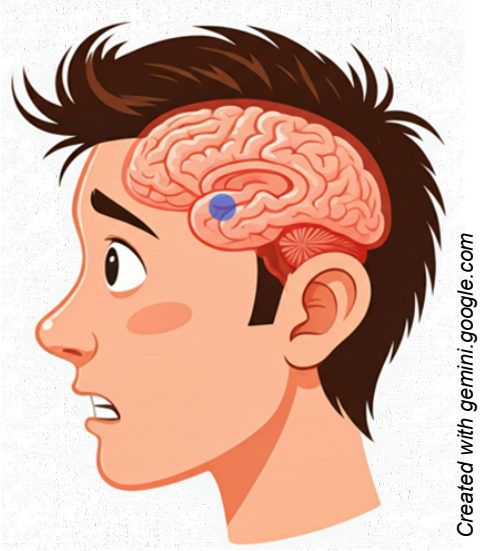
Neurobiology of Emotions
Course Syllabus | Spring 2025

THE UNIVERSITY OF TEXAS AT DALLAS
School of Behavioral and Brain Sciences



Course Information/Modality:
Catalog #: NSC 4382.0W2
Class Schedule: No meeting time or location
Course Platform: eLearning/MS Streams
Instructional Mode: Online (asynchronous online course)

Instructor: Anna Marie Taylor, Ph.D.
Office: JO3.116 Phone: 972-883-2446
Student Hours: Mondays and Thursdays from 10:30am-12:00pm
(other times and virtual options are available by appointment)
Email: anna.taylor2@utdallas.edu

Course Prerequisites: NSC3361 (Introduction to Neuroscience)

Course Expectations: Asynchronous does not mean atemporal. Regular class participation is expected regardless of course modality. Students who fail to participate in class regularly are inviting scholastic difficulty. All students are expected to participate in the two lectures posted each week throughout this course. See assessments below for details.

Course Description: Neurobiology of Emotions (3 semester credit hours). Emotions play essential roles in life. This course examines the underlying neurobiology of emotions, models and systems used to study emotions, and medical aspects of emotional disorders, including fear and anxiety disorders.

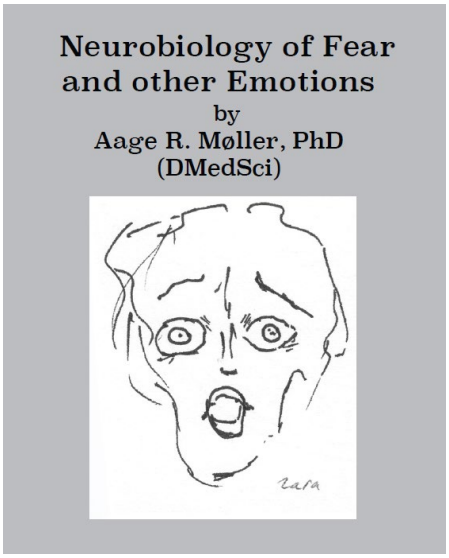
Course Purpose: The goal of this course is to provide a general understanding of emotion neuroscience, with a focus on fear and anxiety. Most people's lives are dominated by their emotions. One of the most critical emotions is fear. Many neuroscience characteristics of fear and anxiety can also be found in other emotions. Everyone has experienced fear and anxiety; for many people, not a day goes by without experiencing fear or anxiety. Fear can deter people from engaging in dangerous activities, but it can also cause significant psychological harm, and in some cases, it can be a pleasurable experience. Fear and anxiety are the root causes of many severe diseases and contribute to the onset of many others.

Course Content: We will begin the course by reviewing the neuroscience of emotions in general, followed by a more detailed discussion of the anatomy and function of the neural systems which serve as the foundation for emotions; after that, we will turn to topics specifically related to fear and anxiety, such as social anxiety, memory, stress, and the effect of hormones and other substances. We will also discuss some diseases associated with fear and anxiety, how to disseminate new information, and how people's confirmation bias can contribute to fear and potentially prevent them from benefiting from new developments.

Course Learning Objectives:
Students who complete this course should be able to:

1) Describe the neuroscience of emotions in general and precisely that of fear and anxiety.
2) Describe the models for emotions and the fundamental biological basis for emotions.
3) Describe the emotional brain and its role in emotions, fear, and anxiety.
4) Identify the specific anatomy and neurobiology that is the basis for fear and anxiety.
5) Apply some medical aspects of fear and anxiety disorders, including social anxiety disorders
6) Demonstrate effective written communication skills in neuroscience.
7) Explain neuroscientific findings to a non-scientific audience.
8) Identify appropriate applications of neuroscientific knowledge in health, service, education, or business professions.

