Psych 133: The Psychology of Sleep

Syllabus [Fall 2018]: A brain-mind odyssey

Lectures: MON & WED 4-5PM, 10 Evans

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GSIs:
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Discussion sections: See your respective GSI

Course Overview: You will spend one-third of your life sleeping…and scientists still have no idea why! We will not discover all the answers in this class. However, we will take a fascinating journey into the secrets of the sleeping brain and dreaming mind. We will review some of the leading theories for why we sleep, observe what happens when organisms (including ourselves) do not sleep enough, and what the cognitive and clinical consequences of a lack of sleep can be. This course has three primary goals: (1) to provide a basic introduction to the study of sleep and an overview of sleep measurement, regulation, ontogeny, phylogeny, and brain physiology, (2) discuss the role of sleep (and a lack thereof) in numerous brain functions, and (3) outline the abnormalities of sleep that occur in, and even contribute to, clinical disorders. We will seek scientifically informed answers to questions such as: Should I sleep before an exam? Why do I dream? How much do animals sleep? Can you sleep with half a brain? What happens when I do (and don't) sleep? Can I interpret my dreams and those of others? What is insomnia? Does sleep disruption contribute to the cause or maintenance of other psychiatric disorders? Can a lack of sleep kill you? What is the capital of Wales?

Overview of Lecture Plan

KEY	Sleep Basics	Sleep & Cognition	Dreams & Clinical	Revision	Exam

AUGUST	
Monday 27th	**Lecture 1: Introduction & let's talk sleep** Overview of course, timeline and a mass Freudian couch session
Wednesday 29th	**Lecture 2: Sleep basics I: What is it, how do we measure it and what types are there?**
SEPTEMBER	
Monday 3rd	**NO LECTURE (LABOR DAY)**
Wednesday 5th	**Lecture 3: Sleep basics II: Who does it [us and them] and how much?**
Monday 10th	**Lecture 4: Sleep basics III: Brain mechanisms of sleep: Sleep Onset, NREM, REM**
Wednesday 12th	**Lecture 5: Sleep basics iV: Circadian rhythms**
Monday 17th	**Lecture 6: Sleep basics V: 1. Sleep Pressure** **2. How does sleep change across the lifespan?**
Wednesday 19th	**Revision Lecture:** **Midterm 1**
Monday 24th	**"MIDTERM" 1**
Wednesday 26th	**Lecture 7: Sleep & Cognition I: Creativity and Insight**
OCTOBER	
Monday 1st	**Lecture 8: Sleep & Cognition II: Procedural Memory (Skills)**
Wednesday 3rd	**Lecture 9: Sleep & Cognition III: Declarative Memory (Facts)**
Monday 8th	**Lecture 10: Sleep & Cognition IV: Memory (Association)**
Wednesday 10th	**Lecture 11: Sleep Deprivation I: Immune Function and Metabolism**
Monday 15th	**Lecture 12: Sleep Deprivation II: Body & brain consequences – Records and first studies**

Wednesday 17th	**Lecture 13: Sleep Deprivation III: Brain consequences - Attention, Professional and Educational impact**
Monday 22nd	**Revision Lecture:** **Midterm 2**
Wednesday 24th	**"MIDTERM" 2**
Monday 29th	**Lecture 14: Sleep Deprivation IV: Brain consequences – Memory formation, emotional (in)stability and shots of vodka**
Wednesday 31st	**Lecture 15: Dreaming I: Interpretation, Freud & Lucidity**
NOVEMBER	
Monday 5th	**Lecture 16: Dreaming II: The 21st Century version**
Wednesday 7th	**Lecture 17: Dreaming III: Experimentally probing the dreaming brain**
Monday 12th	**NO LECTURE (VETERANS DAY)**
Wednesday 14th	**Lecture 18: Sleep in the Clinic I: Insomnia**
Friday 16th	*Sleep Outreach Project Submission: Open*
Monday 19th	**Lecture 19: Sleep in the Clinic II: Narcolepsy**
Wednesday 21st	**NO LECTURE (THANKS GIVING)**
Monday 26th	**Lecture 20: Sleep in the Clinic III: Things that go bump in the night—Parasomnias, REM behavioral disorder, Fatal Familial Insomnia**
Wednesday 28th	**Revision Lecture:** **Midterm 3**
Friday 30th	(SLEEP OUTREACH PROJECT DUE: SUBMISSION CLOSES AT 5PM PST)

