Course Syllabus

Course Information

Course Number/Section	*NSC 4382.0W1*
Course Title	*Neurobiology of Emotions*
Term	*Summer 2025*
Meeting Days & Times	*Asynchronously*

Professor Contact Information

Professor	Dr. Faisal R. Jahangiri
Email Address	Faisal.Jahangiri@utdallas.edu
Office Location	JO 3.108
Office Hours	Tue/Thu. By appointment only
Other Information	Course Website: UTD eLearning
Teaching Assistant	TBA

Course Pre-requisites, Co-requisites, and/or Other Restrictions

Prerequisite: NSC 3361 or equivalent.

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 Content

The goal of this course is to provide a general understanding of emotional 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. No one has experienced fear and anxiety; for many people, 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.

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 that 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.

Student Learning Objectives/Outcomes

Upon successful completion of this course, students will be able to understand:

1. Describe the neuroscience of emotions in general and precisely that of fear and anxiety.
2. Describe the models 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 practical 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.

Assignments & Academic Calendar

(Topics, Reading Assignments, Due Dates, Exam Dates)

Week	Topics
Week 01: 06/02	Lecture 1: Introduction - Part 1 - Emotions Lecture 1: Introduction - Part 2 - Neurobiology of Emotions
Week 02: 06/09	Lecture 2: Causes of Fear Lecture 3: Importance of Knowledge – Part 1
Week 03: 06/16	Lecture 4: Importance of Knowledge – Part 2 Lecture 5: Importance of Knowledge – Part 3
Week 04: 06/23	Lecture 6: Anxiety and Angst Lecture 7: Social Anxiety
Week 05: 06/30	Lecture 8: Theories of Emotions Lecture 9: What Happens in the Brain?
Week 06: 07/07	Lecture 10: Functional Aspects of Emotions Lecture 11: Neuroplasticity
07/18	**MIDTERM EXAM**
Week 07: 07/14	Lecture 12: Oxytocin and Other Molecules Lecture 13: Molecules that Affect Emotions
	Lecture 14: Other Brain Systems Influencing the Function of the Emotional Brain Lecture 15: Effects of Fear on a Person. Part 1
Week 08: 07/21	Lecture 16: Effects of Fear on a Person. Part 1 Lecture 17: Diseases of the Nervous System
Week 09: 07/28	Lecture 18: Diseases Related to the Emotional Brain Lecture 19: Tinnitus
07/31	**Blog/Short Paper Due**
Week 10: 08/04	Lecture 20: Recent Developments Lecture 21: Where Do Technologies Come From Lecture 22: Seven Emotions
Week Final: 08/14	**FINAL EXAM**
Date & Time	**Aug 14-15, 2025, 5:00 am – 5:00 pm CST.**

Required Textbooks and Materials
Møller, A.R. "Neurobiology of Fear, Anxiety and other Emotions" 261 pages. The textbook for the course is uploaded as a PDF.

Suggested Course Materials

1. 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).
2. Møller, A.R. Sensory Systems: Anatomy and Physiology, Aage R. Møller Publishing, 2014. (The book is available on the blackboard as a PDF)
3. Møller, A.R. Neuroplasticity and Its Dark Sides: Disorders of the Nervous System. Aage R. Møller Publishing, Dallas, 2014, 403 pages, 2018. (The book is uploaded on the blackboard as a PDF for you)
4. Related articles and other materials.

Grading Policy
(including percentages for assignments, grade scale, etc.)

Grade Distribution	**Infographics = 50%, Blog = 20%, Midterm Exam = 10%, Final Exam =20%**
Grading (credit) Criteria	100-94 = A, 93-90 = A-, 89-87 = B+, 86-84 = B, 83-80 = B-, 79-77 = C+, 76-74 = C, 73-70 = C-, <70 = F
Blog	Students in the course will work on a short paper or blog alone. The details of the project will be posted on eLearning.

Course & Instructor Policies

Course Structure:

The course will consist of ten weeks of lectures. Two lectures will be available for review each week, and two lectures will be open and stay open until the end of the course.

1. **Outline:**

   General introduction

   Chapter 1. Fear and anxiety

   Chapter 2. Theories of emotion

   Chapter 3. Neurobiology of Emotions

   Chapter 4. What happens in the brain when a person is fearful, afraid, scared, or anxious?

   Chapter 5. How do fear and anxiety affect a person?

   Chapter 6. Diseases related to the emotional brain

2. **Lectures**: Pre-recorded lectures will be available weekly for asynchronous learning.

3. **Exams**: **Two exams will be administered during the course: one midterm and one final exam. Both exams will be available online and consist of 25 multiple-choice questions each.**

4. **Required and Recommended Reading:** Each chapter will have a required reading to be added to the unit, clearly labeled, and downloaded. The textbooks will be available in PDF format.

5. **Infographic:** You must submit an infographic related to the week's topic each week. The first 25 submissions will receive 5% bonus points.

6. **Blog:** Submit a blog post or a short paper of approximately 1,000-1,500 words. Select any one topic covered in this course. The blog should be written to educate the public about the selected topic. The top 20 blogs will be posted on the website.

Course Assessments:

Required assignment completion for completing the course

- Review recorded lectures
- Required reading
- Infographic (Due on Thursday at 11:00 pm)
- Blog/Short paper
- Midterm Exam
- Final Exam

Class Materials

The instructor may provide class materials that will be made available to all students registered for this class, as they are intended to supplement the classroom experience. These materials may be downloaded during the course; however, they are for registered students' use only. Classroom 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 violates the Student Code of Conduct.

Class Attendance

The University's attendance policy requires individual faculty to set their course attendance requirements. Regular and punctual class attendance is expected. Students who fail to attend class regularly invite scholastic difficulty. In some courses, instructors may have special attendance requirements; these should be made known to students during the first week of classes.

Class Participation

Regular class participation is expected. Students who fail to participate in class regularly invite scholastic difficulty. A portion of the grade for this course is directly tied to your participation in this class. It also includes engaging in group or other activities during class that solicit your feedback on homework assignments, readings, or materials covered in the lectures (and/or labs). Class participation is documented by faculty. Successful participation is defined as consistently adhering to university requirements, as presented in this syllabus. Failure to comply with these University requirements violates the Student Code of Conduct.

Class Recordings
Students are expected to follow appropriate University policies and maintain the security of passwords to access recorded lectures. Unless the AccessAbility Resource Center has approved the student to record the instruction, students are prohibited from recording any part of this course. 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 AccessAbility Resource Center accommodation. Failure to comply with these University requirements violates the Student Code of Conduct.

The instructor may record meetings of this course. These recordings will be made available to all students registered for this class if the intent is to supplement the classroom experience. 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.

Comet Creed
This creed was voted on by the UT Dallas student body in 2014. It is a standard that Comets choose to live by and encourage others to do the same:

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

Accommodation for Students with Disabilities

Please review the section within the UT Dallas Syllabus Policies and Procedures webpage.

Academic Support Resources

Please visit the Academic Support Resources page to view the University's academic support resources for all students.

UT Dallas Syllabus Policies and Procedures

Please visit the Syllabus Policies page to view the University's policies and procedures segment of the course syllabus.

Please review the catalog sections regarding the credit/no credit or pass/fail grading option and withdrawal from class.

The descriptions and timelines contained in this syllabus are subject to change at the discretion of the Professor.