

**Sleep, Health & Performance**  
01:377:336, Section 01  
Semester: Fall, 2023  
Department of Kinesiology and Health  
Rutgers University

**Course information**

**Pre/co-requisites:** General Psychology and Biology

**Credits:** 3

**Course Learning site:** Canvas (<https://canvas.rutgers.edu/Links to an external site.>)

**Class meeting day/time:** Monday and Wednesday, 2-3:20 PM

**Class Location:** Hickman, Room 119

**Technology requirements for this course:** Laptop computer with standard software (Canvas, Microsoft Office etc.), high-speed internet access, web-camera and microphone.

**Instructor information**

**Instructor:** Andrea Spaeth

**Email:** [andrea.spaeth@rutgers.edu](mailto:andrea.spaeth@rutgers.edu)

**Office hours:** By appointment

**Office location:** Virtual via Zoom or Loree Classroom 110

**Required Course Materials**

Peer-reviewed journal articles that review the relevant literature to each lecture topic are also provided as PDFs on the course Canvas site. Assigned readings will be discussed during the lecture in which they were assigned.

**Course Description**

This undergraduate course will provide a basic overview of the biology underlying sleep and circadian rhythms, introduce you to the causes and treatments of insufficient sleep and sleep disorders, and evaluate the role of sleep and circadian timing in maintaining health, improving performance and enhancing safety. When examining the relationship between sleep, health and performance, the course will focus on functions of both the brain and body. Personal and public policy approaches to sleep issues (e.g., drowsy drivers and shiftwork schedules) will also be addressed.

*This course counts as an Upper Level Elective for the Exercise Science major.*

**Course Learning Objectives**

By the end of the course, the successful student will be able to (1) display knowledge of the systems underlying sleep and circadian biology, (2) identify and explain the causes and consequences of insufficient sleep and (3) recognize the importance of sleep hygiene for health and optimal performance. The successful student will also improve critical thinking and analytical skills by completing the class project.

**Grading Policy**

- This class uses a points-based system to calculate grades. The description of each assignment includes how many points it is worth. The total numbers points for this class are 300. Assignments are due by 11:59 PM EST on the due dates listed below unless otherwise noted.
- Assignments turned in late will receive 0 points unless the student communicates with the instructor BEFORE the due date and receives written approval of an extension.

- Concerns about a graded assignment must be brought to the instructor within seven days of receiving the Assignment grades are finalized after this seven day period.
- Grades on Canvas will be updated regularly; if you notice any discrepancies or have questions, please do not wait until the end of the semester – let your instructor know right

Letter Grade	Percent	Points Needed
A	90-100	270-300
B+	85-89.9	255-269
B	80-84.9	240-254
C+	75-79.9	225-239
C	70-74.9	210-224
D	60-69.9	180-209
F	0-59.9	0-179

## Assignments

### Exams (4): 180 points

Each exam will be a combination of multiple choice, true/false, fill-in-the-blank and short answer questions that cover the lecture topics from that unit. Each exam will be worth 45 points.

### Oral Presentation: 45 points

You will be assigned a high-impact, peer-reviewed journal article on a sleep/circadian topic as well as two articles in the popular media (e.g., Time Magazine, New York Times) that summarize and discuss the original paper. After reading both the popular media articles and the original scientific paper, you will do an oral presentation in class that has the following components: (1) a summary of each section of the scientific paper (introduction, methods, results and conclusion) and (2) a critical analysis of how accurately the scientific paper is portrayed in the popular media articles. See rubric on Canvas for more detail.

Format: Presentations should be 8-10 minutes and include PowerPoint slides.

### Written Assignment: Solving a Sleep-Related Problem, 45 points

You will write a 4-5 page paper that solves a sleep issue at the individual/family/social/policy level. Your problem will be assigned to you during the second week of class (after add/drop). You will develop a campaign/program/strategy/technology to improve the sleep.

The paper should include the following components:

- Who is your target population?
- What do we currently know about the sleep habits of that group? (discuss a reference paper here)
- What is the idea?
- What evidence is there to suggest it will work? (discuss a reference paper here)
- How would you implement the idea?
- What resources/offices would be involved in implementation?
- How would you determine the efficacy of your approach? (how would you know if idea works)
- What are potential barriers/challenges to implementation and how would you address them? (discuss a reference paper here)

At least 3 peer-reviewed academic journal articles should be cited in the paper. The paper and references should be written using APA style. See rubric on Canvas for more detail.

Format: The paper should have a title page, 4-5 pages of content, and a reference page. Font should be 12 pt Times New Roman with 1" margins. Do not insert subtitles or an extra line between paragraphs and put only one space after periods.

### Sleep Self-Reflection, 30 points

Each week, students will submit a reflection on their own sleep for the past week. These will be submitted in class for 3 points each.