Course Materials:



- Required textbook: Møller, A.R. *"Neurobiology of Fear, Anxiety and other Emotions"* 261 pages. The textbook for the course is uploaded as a PDF to eLearning.
- Additional Readings: Additional readings including scientific papers will be posted in eLearning within the "Readings" folder at least 1 week prior to the corresponding lecture.
- Optional textbooks: Jahangiri F.R. *An Infographic Journey Through the Neurobiology of Emotion: Visualizing Emotions: The Art of Fear*. Editors Jahangiri FR, Qavi H and Moosa K. 2024, 347 pages. 979-8332353901. (The book is available on Amazon); Møller, A.R. *Sensory Systems: Anatomy and Physiology*, Aage R. Møller Publishing, 2014. (The book PDF is available in eLearning); Møller, A.R. *Neuroplasticity and its Dark Sides: Disorders of the Nervous System*. Aage R. Møller Publishing, Dallas, 2014, 403 pages, 2018. (The book PDF is available in eLearning).

Assessments:

Participation (20opts): Each lecture will contain at least one prompt for participation. Students will have until the following Monday at 11:59pm to participate in both lectures from the previous week in eLearning. Students will be able to earn up to 10pts (5pts for completion/5pts for correctness) for participation in each lecture. Participation prompts may be an activity such as making an infographic over a topic covered in the lecture or short answer questions that you will need to think critically about. Everything you will need to know to participate will be explained within the lecture, but **please note that you must watch the complete lecture to participate.** Additionally, some lectures will be based on scientific papers, which you will read and analyze in groups. In lieu of the previous lecture, your group will meet via MS Teams (scheduled at your convenience) to discuss the paper. Each student will need to read the paper, participate in the group discussion (5pts), and submit part of the group paper discussion activity (10pts) individually to eLearning.

Quizzes (50pts): Throughout the course, 6 quizzes will be assigned due by the following Monday at 11:59pm. These quizzes will be 10 multiple choice questions (worth 1 pt each) based on the previous lectures as well as readings. Quizzes will be administered remotely in eLearning as timed 10 minutes tests. Although these quizzes are remote, they should be completed by students individually. While you will be able to use your notes, use of other resources including the web and AI is not allowed. *As answers will be discussed in class, please note there will be no makeups for missed quizzes even for excused absences*. Your lowest quiz grade will be dropped.

Exams (200pts): There will be two exams during the course, a midterm and a final (worth 100pts each). Exams will consist of both multiple-choice and short answer questions. Material covered on the exams will be taken from mostly class lectures, as well as, the assigned readings and any additional material provided. All exams will be given at the UTD testing center over at least a 3-day period. You are required to make an appointment at least 48 hours prior to the scheduled exam end time with the UTD testing center (https://ets.utdallas.edu/testingcenter). You will need to bring your Comet card.

Blog (50pts): Each student will write a 1000-1200 word article in the style of a blog on a topic within the scope of Neurobiology of Emotions. The blog should integrate concepts taught in this course to educate the public as well as to identify how the knowledge will be applied in the student's future career. Blogs will be submitted through Turnitin in eLearning and are due by **Monday April 14th at 11:59pm**. If your blog is submitted after the deadline, 5 points will be deduced per day late. Blogs will be scored according to a provided rubric for the integration of knowledge, cohesiveness, depth of discussion, originality of thought, appropriate use of sources, and proper formatting including spelling and grammar.

Grading Scale: This course uses a point system. Your final grade in the course will be calculated based on the points you earn throughout the semester, as follows:

A+: 485-500+ pts, A: 465-484.9 pts, A-: 450-464.9 pts, B+:435-449.9 pts, B: 415-434.9 pts, B-: 400-414.9 pts, C+: 385-399.9 pts, C: 365-384.9 pts, C-: 350-364.9 pts, D: 300-349.9 pts, F: 0-299.9 pts

Note: *Students must earn their grades.* ***No*** *bonus point opportunities will be given to individuals, and no scores will be rounded up (****not*** *even by 0.1 pts), so please do* ***not*** *make an awkward situation by asking.*

eLearning: This online course can be accessed using your UT Dallas NetID account on the eLearning website. Please see the course access and navigation section of the Getting Started with eLearning webpage for more information. To become familiar with the eLearning tool, please see the Student eLearning Tutorials webpage.

