Syllabus: PSB4240 – Psychobiology of Abnormal Behavior, Spring 2026

Instructor:
Sarah Gardy, M.S., Graduate Instructor
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Class Info:
Room LAR 310
Time: Thursdays, Period 9-11 (4:05 – 7:05 PM)
Credits: 3.0

Office Hours:
Wednesdays, 1:00 – 2:00 PM
Ayers Building, Suite 570 (5th floor), Rm 01
720 SW 2nd Ave, Gainesville, FL 32601
Map: https://maps.app.goo.gl/8B75qsTqA2hUMLcD6
Please email me ahead of time to confirm your visit and avoid overlapping appointments. Zoom office hours are also available upon request.

Course Description
This course explores how biological systems – including genes, hormones, and neural systems – contribute to the development and expression of, mental health conditions. We focus on major disorders as defined in the Diagnostic and Statistical Manual of Mental Disorders (DSM-5).

Course Goals
Upon completion of the course, students will be able to:

- Explain biological theories of psychological disorders (e.g., anxiety, schizophrenia)
- Identify biological mechanisms underlying causes and treatment of mental health conditions
- Integrate biological and behavioral perspectives in the discussion of mental health conditions

Recommended background reading if you have no prior exposure to clinical psychology or related course content: *Butcher, J.M., Mineka, S., & Hooley, J. Abnormal Psychology: Core Concepts. Boston, MA: Allyn & Bacon.*

Course Materials
There is **no required textbook** for this course. All materials and readings will be provided on Canvas.

Assessments:

- Midterm exam – 60 points
- Final exam – 60 points (not cumulative, though cumulative knowledge is useful)
- Weekly reading questions – 80 points total
    - Short essay questions on the week's assigned reading
    - Must be submitted **before** that week's class meeting
- Extra credit: up to 4 points available through two short assignments (less than 1 page) on previous class topics

Grading

Total: 200 points (+4 possible extra credit)

Grades will be assigned according to UF policy:

https://catalog.ufl.edu/UGRD/academic-regulations/grades-grading-policies/

Grade	A	A-	B+	B	B-	C+	C	C-	D+	D	D-
% point	96-100	91-95	86-90	81-85	76-80	71-75	66-70	61-65	56-60	51-55	46-50

Attendance Policy

Class attendance is highly encouraged and will make preparation for exams easier.

Use of Generative AI

Generative AI tools (e.g. ChatGPT, Gemini) may be used for background research. Any work you submit must be written in your own words and reflect your own reasoning.

This course complies with all UF academic policies. For information on those polices and for resources for students, please see https://syllabus.ufl.edu/syllabus-policy/uf-syllabus-policy-links/

Weekly Schedule

01/15	*Topic: Course overview; Biological and behavioral aspects of mental health* Goal: Understand core concepts and methods of clinical and biological research (e.g., causation vs risk; Diathesis and Stress models) **Reading**: Insel et al. (2010): Research Domain Criteria (RDoC): Toward a New Classification Framework for Research on Mental Disorders
01/22	*Topic: Methods of human clinical neuroscience and mental health research (Part 1: Autonomic measures and EEG)* Goal: Understand the foundations of the most commonly used methods in human clinical neuroscience: Psychophysiological recordings, EEG, startle response modulation, etc.

	Watch this video: https://www.youtube.com/watch?v=XMizSSOejg0
01/29	*Topic: Methods of human clinical neuroscience and mental health research (Part 2: Event-related potentials and fMRI)* Goal: Understand the foundations of the most commonly used methods in human clinical neuroscience: Functional imaging, EEG/ERP, etc. **Watch these videos:** http://www.youtube.com/watch?v=1CGzk-nV06g http://www.youtube.com/watch?v=lLORKtkf2n8
02/05	*Topic: Biological underpinnings of Williams Syndrome* Goal: Apply the concepts from sessions 1 and 2 to the Williams Syndrome, a rare condition with a very specific pattern of behaviors and known genetic origin. **Reading**: Haas, B. W., & Reiss, A. L. (2012). Social Brain Development in Williams Syndrome: The Current Status and Directions for Future Research.
02/12	*Topic: Biological underpinnings of developmental conditions: Autism spectrum and related conditions* Goal: Learn about what is (not) known about the psychobiology of more complex developmental disorders, such as autism spectrum disorders. Discuss biological aspects of treatment. **Reading**: Mandy et al., (2016). Annual Research Review: The role of the environment in the developmental psychopathology of autism spectrum condition **Extra Credit due: 2 points; Answer short essay question on the previous weeks of class**
02/19	*Topic: Neural plasticity - Application in the understanding and treatment of neuromotor disorders* Goal: Understand the principles of neuroplasticity and brain-behavior links **Reading**: Dimyan and Cohen (2011): Neuroplasticity in the context of motor rehabilitation after stroke.
02/26	*Topic: Biological underpinnings of learning problems and ADHD; applications in treatment and intervention* Goal: Understand the application of aspects of neural plasticity and psychobiosocial models to learning disorders such as dyslexia and dyscalculia. **Reading**: Kearns, D. M., Hancock, R., Hoeft, F., Pugh, K. R., & Frost, S. J. (2019). The Neurobiology of Dyslexia. Teaching Exceptional Children, 51(3), 175–188. https://doi.org/10.1177/0040059918820051

	At the end of class, we will discuss the upcoming exam
03/05	**No class. First written exam (online), available from 03/02 to 03/09**
03/12	*Topic: Introduction to the psychobiology of fear and anxiety: How the brain and body learn fear responses* Goal: Understand basic aspects of fear and anxiety in an animal model and in humans; acquisition and extinction of fear. **Reading**: Hamm, A. O. (2020). Fear, anxiety, and their disorders from the perspective of psychophysiology.
03/19	**Spring break – No class**
03/26	*Topic: Psychobiology of fear and anxiety, and stress: Mechanisms and Applications* Goal: Further application of models and findings to diagnostic assessment and therapy of fear, anxiety, and stress **Reading**: Mahan, A. L., & Ressler, K. J. (2012). Fear conditioning, synaptic plasticity and the amygdala: implications for posttraumatic stress disorder.
04/02	*Topic: Depression, the HPA system, the brain, and gene-brain-environment interactions* Goal: Apply the concept of endophenotypes to depressive and bipolar disorders **Reading**: Halldirsdottir & Binder (2017): Gene × Environment Interactions: From Molecular Mechanisms to Behavior **Extra Credit, 2 points, answer short questions on the previous weeks of class**
04/09	*Topic: The Schizophrenias and related disorders; psychotic states and how well psycho-biological models fare in explaining them.* Goal: Understand the schizophrenias from a gene-environment-brain point of view; learn about endophenotypes of Schizophrenia, Psychosis and Dissociation **Reading**: Birnbaum & Weinberger (2017), Genetic insights into the neurodevelopmental origins of schizophrenia
04/16	*Topic: Developmental Psychopathology: Bringing it all together* Goal: Look at disorders and diseases from a developmental perspective; know the main results of research using longitudinal prospective studies. **Reading**: McGough et al. (2005); Psychiatric comorbidity in adult ADHD: findings from multiplex families **At the end of class, we will discuss the upcoming exam**
04/28	**Final exam due: available from 03/20**