**Behavioral Neuroscience**

**830:484 section H2**

**SUMMER 2023**

**Instructor: Nan Wise, PhD**

**Department of Psychology**

**Office hours: virtual by appointment**

[**nanwise@psychology.rutgers.edu**](mailto:nanwise@psychology.rutgers.edu)

**973-632-0625**

**Course meeting times: online May 30- July 6, 2023**

**Asynchronous--no scheduled meetings**

**Course website: Canvas**

**COURSE SYNOPSIS**

The goal of this course is to provide students with a broad overview of the biological foundations of behavior: including the structure, organization, and functioning of the nervous system, and the methods used to study topics such as motivation and emotion--(what makes us go), perception (how we interact with the world), and complex behaviors (learning, memory, psychological disorders, sleep, and consciousness).

**Prerequisites:** Principles of Psychology 830:102 or 21:112:200 and Principles of Psychology 101

**LEARNING GOALS:**

Upon completion of this course, students should be able to:

* Explain the basics of communication within the nervous system
* Describe the organization and functions of the nervous system
* Detail the major study methods used and the ethics of conducting research
* Identify the brain correlates of emotion and how emotions impact health
* Explain how biological processes mediate reward and addiction
* Detail the physiological systems underlying motivation and regulation of internal states
* Explain what is known about the biology of sex and gender
* Understand the biological underpinnings of the major psychological/psychiatric disorders
* Address current findings in the study of sleep and consciousness

**REQUIRED READINGS AND MATERIALS:**

**Two Textbooks**

Brain & Behavior 6e by Garrett ISBN: 9781071820391

<https://us.sagepub.com/en-us/nam/brain-behavior/book259386>

Digital version through Sage vantage

<https://us.sagepub.com/en-us/nam/brain-behavior-vantage-digital-option/book275059>

Free Student study site-- Free Student study site (if you don't sign up for Vantage online you can still access this

[https://edge.sagepub.com/garrett6e?\_gl=1\*1pyinu6\*\_ga\*NDQ2NjU2NzAwLjE2NTE3NTg4MTg.\*\_ga\_60R758KFDG\*MTY1MTc1ODgxNy4xLjEuMTY1MTc1ODk1Ni4w\*\_ga\_RK7MQ5ZZVZ\*MTY1MTc1ODgxNy4xLjEuMTY1MTc1ODk1Ni4w](https://edge.sagepub.com/garrett6e?_gl=1*1pyinu6*_ga*NDQ2NjU2NzAwLjE2NTE3NTg4MTg.*_ga_60R758KFDG*MTY1MTc1ODgxNy4xLjEuMTY1MTc1ODk1Ni4w*_ga_RK7MQ5ZZVZ*MTY1MTc1ODgxNy4xLjEuMTY1MTc1ODk1Ni4w)

**Wise, N. (2020). *Why Good Sex Matters: Understanding the Neuroscience of Pleasure for a Smarter, Happier, and More Purpose-filled Life*. Houghton Mifflin.**

<https://www.amazon.com/Why-Good-Matters-Understanding-Purpose-Filled-ebook/dp/B07FKB3PWC>

**EXAMS**

There will be a total of two exams during the semester and a non-cumulative final exam. Each test will consist of multiple-choice questions and true-false questions. All three of the exams will count in your grade. There will be no make-up tests, except in extreme circumstances, which will be documented by the dean’s office

**The three exams will count for 100% of your total grade.**

**There will be an opportunity to earn up to 2 points on your final grade for extra credit**

**Assignment: Top 5 things you learned from the course that can be applied to life**

**GRADING**

**Exams-- 3 tests -33.3% each = 100% of total grade**

***ACADEMIC INTEGRITY***

As an academic community dedicated to the creation, dissemination, and application of knowledge, Rutgers University is committed to fostering an intellectual and ethical environment based on the principles of academic integrity. Academic integrity is essential to the success of the University’s educational and research missions, and violations of academic integrity constitute serious offenses against the entire academic community. The entire academic integrity policy can be found here:

<http://academicintegrity.rutgers.edu/academic-integrity-policy/>

The Department of Psychology at Rutgers University-Newark has established specific guidelines for handling all potential incidents of Academic Integrity violations. Since Academic Integrity is a core component of the guidelines set forth by the American Psychological Association, all students will be expected to follow both the Rutgers University Academic Integrity Policy and the [American Psychological Association](http://www.apa.org/ethics/code/index.aspx) ethical code, specifically, APA’s Ethical Code 8.11 Plagiarism: "Psychologists do not present portions of another's work or data as their own, even if the other work or data source is cited occasionally". As such, every potential violation of the Rutgers Academic Integrity Policy or APA’s Ethical Principles may be reported and handled by either an Academic Integrity Facilitator or the Instructor. Failure to abide by the department’s policies can result in the student becoming ineligible to pursue a major in psychology at Rutgers University-Newark.

**Students with Disabilities**

If you have a disability, you may be eligible for accommodations. Here is the info:• Applying for Services: https://ods.rutgers.edu/students/applying-for-services• Documentation Guidelines: https://ods.rutgers.edu/students/documentationguidelines• Letter of Accommodations: https://ods.rutgers.edu/my-accommodations/letterof-accommodation

**COURSE SCHEDULE**

Subject to change

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| --- | --- | --- |
|  | **Required Readings** | **Exams** |
| Week 1  ending 6/3 | 1. What is Biopsychology? Garrett Chapter 1   AND  Dr. Nan’s core emotion slides and Chapters 1-3 from Dr Nan's book |  |
|  | Garret Chapter 2-Communication Within the Nervous System |  |
| Week 2  ending  6/10 | Garret Chapter 3- The Organization and Functions of the Nervous System |  |
|  | Garrett Chapter 4-The Methods and Ethics of Research |  |
| Week 3  ending 6/17 | Garret Chapter 5 Drugs, Addiction and Reward  Dr Nan's book Chapter 4 Rebalancing the Seeking System  **6/17-6/20 exam 1 Garrett chapters 1-4**  Chapter 6 Motivation and the Regulation of internal states |  |
| Week 4  ending 6/24 | **Garrett Chapter 7 The biology of sex and gender**  **Dr. Nan’s chapter 8 -Sex as a tool for transformation**  **Garrett Chapter 8 Emotion and Health** |  |
| Week 5  ending 7/1 | **6/29-7/4- Exam 2-Chapters 5-8**    **Garrett Chapter 12: Learning and Memory**  **Garrett; Chapter 14-Psychological Disorders**  **Restoring the emotional brain from Dr Nan's book chapters 4-6** |  |
| Week 6  ending 7/7 | **Dr Nan's book Chapter 7 Operational Intelligence**  **Garrett Chapter 15. Sleep and Consciousness**  **Final exam 7/11-7/13 CHAPTERS 12, 14 & 15 PLUS questions on restoring the emotional brain from Dr. Nan's Book** | ­­­­­­­­­­­­ |

**Grading scale**

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| --- | --- |
| A 100-90  B+ 89-85  B 85-80  C+ 75-79 | C 70-74  D 60-69  F 59 and below |