Technical Requirements: This is an entirely online course and as such a base level of technical skills is required. In addition to a confident level of computer and Internet literacy, certain minimum technical requirements must be met to enable a successful learning experience. Please review the important technical requirements on the Getting Started with eLearning webpage.

Technical support: UT Dallas provides eLearning technical support 24 hours a day, 7 days a week. The eLearning Support Center includes a toll-free telephone number for immediate assistance (1-866-588-3192), email request service, and an online chat service.

Server Unavailability or Other Technical Difficulties: The University is committed to providing a reliable learning management system to all users. However, in the event of any unexpected server outage or any unusual technical difficulty, which prevents students from completing a time sensitive assessment activity, the instructor will provide an appropriate accommodation based on the situation. Students should immediately report any problems to the instructor and also contact the online eLearning Help Desk. The instructor and the eLearning Help Desk will work with the student to resolve any issues at the earliest possible time.

Communication: This course utilizes online tools for interaction and communication. For every scheduled class period, either a lecture will be posted in MS Streams or an announcement will be made in eLearning giving you details about how to participate in the class or exam in lieu of a lecture. Grades will be posted as soon as they are available. Student emails and discussion board messages will be answered within 3 working days under normal circumstances.

Class recordings: For each lecture, you will be able to watch a recording, which will be available to all students registered for this class in MS Streams each Tuesday and Thursday. Students are expected to follow appropriate University policies and maintain the security of passwords used to access recorded lectures. Recordings may not be published, reproduced, or shared with those not in the class, or uploaded to other online environments except to implement an approved Office of Student AccessAbility accommodation. If the instructor or a UTD school/department/office plans any other uses for the recordings, consent of the students identifiable in the recordings is required prior to such use unless an exception is allowed by law. Failure to comply with these University requirements is a violation of the Student Code of Conduct.

Class materials: PDFs of textbooks, papers, and the lecture slides will be posted in eLearning to all students registered for this class. These materials may be downloaded during the course; however, these materials are for registered students' use only. These materials may not be reproduced or shared with those not in class or uploaded to other online environments except to implement an approved AccessAbility Resource Center accommodation. Failure to comply with these University requirements is a violation of the Student Code of Conduct.

Course Policies:

Academic Integrity: Academic Dishonesty, including (but not limited to) plagiarism, fabrication, cheating on exams, and sharing or posting exam questions (with or without the correct answers), will not be condoned in my class or at UTD. Each student is expected to turn in original work created by them. Using generative AI, including ChatGPT and coPilot, to write/create parts of your assignments without crediting AI is plagiarism. Any action deemed as potential academic dishonesty will be reported to the Office of Community Standards and Conduct for official review. Students should read the handout on Plagiarism: What Every Student Should Know as well as the note about AI text generation posted on the course eLearning page. Each assignment will have clear instructions as to if and how AI use and/or group work is allowed. If you have questions, please ask before you submit your assignment.

***Make-up Exam*:** Make-up exams will be given only if you provided verifiable documentation from an authoritative source: a) you were seriously ill, or b) you were detained the day and time of the exam, or c) you made arrangements with me prior to the exam to attend an urgent affair, which include religious or UTD sanctioned events, that would prevent you from being unable to take the exam during the entire 3-day period it is offered at the testing center. In any case, you must notify me in advance of the scheduled time of the exam via email. Otherwise, you will receive a 0. *Note:* Make-up exams will not include opportunities for bonus questions and must be completed within a week.

***Late Work*:** As a general rule, late work will not be accepted. An exception is that blogs submitted past the deadline will be graded but will result in 5pts being deducted per day late. If you were unable to submit your work on time due to an approved, verifiable reason (see make-up exam section above), late work may be graded on a case-by-case basis; however, note that the criterion for approval will be stricter as these assignments are not single-day events (waiting until the last minute is never a good strategy). *Note:* A maximum extension of one week past the original due date can be granted.

Extra credit: If extra credit opportunities are given, they will be clearly described during lectures and made available for all students to earn. No extra credit opportunities will be offered to individuals.

Extra help*:** You are welcome and indeed encouraged to meet with me during office hours or by appointment to go over difficult concepts, discuss learning strategies, and review exams. You must help me to help you. ***Note: the day before the test is too late for that exam…the week of the final is too late for the course…Plan ahead!

