns