

 FLORIDA ATLANTIC UNIVERSITY	NEW COURSE PROPOSAL Undergraduate Programs		UUPC Approval <u>9/8/25</u> UFS Approval _____ SCNS Submittal _____ Confirmed _____ Banner Posted _____ Catalog _____	
	Department Math and Sciences College Honors (To obtain a course number, contact erudolph@fau.edu)			
Prefix PSB Number 4072	(L = Lab Course; C = Combined Lecture/Lab; add if appropriate) Lab Code	Type of Course <div style="border: 1px solid black; padding: 2px; display: inline-block;">Lecture</div>	Course Title Honors Neurobiology of Mental Illness	
Credits (See <u>Definition of a Credit Hour</u>) 3	Grading (Select One Option) Regular <input checked="" type="radio"/> Sat/UnSat <input type="radio"/>	Course Description (Syllabus must be attached; see <u>Template and Guidelines</u>) Provides a general understanding of fundamental brain functions and their underlying molecular, cellular, and circuit mechanisms. Explores the pathophysiology of major psychiatric disorders with an emphasis on neurobiological mechanisms.		
Effective Date (TERM & YEAR) Fall 2026	Prerequisites, with minimum grade* Biological Principles (BSC 1010) or Behavioral Neuroscience (PSB 3340) Minimum passing grade is C		Corequisites	Registration Controls (Major, College, Level) Honors
*Default minimum passing grade is D-. Prereqs., Coreqs. & Reg. Controls are enforced for all sections of course				
WAC/Gordon Rule Course <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No WAC/Gordon Rule criteria must be indicated in syllabus and approval attached to proposal. See <u>WAC Guidelines</u> .		Intellectual Foundations Program (General Education) Requirement (Select One Option) None General Education criteria must be indicated in the syllabus and approval attached to the proposal. See <u>Intellectual Foundations Guidelines</u> .		
Minimum qualifications to teach course PhD in Psychology, Biology, or Neuroscience				
Faculty Contact/Email/Phone Simon Pieraut / spieraut@fau.edu / 5617998205		List/Attach comments from departments affected by new course Comments from Chairs of Psychology and Biological Sciences are attached		
Approved by Department Chair <u>[Signature]</u> College Curriculum Chair <u>[Signature]</u> College Dean <u>[Signature]</u> UUPC Chair <u>[Signature]</u> Undergraduate Studies Dean <u>[Signature]</u> UFS President _____ Provost _____			Date <u>8/22/2025</u> <u>8/22/2025</u> <u>8/22/2025</u> <u>9/8/25</u> <u>9/8/25</u> _____ _____	

Email this form and syllabus to mjenning@fau.edu seven business days before the UUPC meeting.



FLORIDA ATLANTIC UNIVERSITY

PSB 4072

Honors Neurobiology of Mental Illness

Date: Monday, Wednesday 2:00 PM - 3:20 PM

Building: MacArthur Admin Clssrm Jupiter **Room:** 104

3 Credit(s)

Fall 2026 - 1 Full Term

Instructor Information

Simon Pieraut

Email: spieraut@fau.edu

Office: MC-19 room 212

Office Hours: email for appointment

Phone: 561 799 8205

Course Description

Topic: Provides a general understanding of fundamental brain functions and their underlying molecular, cellular, and circuit mechanisms. Explores the pathophysiology of major psychiatric disorders with an emphasis on neurobiological mechanisms.

Class Modules:

Module 1: Introduction to Neurosciences and Neurobiology

Module 2: Autism spectrum disorder and ADHD

Module 3: Psychotic disorders and bipolar disorders

Module 4: Depression and Anxiety disorders

Honors Distinction

As an Honors course, this class emphasizes critical thinking, scientific literacy, and integration of complex neurobiological concepts across multiple levels of analysis, from molecules to circuits to behavior. Honors students are encouraged to engage more deeply with primary research, connect course material to real-world issues in mental health, and reflect on the interplay between neurobiology research, clinical research, and psychiatry. The course fosters independent learning and synthesis of knowledge to prepare students for advanced research and the Honors thesis.

Prerequisites/Corequisites

Biological Principles (BSC 1010) or Behavioral Neuroscience (PSB 3340)

Minimum passing grade is C

Instructional Method

In-Person

Traditional concept of in person. Mandatory attendance is at the discretion of the instructor.

Required Texts/Materials

No required material/book for this class.

Support will be provided either via PowerPoint presentations (as pdf) or literature and review papers that will be provided as PDF documents.