Date/Time Pending	**"MIDTERM" 3**

Grading: Your course grade is made up of <u>three</u> different sources. 1) <u>Exams</u>: Three, *non-cumulative* "midterm" exams will be administered, and the average of *all three test scores* will be taken as the exam score, with this average comprising 70% of the final grade, 2) <u>Sleep Outreach Project</u>: which will comprise 20% of the final grade, and 3) <u>Discussion section attendance/participation</u>: which will comprise 10% of the final grade. NOTE: *There will be no make-up exams for any reason*.

Exams: There will be <u>three exams</u>, consisting of multiple-choice questions that will be drawn from the <u>lectures</u> and <u>sections</u>. The exams will *not* be cumulative. In the exams, you should be able to demonstrate that you have understood the factual points and arguments covered. You are <u>required to take all three exams</u>. All exams will be closed book. There will be no grade changes except for clerical errors.

Sleep Outreach Project: Your goal is to help educate others about the benefits of sleep, the consequence of sleep loss and of sleep disorders by creating a newspaper article, video/YouTube, brochure or an exciting idea of your own. More details to come in class and discussion sections.

Due date: Submission opens November 16th (Fri). <u>The final due date</u>, when all sleep outreach projects must be submitted without exception, is **5PM PST Friday November 30th without fail**.

Discussion sections: *Discussion sections are required.* You can only attend the discussion section to which you signed up for. You cannot attend another section time, even if it appears online that there are open slots.

Lecture slides: A PDF of all lecture slides will be posted on the bCourses website at least 12 hours before each class and will remain thereafter.

Grading Numerology: I use percentages to map to letter grades. The table below shows the conversion from numerical grades to letter grades. For conversion from letter grades to numerical grades, I use the middle of the numerical range above. Thus, an A is a 95, halfway between 90 and 100. An A- is a 91.25, halfway between 90 and 92.5, etc. Here is the conversion more precisely:

Numerical Grade	Letter Grade
≥ 97.5	A+
≥ 92.5	A
≥ 90.0	A-
≥ 87.5	B+
≥ 82.5	B
≥ 80.0	B-
≥ 77.5	C+
≥ 72.5	C
≥ 70.0	C-
≥ 67.5	D+
≥ 62.5	D
≥ 60.0	D-
< 60.0	F

It is my practice _not_ to round the numerical grade before mapping to letter grades by the table. This can be a sore point, so let me explain. For example, I use ≥90.00 as the transition from a B+ to an A-. This means that if your numerical grade is 89.9, I map it to a B+ and not an A-. It can be heartbreaking to miss a grade boundary by -0.1, I know. But to round up, say, every numerical grade ≥89.50 to 90.00 and map that to an A-, means that the transition from B+ to A- is actually 89.50, not 90.00. And that would mean that a grade of 89.4 would miss a grade boundary by -0.1, and everything becomes recursive. It would also mean that me announcing the grade boundary of 90.00 is not accurate. No matter what policy is followed, some could miss a grade boundary by a hair. Even though there may be some psychological difference between the two situations, we have to keep it straightforward by announcing the sharp grade boundary and then following it strictly. This ensures the process is more objective, and does not allow room for subjective grade adjustments, which are almost always unfair.

Accommodations: If you have disability-related accommodations in this class please email or speak with your GSI. The Disabled Students' Program (DSP) is the campus office responsible for verifying that students have disability-related needs for academic accommodations and for planning appropriate accommodations, in cooperation with the students themselves and their instructors. Students who need academic accommodations should request them from DSP: http://dsp.berkeley.edu/