### **Summary of Assignments with Due Dates**

Assignment	Due Date	Points	Percent of Grade
Exam 1	10/2/23	45	15%
Exam 2	10/25/23	45	15%
Written Assignment	10/25/23	45	15%
Exam 3	11/20/23	45	15%
Oral Presentation	Varies	45	15%
Exam 4	12/13/23	45	15%
Self-Reflections	Weekly	30	10%
Total		300	100.0%

### **Course Policies and Procedures**

#### Academic Integrity

Students are responsible for becoming familiar with the definitions, procedures and sanctions outlined in Rutgers University Academic Integrity Policy before submitting any assignment or exam. The policy can be found at: <http://academicintegrity.rutgers.edu/academic-integrity-policy/>. [Links to an external site.](#)

All students should conduct themselves with the highest standards of academic honesty. Examples of academic dishonesty include: copying others' written work, not citing sources, and submitting the same assignments/papers multiple times in different courses. All incidences of questionable academic integrity are a serious matter and may result in a no grade (0.0) for the assignment or course. Academic dishonesty will not be tolerated and will be treated in accordance with Rutgers University Academic Integrity Policy.

#### Expectations

- Engage with all class material
- Complete all assigned readings and assignments on time
- Actively participate in all class activities, including online
- Follow the honor code when completing all exams
- Ask questions to enhance understanding of the material
- Communicate with the instructor if you have questions pertaining to the material or the course
- Check your email and Canvas announcements regularly to stay informed about class updates

## Email Etiquette

When emailing your instructor, please use your Rutgers e-mail address and identify yourself by full name and course number. Students are expected to place the course number, followed by the subject, in the subject line, use appropriate e-mail etiquette, and maintain reasonable expectations for instructor responses. The instructor will respond to student emails within 1-2 business days.

## Plagiarism

By enrolling in this course, you are indicating implicitly that you have read, understood, and accepted Rutgers University's policies and procedures regarding academic integrity and dishonesty. Plagiarism and cheating will not be tolerated and all University policies apply. Specifically, if plagiarism or cheating is suspected, the student(s) will be asked to meet with the instructor. If the instructor concludes that an instance of plagiarism or cheating has occurred, the student(s) will be subject to an appropriate sanction or penalty outlined in Rutgers University Academic Integrity Policy.

*Please note that plagiarism is using the ideas or writings of another as one's own. It varies in degree and severity. The most severe is the use of another's entire paper word-for-word. Less severe is the use of another's sentence, paragraph, or ideas without giving credit to that individual (i.e., without providing a reference).*

## Make-up Policy

No make-ups or extensions will be offered for missed assignments except in one of the following situations, provided that the instructor is notified in advance:

- Athletic or other Rutgers sponsored trips: Travel dates and times accompanied by a signed memo from the group's advisor/coach must be presented to the instructor prior to travel
- Religious
- Extenuating circumstances: This includes (but is not limited to) family emergencies, severe illnesses, accidents, It will be up to the prerogative of the instructor whether or not the student will be allowed to take the make-up or receive an extension.

## Diversity & Inclusion

The Department of Kinesiology and Health supports an inclusive learning environment wherein diversity and authenticity are valued. We are committed to creating a culture of equality that respects the diverse voices of our students, faculty and staff. We will continuously strive to create a curriculum and academic environment to reflect the community we serve, and drive innovation, social responsibility and excellence. Our diversity in thought, skill, and academic discipline is a resource and strength, which stands to benefit the whole and positively contribute to University and global reach.

## **UNIVERSITY SERVICES**

*Although many of these offices remain closed to in-person visits, all remain accessible virtually. We encourage students to continue to use these resources during this semester of remote learning.*

Service	Description	Contact Information
Student Accommodations	If you are a student in need of accommodations, please register with the <b>Office of Disability Services</b> in order to initiate the accommodations process. Please present your letter of accommodation to your instructor during	(848) 445-6800 Lucy Stone Hall, Suite A 145, Livingston Campus, 54 Joyce Kilmer Avenue,