University Policies: For detailed information about the University of the Texas at Dallas' policies and procedures, please refer to https://go.utdallas.edu/syllabus-policies. This website includes "Resources to Help You Succeed" in addition to the university's policies on Academic Integrity, Accommodations for Students with Disabilities, Copyright, Religious Holy Days, Student Grievance, and Withdrawal from Class.

Distance Learning Student Resources: Online students have access to resources including the McDermott Library, Academic Advising, the AccessAbility Resource Center, and many others. Please see the eLearning Current Students webpage for more information.

Graduation Help Desk: Resources are available to help you overcome obstacles that may interfere with your progress toward graduation. The Graduation Help Desk connects you to the resources that will meet your specific needs. To reach a person who can help, email at graduationhelpdesk@utdallas.edu.

If you require ARC accommodations or have other concerns, please let Dr. Taylor know as soon as possible so that appropriate arrangements can be made.

UTD Creed: ***"As a Comet, I pledge honesty, integrity, and service in all that I do."***

Class Schedule for NSC 4382.0W2:

Recordings will be posted every Tuesday and Thursday in MS Streams available through eLearning. Participation assignments for each lecture and quizzes will be due the following Monday at 11:59pm.

Date	Week	Reading	Lecture Topic	Due Dates
1/21	1	Syllabus	1-Introduction to Course & Emotions	Lecture 1&2 Participation Due 1/27 at 11:59pm
1/23		Assigned Paper 1	2-How Do We Study Emotions?	
1/28	2	Chapter 1	3-Emotions & Causes of Fear	Lecture 3 Participation/Quiz 1 Due 2/3 at 11:59pm
1/30		Chapter 1	4-Importance of Knowledge	
2/4	3	Chapter 1	5-Anxiety & Angst	Lecture 5/Group Participation Due 2/10 at 11:59pm
2/6		Assigned Paper 2	Group Paper Discussion	
2/11	4	Chapter 1	6- Social Anxiety & other disorders	Lecture 6 Participation/Quiz 2 Due 2/17 at 11:59pm
2/13		Chapter 2	7- Theories of Emotions	
2/18	5	Chapter 3	8- What Happens in the Brain?	Lecture 8/Group Participation Due 2/24 at 11:59pm
2/20		Assigned Paper 3	Group Paper Discussion	
2/25	6	Chapter 3	9- Activation of the Amygdala	Lecture 9 Participation/Quiz 3 Due 3/3 at 11:59pm
2/27		Chapter 3	10- Fear Conditioning	
3/4	7	**Chapters 1-3+**	Midterm Exam Review	*Must make an appointment 48h before exam*
3/6		**Midterm Exam (3/5-3/7 at UTD testing center)**		
3/11	8	Chapter 3	11- Function Aspects of Emotions	Lecture 11&12 Participation Due 3/24 at 11:59pm
3/13		Chapter 3	12- Neuroplasticity	
3/17-3/23			No Class- Spring Break	
3/25	9	Chapter 3	13- Oxytocin and Other Molecules	Lecture 14 Participation/Quiz 4 Due 3/31 at 11:59pm
3/27		Chapter 4	14- Other Bodily Systems	
4/1	10	Chapter 4	15- Post-Traumatic Stress Disorder	Lecture 15/Group Participation Due 4/7 at 11:59pm
4/3		Assigned Paper 4	Group Paper Discussion	
4/8	11	Chapter 5	16- Threat-Related Networks	Blog Writing Assignment Due 4/14 at 11:59pm
4/10		Chapter 5	17- Extinction of Fear	
4/15	12	Chapter 6	18- Diseases- Risk Management	Lecture 18 Participation/Quiz 5 Due 4/21 at 11:59pm
4/17		Chapter 6	19- Diseases- Chronic Pain	
4/22	13	Chapter 6	20- Diseases- Others	Lecture 20/Group Participation Due 4/28 at 11:59pm
4/24		Assigned Paper 5	Group Paper Discussion	
4/29	14	-	21- Recent Developments	Lecture 21 Participation/Quiz 6 Due 5/5 at 11:59pm
5/1		-	22- New Technologies	
5/6	15	**Chapters 3-6+**	Final Exam Review	*Must make an appointment 48h before exam*
5/8		**Final Exam (5/7-5/9 at UTD testing center)**		
5/13	**Finals Week**		**Makeups if needed**	

Class Schedule is subject to change at any time in the course as needed.
Additional readings and/or videos may be assigned throughout the semester.