Course Objectives/Student Learning Outcomes

Upon completion of this course:

1. Students will understand symptomatology, diagnostic criteria, and basic knowledge about the classification of mental disorders.
2. Students will learn common neuroscience techniques useful for the study of psychiatric disorders, ranging from GWAS to histology, behavior and electrophysiology.
3. Students will be able to evaluate pathophysiological phenomena associated with mental illnesses and understand how to use animal models to study these phenomena.
4. Students will learn several well-established theories and models explaining the etiology and pathological mechanisms of mental disorders.

5. Students will be able to read, analyze, and critically evaluate literature covering brain disorders.

Course Requirements

Homework: All homework will be announced during class. If you miss a class, be sure to stay updated by checking Canvas announcements and/or by asking other students. Homework will be based on class lectures and will sometimes use real-world research articles as the basis for results analysis and comprehension.

Participation: In-class participation and attendance will be tracked using the TopHat clicker tool. During class, questions will be provided via the TopHat app, and scores will be used for participation grading.

Presentation: You will complete a 10–15 minute presentation of a peer-reviewed research paper related to the neurobiology of mental illness. A list of publications will be shared at the beginning of the semester. Presentation dates are flexible, but your selected paper must match the lecture topic scheduled for that date (i.e. the lecture schedule determines what papers are appropriate for a given date). Your presentation should summarize the paper's objectives, methods, results, and conclusions, and connect its findings to concepts discussed in class. You should also address the relevance of the study to understanding mental illness, including any biological, environmental, or developmental factors it explores.

Writing Assignment: You will also complete a one-page reflection paper summarizing the main concepts you learned throughout the course. Highlight key takeaways related to the neurobiology of mental illness, including the biological, environmental, and developmental factors discussed in class. Your reflection should also address the importance of overall well-being for mental health, incorporating insights on how lifestyle factors—such as diet, social environment, cognitive stimulation, and physical activity—can influence brain function and mental health outcomes.

General Grading Criteria:

- Clear and accurate explanation of ideas and concepts
- Effective use of material covered in class to support points
- Logical organization and flow of information
- Clarity and quality of visuals (when applicable)
- Engagement and clarity in delivery (for presentations)
- Proper attribution of sources
- Correct grammar, spelling, and syntax

These assignments are designed to help you develop critical thinking, synthesis, and communication skills while deepening your understanding of how neuroscience informs our knowledge of mental

illness and mental health.

Faculty Rights and Responsibilities

Florida Atlantic University respects the rights of instructors to teach and students to learn. Maintenance of these rights requires classroom conditions that do not impede their exercise. To ensure these rights, faculty members have the prerogative to:

- Establish and implement academic standards.
- Establish and enforce reasonable behavior standards in each class.
- Recommend disciplinary action for students whose behavior may be judged as disruptive under the Student Code of Conduct [University Regulation 4.007](#).

Disability Policy

In compliance with the Americans with Disabilities Act Amendments Act (ADAAA), students who require reasonable accommodations due to a disability to properly execute coursework must register with Student Accessibility Services (SAS) and follow all SAS procedures. SAS has offices across three of FAU's campuses – Boca Raton, Davie and Jupiter – however disability services are available for students on all campuses. For more information, please visit the SAS website at www.fau.edu/sas/.

Course Evaluation Method

Class attendance and participation (clicker): 20%

Oral Presentation: 20%

Homework: 20%

Midterm Exam: 20%

Final Exam: 20%

TOTAL: 100%

Code of Academic Integrity

Students at Florida Atlantic University are expected to maintain the highest ethical standards. Academic dishonesty is considered a serious breach of these ethical standards, because it interferes with the university mission to provide a high quality education in which no student enjoys an unfair

advantage over any other. Academic dishonesty is also destructive of the university community, which is grounded in a system of mutual trust and places high value on personal integrity and individual responsibility. Harsh penalties are associated with academic dishonesty. For more information, see [University Regulation 4.001](#).

Academic dishonesty (cheating, plagiarism or other dishonest behavior related to grades and performance) will not be tolerated under any circumstances.

Examples of academic dishonesty include, but are not limited to: copying homework assignments, cheating on quizzes or exams, excessive use of AI (ChatGPT) and plagiarism. Any incidents of any type of academic dishonesty may result in a student receiving an "F" for the course.

