This course is an advanced lecture course covering the science of sleep and sleep disorders and the application of that science to public policy and treatment. It is primarily taken by advanced undergraduates and some graduate students.

Prerequisites: Because this is an advanced course, I assume that everyone who enrolls has the appropriate background to understand the material being presented. Two courses or their equivalents are listed as prerequisites, Psyc 230 Psychological Measurement and Statistics and Psyc 302 Intro to Biopsychology. Other courses from Psychology or Biological Sciences that focus on the brain and genetics will be considered equivalent to Psyc 302. If you are uncertain whether you have the appropriate background for the course, you can email either Elaine Blank (one of the TAs for the course) or me and describe the courses you’ve taken that would meet the prerequisites.

D2L web page: The course D2L page will be used for posting announcements, readings, review material, and for providing access to a class list-serve. Our D2L web page can be found at the following url: http://D2L.arizona.edu/

Everyone should open the preferences on the course home page and check their email preferences so that email can be forwarded to your regular email directly. If you don’t do that, you’ll have to check email on D2L regularly.

Readings: There are no readings for you to purchase. All readings will be available on the D2L web page or through internet links. We’ll use an excellent online primer called Basics of Sleep Behavior http://www.sleephomepages.org/sleepsyllabus/

Required reading assignments for each lecture are given below. Readings in brackets [] are recommended for those registered for Psyc 478 and required for those registered for honors, Psyc 478H, and for the graduate course registration, Psyc 578.

Exams: There are three exams: two exams in the first half of the semester and a final exam. Each exam is composed of 30 to 40 multiple-choice questions taken from lectures and readings plus three or four short essay questions. Last year’s exam questions for the midterm exams will
be posted on the course web page so that you will be able to test your knowledge and see the type of questions that will be asked.

The exams are not graded on a curve. The highest score by an undergraduate in the class will be considered 100%. An A = 90 - 100%; B = 75 - 89%; C = 60 - 74%; D = 50 - 59%. The exams are not cumulative. The first two exams will each be weighted 30% and the final exam will be weighted 40%. Improvement from the midterm exams to the final will result in the final being weighted automatically more heavily (50% rather than 40%). There is no extra credit.

For those taking Psyc 478H or Psyc 578, an 8 to 10 page review paper (double-spaced) is required on a topic of your choice approved by Professor Bootzin. The papers are due in Professor Bootzin’s mailbox by 5 pm on May 7th. For those taking Psyc 478H or Psyc 578, the first two midterms will be weighted 25%, the final exam will be weighted 35%, and the paper will be weighted 15%. Improvement from the midterm exams to the final will result in the final being weighted more heavily (45% rather than 35%).

**Syllabus**

**Jan 14 Introduction**

No reading assignment

**Jan 19 Measurement of Sleep; Polysomnography**

Basics of Sleep Behavior, Part A: What Is Sleep  

Basics of Sleep Behavior, Part K: Daytime Sleepiness and Alertness  
[http://www.sleephomepages.org/sleepsyllabus/k.html](http://www.sleephomepages.org/sleepsyllabus/k.html)


**Jan 21 Phylogeny and Genetics of Sleep**

Basics of Sleep Behavior, Part B: The Phylogeny of Sleep  


Jan 26 Biological Rhythms

Basics of Sleep Behavior. Part G: Temporal Regulation of Sleep and Wakefulness
http://www.sleephomepages.org/sleepsyllabus/g.html


Jan 28 Ultradian, Circadian, Menstrual, and Seasonal Rhythms


Feb 2 Disorders of the Sleep-Wake Schedule and Treatment


Feb 4 Ontogeny of Sleep (Lecture by Elaine Blank and Tucker Peck)


Basics of Sleep Behavior, Part C: Developmental Course of Sleep
http://www.sleephomepages.org/sleepsyllabus/c.html


Feb 9 Review

Feb 11 Exam #1
Feb 16 Physiology of NREM and REM Sleep

Basics of Sleep Behavior, Part D: NREM and REM Sleep
http://www.sleephomepages.org/sleepsyllabus/d.html


Feb 18 Neurobiology and Genetics of Sleep

Basics of Sleep Behavior, Part E: Brain Mechanisms of Sleep and Wakefulness
http://www.sleephomepages.org/sleepsyllabus/e.html

Basics of Sleep Behavior, Part F: Chemical and Neuronal Mechanisms of Sleep
http://www.sleephomepages.org/sleepsyllabus/f.html


Feb 23 Sleepiness, Sleep Deprivation, and the Functions of Sleep

Basics of Sleep Behavior, Part K: Daytime Sleepiness and Alertness
http://www.sleephomepages.org/sleepsyllabus/k.html

Basics of Sleep Behavior, Part I: Functions of Sleep
http://www.sleephomepages.org/sleepsyllabus/i.html


Bonnet, M.H., & Arand, D.L. (1995). We are chronically sleep deprived. Sleep, 18, 908-911.]]

Feb 25 Cognitive Processing and Sleep


Mar 2  Sleep and Memory


Mar 4  Dreams, Lucid Dreams

Basics of Sleep Behavior, Part H: Dreams
http://www.sleephomepages.org/sleepsyllabus/h.html


Mar 9 Exam #2

Mar 11 Nightmares and Sleep Disturbances after Traumatic Events


SPRING BREAK

Mar 23 Parasomnias, REM Behavior Disorder, Night Terrors, Violent Somnabulism


Mar 25 Sleep and Psychopathology


Mar 30 Sleep Apnea

Bootzin, et al. (2001). Sleep disorders. Sleep Apnea (pp 687-689) and Respiratory disorders (pp 701-702).


Apr 1 Narcolepsy


Apr 6 Kleine-Levin Syndrome (KLS)


Apr 8 Insomnia


Apr 13 Pharmacological Treatments of Insomnia

Basics of Sleep Behavior, Part J: Clinical Pharmacology of Sleep
http://www.sleephomepages.org/sleepsyllabus/j.html
Apr 15 Cognitive-Behavioral Treatments of Insomnia (I)


Apr 20 Cognitive-Behavioral Treatments of Insomnia (II)


Apr 22 Cognitive-Behavioral Treatments of Insomnia (III)


Apr 27 Periodic Limb Movements and Restless Legs; Cyclical Alternating Pattern (CAP) Sequences


Apr 29 Sleep and Medical Illness

Basics of Sleep Behavior, Part L: Sleep and Other Medical and Psychiatric Disorders [http://www.sleephomepages.org/sleepsyllabus/l.html](http://www.sleephomepages.org/sleepsyllabus/l.html)


May 4  Review

May 5  Papers due for Honors and Psyc 578 by 5 PM in Professor Bootzin’s mailbox

May 11  2 PM – 4 PM Final Exam.