	the first week of the semester. Please note that accommodations are not retroactive.	Piscataway, NJ 08854 <a href="https://ods.rutgers.edu/Links to an external site.">https://ods.rutgers.edu/Links to an external site.</a>
Just In Case Web App	Access helpful mental health information and resources for yourself or a friend in a mental health crisis on your smartphone or tablet and easily contact CAPS or RUPD.	<a href="http://codu.co/cee05eLinks to an external site.">http://codu.co/cee05eLinks to an external site.</a>
Counseling, ADAP & Psychiatric Services (CAPS)	CAPS is a University mental health support service that includes counseling, alcohol and other drug assistance, and psychiatric services staffed by a team of professional within Rutgers Health services to support students' efforts to succeed at Rutgers University. CAPS offers a variety of services that include: individual therapy, group therapy and workshops, crisis intervention, referral to specialists in the community and consultation and collaboration with campus partners.	(848) 932-7884 17 Senior Street, New Brunswick, NJ 08901 <a href="http://www.rhscaps.rutgers.edu/Links to an external site.">www.rhscaps.rutgers.edu/Links to an external site.</a> Medical Services: <a href="http://health.rutgers.edu/medical-Links to an external site.">http://health.rutgers.edu/medical-Links to an external site.</a> counseling- <a href="http://health.rutgers.edu/medical-services/medical/Links to an external site.">services/medical/Links to an external site.</a> Counseling Services: <a href="http://health.rutgers.edu/medical-counseling-Links to an external site.">http://health.rutgers.edu/medical-counseling-Links to an external site.</a> <a href="http://health.rutgers.edu/medical-counseling-services/counseling/Links to an external site.">services/counseling/Links to an external site.</a>
Violence Prevention & Victim Assistance (VPVA)	The Office for Violence Prevention and Victim Assistance provides confidential crisis intervention, counseling and advocacy for victims of sexual and relationship violence and stalking to students, staff and faculty. To reach staff during office hours when the university is open or to reach an advocate after hours, call 848-932-1181.	(848) 932-1181 3 Bartlett Street New Brunswick, NJ 08901 <a href="http://www.vpva.rutgers.edu/Links to an external site.">www.vpva.rutgers.edu/Links to an external site.</a>
Scarlet Listeners	Free and confidential peer counseling and referral hotline, providing a comforting and supportive safe space.	(732) 247-5555 <a href="https://rutgers.campuslabs.com/engage/organization/scarletlistenersLinks to an external site.">https://rutgers.campuslabs.com/engage/organization/scarletlistenersLinks to an external site.</a>
Academic Support	School of Arts and Sciences Academic Advising for personal, career, and educational goals.  Department of Kinesiology & Health Academic Advising for questions about Exercise Science or Sport Management major/minor requirements.	SAS: <a href="https://sasundergrad.rutgers.edu/Links to an external site.">https://sasundergrad.rutgers.edu/Links to an external site.</a> Dept. of Kinesiology & Health: Lin Williams Loree Classroom Email: <a href="mailto:Lin.Williams@rutgers.edu">Lin.Williams@rutgers.edu</a> <a href="https://kines.rutgers.edu/academics/academic-advisingLinks to an external site.">https://kines.rutgers.edu/academics/academic-advisingLinks to an external site.</a>

## COURSE OVERVIEW

Week	Day	Date	Topic	Assignment
1	Wednesday	9/6	Overview of course	Syllabus
2	Monday	9/11	Evolution of sleep & circadian rhythms	Rattenborg (2023)
	Wednesday	9/13	Neurobiology of circadian rhythms	Eto (2023)
3	Monday	9/18	Neurobiology of sleep	Mutti (2022)
	Wednesday	9/20	Temperature and light -VIRTUAL	Harding (2019)
4	Monday	9/25	Sleep & circadian pharmacology	Zee (2023)
	Wednesday	9/27	<b>Student Presentations</b>	
5	Monday	10/2	<b>Exam 1</b>	
	Wednesday	10/4	Genetics of Sleep	Jan (2020)
6	Monday	10/9	Circadian disorders	Wu (2023)
	Wednesday	10/11	Sleep disorders	Perlis (2022)
7	Monday	10/16	Dreams and Nightmares	Abledinger (2023)
	Wednesday	10/18	Unconsciousness	Seth (2022)
8	Monday	10/23	<b>Student Presentations</b>	
	Wednesday	10/25	<b>Exam 2, Written Assignment Due</b>	
9	Monday	10/30	Lifestyle causes of sleep loss	Alonzo (2021)
	Wednesday	11/1	Sleep and Mental Health	Morales-Munoz (2023)
10	Monday	11/6	Sleep and Immune function	Shi (2020)
	Wednesday	11/8	Sleep and Metabolism	Sato (2023)
11	Monday	11/13	Sleep and Circulatory systems	Makarem (2022)
	Wednesday	11/15	<b>Student Presentations</b>	
12	Monday	11/20	<b>Exam 3</b>	
	Wednesday	11/22	<i>No Class, Thanksgiving Holiday</i>	
13	Monday	11/27	Sleep and Attention	Abe (2023)
	Wednesday	11/29	Sleep and Learning and Memory	Whitney (2023)
14	Monday	12/4	Sleep in Extreme Environments	Wingelaar-Jagt (2021)
	Wednesday	12/6	Sleep Forensics	Schenck (2019)
15	Monday	12/11	<b>Student Presentations</b>	
	Wednesday	12/13	<b>Exam 4</b>	