Attendance Policy Statement

Students are expected to attend all their scheduled University classes and to satisfy all academic objectives as outlined by the instructor. The effect of absences upon grades is determined by the instructor, and the University reserves the right to deal at any time with individual cases of non-attendance. Students are responsible for arranging to make up work missed because of legitimate class absence, such as illness, family emergencies, military obligation, court-imposed legal obligations, or participation in University-approved activities. Examples of University-approved reasons for absences include participating on an athletic or scholastic team, musical and theatrical performances, and debate activities. It is the student's responsibility to give the instructor notice prior to any anticipated absences and within a reasonable amount of time after an unanticipated absence, ordinarily by the next scheduled class meeting. Instructors must allow each student who is absent for a University-approved reason the opportunity to make up work missed without any reduction in the student's final course grade as a direct result of such absence.

It will be difficult to do well in the class without regular attendance. I will communicate testable material in class that might not be provided in slides distributed on Canvas and make important announcements that might be critical for your success with this course. Your participation in class will count in the final grade so your attendance will strongly affect your participation points (participation = 20%). If you miss a class without a medical reason (see make-up policies), it is your responsibility to catch up material covered during your absence.

Religious Accommodation Policy Statement

In accordance with the rules of the Florida Board of Education and Florida law, students have the right to reasonable accommodations from the University in order to observe religious practices and beliefs regarding admissions, registration, class attendance, and the scheduling of examinations and work assignments. University Regulation 2.007, Religious Observances, sets forth this policy for FAU and may be accessed on the FAU website at www.fau.edu/regulations.

Any student who feels aggrieved regarding religious accommodations may present a grievance to the executive director of The Office of Civil Rights and Title IX. Any such grievances will follow Florida Atlantic University's established grievance procedure regarding alleged discrimination.

Time Commitment Per Credit Hour

For traditionally delivered courses, not less than one (1) hour of classroom or direct faculty instruction each week for fifteen (15) weeks per Fall or Spring semester, and a minimum of two (2) hours of out-of-class student work for each credit hour. Equivalent time and effort are required for Summer Semesters, which usually have a shortened timeframe. Fully Online courses, hybrid, shortened, intensive format courses, and other non-traditional modes of delivery will demonstrate equivalent time and effort.

Course Grading Scale

Letter Grade	Percentage
A	100 - 94%
A-	< 94 - 90%
B+	< 90 - 87%
B	< 87 - 83%
B-	< 83 - 80%
C+	< 80 - 77%
C	< 77 - 73%
C-	< 73 - 70%
D+	< 70 - 67%
D	< 67 - 63%
D-	< 63 - 60%
F	< 60 - 0%

Grade Appeal Process

You may request a review of the final course grade when you believe that one of the following conditions apply:

- There was a computational or recording error in the grading.
- The grading process used non-academic criteria.
- There was a gross violation of the instructor's own grading system.

[University Regulation 4.002](#) of the University Regulations contains information on the grade appeals process

Policy on Make-up Tests, Late work, and Incompletes

Make-up exams will only be provided in cases of documented medical or family emergencies. You must notify me as soon as possible and provide written proof (e.g., doctor's note, hospital record) to be eligible for a make-up exam.

No make-up exams will be given for personal (non-medical) reasons, including but not limited to transportation issues, work or school conflicts, or other personal obligations. If you miss an exam without valid documentation of a medical or family emergency, you will receive a grade of zero for that exam.

If you anticipate missing an exam or being unable to complete an assignment on time, please contact me in advance. Depending on the circumstances, I may consider alternative arrangements.

Policy on the Recording of Lectures

Students enrolled in this course may record video or audio of class lectures for their own personal educational use. A class lecture is defined as a formal or methodical oral presentation as part of a university course intended to present information or teach students about a particular subject. Recording class activities other than class lectures, including but not limited to student presentations (whether individually or as part of a group), class discussion (except when incidental to and incorporated within a class lecture), labs, clinical presentations such as patient history, academic exercises involving student participation, test or examination administrations, field trips, and private conversations between students in the class or between a student and the lecturer, is prohibited. Recordings may not be used as a substitute for class participation or class attendance and may not be published or shared without the written consent of the faculty member. Failure to adhere to these requirements may constitute a violation of the University's Student Code of Conduct and/or the Code of Academic Integrity.

