Psych133: The Psychology of Sleep

Syllabus [Fall 2013]: A brain-mind odyssey

**Lectures:** ***

**Professor:** *** (Office hours: By email appointment)

**GSIs:**

(GSI office hours: To be announced in section)

**Discussion sections:** begin in 2nd week with your respective GSI

**Course Overview:** You will spend one-third of your life sleeping…and scientists have no idea why! We will not discover the answer 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 like: Should I sleep before an exam? Why do I dream? How much do animals sleep? What happens when I 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? What is the capital of Wales?
# Overview of Lecture Plan

— *All readings are there to help advance your knowledge and understanding of the lectures and sections. It is wise to read this material before class. It will allow for a better understanding of the lecture and also give you the opportunity to ask me any questions in class that may have come up in your reading.*

<table>
<thead>
<tr>
<th>KEY</th>
<th>Sleep Basics</th>
<th>Sleep &amp; Cognition</th>
<th>Dreams &amp; Clinical</th>
<th>Exam</th>
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**AUGUST**

| Mtg 1 | Lecture 1: Introduction & let’s talk sleep  
Overview of course, timeline and a mass Freudian couch session  

**SEPTEMBER**

| Mtg 2 | Lecture 2: Sleep basics: What is it, how do we measure it and what types are there?  
Reading:  
| Mtg 3 | Lecture 3: Sleep basics: Who does it [us and them] and how much?  
Reading:  
| Mtg 4 | Lecture 4: Sleep basics: Brain mechanisms of sleep [Sleep Onset, NREM, REM]  
Reading:  
| Mtg 5 | Lecture 5: Sleep basics: Circadian rhythms  
Reading:  
| Mtg 6 | Lecture 6: Sleep basics: 1. How does sleep change across the lifespan?  
2. Why do we sleep? Overview of theories  
Reading:  
| Mtg 7 | Revision Lecture: Midterm 1 | |
| Mtg 8 | “MIDTERM” | |
| Mtg 9 | Lecture 7: Sleep & Cognition I: Creativity and Insight  
Reading:  
<p>| Mtg 10 | Lecture 8: Sleep &amp; Cognition II: Procedural Memory (Skills) | |
| Mtg 11 | No Lecture – get extra sleep and enjoy Homecoming! | |</p>
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<tr>
<th>Mtg</th>
<th>Lecture</th>
<th>Reading</th>
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| 12  | 9       | Lecture 9: Sleep & Cognition III: Declarative Memory (Facts)  
Reading:  
| 13  | 10      | Lecture 10: Sleep & Cognition IV: Memory (Association)  
Reading:  
| 14  | 11      | Lecture 11: Sleep Deprivation I: Body consequences – Immune Function and Metabolism  
Reading:  
| 15  | 12      | Lecture 12: Sleep Deprivation II: Body & brain consequences – Records and first studies  
Reading:  
| 16  | 13      | Lecture 13: Sleep Deprivation III: Brain consequences - Attention, concentration and real life  
Reading:  
— http://en.wikipedia.org/wiki/Sleep_deprivation (again) |
| 17  | 14      | Lecture 14: Sleep Deprivation IV: Brain consequences – Memory formation, emotional (in)stability and shots of vodka  
Reading:  
| 18  |         | Revision Lecture: Midterm 2 |
| 19  |         | “MIDTERM” 2 |
| 20  |         | Lecture 15: Dreaming I: Interpretation, Freud & Lucidity  
Reading:  
— http://en.wikipedia.org/wiki/Contemporary_dream_interpretation  
— http://en.wikipedia.org/wiki/Lucid_dream |
| 21  |         | Lecture 16: Dreaming II: The 21st Century version  
Reading:  
| 22  |         | Lecture 17: Dreaming III: Experimentally probing the dreaming brain  
Reading:  
| Mtg 23  | **Lecture 18: Sleep in the Clinic II: Sleep & Mental Health** (Guest lecture: Prof. Harvey) |
|         | Reading: |
|         | — [http://www.sleepfoundation.org/article/sleep-topics/depression-and-sleep](http://www.sleepfoundation.org/article/sleep-topics/depression-and-sleep) |
|         | — [http://www.webmd.com/depression/guide/depression-sleep-disorder](http://www.webmd.com/depression/guide/depression-sleep-disorder) (—DON’T FORGET PAGE 2—) |
| Mtg 24  | **Lecture 19: Sleep in the Clinic I: Insomnia** |
|         | Reading: |
|         | — [http://www.sleepfoundation.org/article/Insomnia](http://www.sleepfoundation.org/article/Insomnia) |
| Mtg 25  | **Lecture 20: Sleep in the Clinic III: Narcolepsy** |
|         | Reading: |
|         | — [http://www.scholarpedia.org/article/Narcolepsy](http://www.scholarpedia.org/article/Narcolepsy) |
| Mtg 26  | No Lecture: Thanksgiving |
| Mtg 27  | No Lecture: Thanksgiving |
| DECEMBER | **Revision Lecture: Midterm 3** |
| Mtg 28  | **Lecture 21: Sleep in the Clinic IV: Parasomnias, REM behavioral disorder, Fatal Familial Insomnia...and things that go bump in the night!** |
|         | Reading: |
| Mtg 29  | Revision Lecture: Midterm 3 |

**Grading:** Your course grade is made up of three different sources. 1) **Exams:** 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) **Sleep Outreach Project:** which will comprise 20% of the final grade, and 3) **Discussion section attendance/participation:** which will comprise 10% of the final grade. NOTE: *There will be no make-up exams for any reason.*

**Exams:** There will be three exams, consisting of multiple-choice questions that will be drawn from the lectures and set readings. 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 required to take all three exams. 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:** Announced in Section

**Reader:** The course reader, which will contain all the articles and weblink readings associated with each lecture (but not the lecture slides themselves), will be posted on bSpace for download as a PDF document.

**Discussion sections:** To begin in 2nd week. *Discussion sections are required.* You have been assigned to a time. Make sure you attend the discussion section to which you signed up for.

**Website:** All course materials and the lecture slides will be posted on bspace.berkeley.edu

**Accommodations:** If you have disability-related accommodations in this class please email me. 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/](http://dsp.berkeley.edu/)