Artificial Intelligence Preamble

FAU recognizes the value of generative AI in facilitating learning. However, output generated by artificial intelligence (AI), such as written words, computations, code, artwork, images, music, etc., for example, is drawn from previously published materials and is not your own original work. FAU students are not permitted to use AI for any course work unless explicitly allowed to do so by the instructor of the class for a specific assignment. [\[Policy 12.16 Artificial Intelligence\]](#)

Class policies related to AI use are decided by the individual faculty. Some faculty may permit the use

of AI in some assignments but not others, and some faculty may prohibit the use of AI in their course entirely. In the case that an instructor permits the use of AI for some assignments, the assignment instructions will indicate when and how the use of AI is permitted in that specific assignment. It is the student's responsibility to comply with the instructor's expectations for each assignment in each course. When AI is authorized, the student is also responsible and accountable for the content of the work. AI may generate inaccurate, false, or exaggerated information. Users should approach any generated content with skepticism and review any information generated by AI before using generated content as-is. If you are unclear about whether or not the use of AI is permitted, ask your instructor before starting the assignment.

Failure to comply with the requirements related to the use of AI may constitute a violation of the [Florida Atlantic Code of Academic Integrity, Regulation 4.001.](#)

Proper Citation: If the use of AI is permitted for a specific assignment, then use of the AI tool must be properly documented and cited. For more information on how to properly cite the use of AI tools, visit <https://fau.edu/ai/citation>

AI Flexible: The use of AI to assist in work assigned in this specific course is permitted only for specific assignments as indicated by the instructor. Use must be properly documented and cited per instructor guidelines <https://fau.edu/ai/citation>

Counseling and Psychological Services (CAPS) Center

Life as a university student can be challenging physically, mentally and emotionally. Students who find stress negatively affecting their ability to achieve academic or personal goals may wish to consider utilizing FAU's Counseling and Psychological Services (CAPS) Center. CAPS provides FAU students a range of services – individual therapy, group therapy, and crisis services, to name a few - offered to help improve and maintain emotional well-being. For more information, go to <http://www.fau.edu/counseling/>

Student Support Services and Online Resources

- [Center for Learning and Student Success \(CLASS\)](#)
- [Counseling and Psychological Services \(CAPS\)](#)
- [FAU Libraries](#)
- [Office of Information Technology Helpdesk](#)
- [Center for Global Engagement](#)
- [Office of Undergraduate Research and Inquiry \(OURI\)](#)
- [Student Accessibility Services](#)
- [Student Athlete Success Center \(SASC\)](#)

- [Testing and Certification](#)
- [Test Preparation](#)
- [University Academic Advising Services](#)

The Center for Teaching and Learning (CTL)

The CTL has a variety of FREE TUTORING and other academic support services to help you succeed in your courses. You are encouraged to build your academic support team early in the term and meet with your team regularly. At the CTL, you can practice difficult course content, develop skills, and learn academic success strategies -- in person and online. Learn more about FAU academic support at www.fau.edu/ctl.

Course Topical Outline

Chapter 1: Foundations in Neuroscience

- Introduction to Synapses, Action Potentials, and Neuronal Firing
- Neurochemical Systems
- Neural Circuits, Neuronal Ensembles, and Neural Syntax
- Neuroplasticity
- Brain Development

Chapter 2: Childhood-Onset Psychiatric Disorders

- Introduction to Autism Spectrum Disorder (ASD)
- Genetics of Autism
- Neurobiology of Autism
- Environmental Risk Factors in Autism
- Animal Models of ASD
- Treatment Approaches for ASD

Midterm Exam

Chapter 3: Psychotic and Affective Disorders

- Introduction to Schizophrenia and Bipolar Disorder
- Neurobiology of Schizophrenia
- Human Brain Imaging in Schizophrenia
- Animal Models of Schizophrenia

- Network-Based Models of Schizophrenia
- Neurobiology of Bipolar Disorder

Chapter 4: Mood and Anxiety Disorders

- Introduction to Depression and Anxiety
- Neurobiology of Anxiety Disorders
- Neurobiology of Depression

Final Exam

Title IX Statement

In any case involving allegations of sexual misconduct, you are encouraged to report the matter to the University Title IX Coordinator in the Office of Civil Rights and Title IX (OCR9). If University faculty become aware of an allegation of sexual misconduct, they are expected to report it to OCR9. If a report is made, someone from OCR9 and/or Campus Victim Services will contact you to make you aware of available resources including support services, supportive measures, and the University's grievance procedures. More information, including contact information for OCR9, is available at <https://www.fau.edu/ocr9/title-ix/>. You may also contact Victim Services at victimservices@fau.edu or 561-297-0500 (ask to speak to an Advocate) or schedule an appointment with a counselor at Counseling and Psychological Services (CAPS) by calling 561-297-CAPS.