

PSYC/NEUR477
Sleep and Biological Rhythms
Fall 2021

Instructor:	Dr. Michael Antle	Lecture Location:	SS 010
Phone:	403-220-2574	Lecture Days/Time:	MW 2-3:15pm
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Office Hours:	Open door policy (if the door is open, come on in!), or by appointment		

Course Description

Behaviours are temporally coordinated and occur in a rhythmic fashion. The most obvious rhythmic behaviour humans engage in is sleeping; we spend 1/3rd of our lives asleep. This course will survey the behavioural, physiological, neural and clinical aspects of sleep and rhythms.

Course Learning Outcomes

The Department of Psychology is committed to student knowledge and skill development. The table below lists the key learning outcomes for this course, the program-learning outcomes they facilitate (see <https://live-arts.ucalgary.ca/psychology/about#program-learning-outcomes>), and the expected level of achievement.

Course Learning Outcomes	Assessment Methods	PLO(s)	Level(s)
By the end of this course students should be able to:			
1. Differentiate how sleep changes over the night, lifespan and through evolution.	Short answer exams Thought paper 1 Presentation 1	1,4	C
2. Outline the neural underpinnings of sleep, wake and circadian rhythms	Short answer exams	1	C
3. Assess various sleep disorders	Short answer exams	1	C
4. Debate the various functions of sleep	Short answer exams, DST project	2	C
5. Explain the formal properties of biological rhythms	Short answer exams, DST project	1,2	C
6. Analyze the primary literature in sleep and circadian fields	DST project Thought papers 3 Presentation 3	2,4,5,7	C
7. Evaluate claims made in the media concerning treatments for sleep complaints	Thought paper 2 Presentation 2	2,4,5	C

Notes. PLOs = Program-Learning Outcomes: 1 = demonstrate knowledge of psychological sciences, 2 = think critically and solve problems, 3 = conduct research and analyze data, 4 = communicate effectively, 5 = demonstrate information literacy, 6 = understand and implement ethical principles in a diverse world, 7 = apply psychological knowledge and skills, 8 = Demonstrate multicultural competence and awareness of issues related to equity, diversity,* and inclusion. Level of PLO achievement facilitated by this course: I = introductory, C = competency, A = advanced.

Acknowledgments and Respect for Diversity

Our classrooms view diversity of identity as a strength and resource. Your experiences and different perspectives are encouraged and add to a rich learning environment that fosters critical thought through respectful discussion and inclusion. The Department of Psychology would also like to acknowledge the traditional territories of the people of the Treaty 7 region in southern Alberta. The City of Calgary is also home to Métis Nation of Alberta, Region III.

Course Format

This is an in-person class held on campus.

Prerequisites

Psychology 300, 301 and 375 and admission to the major or honours program

Required Text

None – references to recommended readings will be provided on D2L

Assessment Methods

1. Exams

<u>Mid Term</u>	In Class – Wednesday October 27 th	30%
	<ul style="list-style-type: none">Includes all material up to October 25th	
<u>Final</u>	During exam period	30%
	<ul style="list-style-type: none">Includes all material covered following the midterm exam (from November 1st onward)Will be 2 hours in length	

Exams will be short answer format.

Exams will emphasize lecture materials, but will also include assigned readings

The use of electronic devices, books and notes are not permitted during tests

2. DST Voter Education Project

22%

The October 18th referendum will ask Albertans: “Do you want Alberta to adopt year-round Daylight Savings Time, which is summer hours, eliminating the need to change our clocks twice a year?”. You will pick one aspect of this issue and prepare an argument in support or in opposition to the referendum question. This assignment has 3 parts (more details will be posted on D2L):

- Watch the prerecorded lecture before the class on Monday September 13th
 - Complete the short answer quiz on D2L before the class on Monday September 13th (2%)
 - Quiz questions are available on D2L, please read them before watching the lecture
- Prepare a digital argument to be shared on social media to help educate voters on this issue. This can be a podcast, YouTube video, TikTok video or similar media. (10%)
 - You may work alone or in pairs.
 - Email the link to your media to the course instructor by the end of day on **October 8th**.
- Research and write a paper where you can explore one aspect of the DST issue (can be the same area/question as your social media component). (10%)
 - This should be between 5-10 pages double spaced, excluding title page and references.
 - Submitted through D2L Dropbox by Wednesday **December 8th** at 4pm

3. In Class Presentations **15%**

Our 3 Presentations days will have 2 components each: a small written paper and an oral presentation

Thought papers 3% each (9%)

Presentations 2% each (6%)

You will be assigned a topic at a week before the discussion day. In preparing for the discussion, you will be asked to prepare a thought paper about your topic (**limit, one sheet of paper**). Thought papers should be organized as if answering the question “Tell me about ____”. See D2L for more detailed instructions.

	Date	Topic
Discussion 1 (group)	Monday, September 27 th	Sleep across the lifespan
Discussion 2 (individual)	Monday, October 18 th	Treatments for sleep problems
Discussion 3 (group)	Monday, November 29 th	Melatonin for circadian problems

4. Sleep Questionnaires Due in class, email or on D2L September 29th **3%**

Students will be required to complete and submit three questionnaires on sleep and circadian habits. Data collected by the instructor from these instruments will only be used for educational purposes within the course and will not be retained afterwards. Completing these questionnaires will provide an experiential learning opportunity that will help students understand the sleep concepts discussed in class, and relate them to their own experiences. The questionnaires are:

1. Pittsburgh Sleep Quality Index **please use version on D2L**
2. NSF Sleep Diary **please use version on D2L**
3. Munich Chronotype Questionnaire **please use version on D2L**

Without approved documentation, all Late Assignments will lose 10% per day late, including weekends. Late assignments should be emailed directly to the course instructor at the email address listed on the first page. Missed presentations with approved documentation can be mad- up by uploading a video of the talk, although parameters of the talk may change to keep assessment fair and equitable.

Extra Research Participation Course Credit is Not Offered for this Course.

University of Calgary Academic Integrity Policy

Academic integrity is the foundation of the development and acquisition of knowledge and is based on values of honesty, trust, responsibility, and respect. We expect members of our community to act with integrity.

Research integrity, ethics, and principles of conduct are key to academic integrity. Members of our campus community are required to abide by our institutional code of conduct and promote academic integrity in upholding the University of Calgary's reputation of excellence. It is your responsibility to ensure that you have read and are familiar with the student academic misconduct policy: <https://www.ucalgary.ca/policies/files/policies/student-academic-misconduct-policy.pdf>.

Department of Psychology Criteria for Letter Grades

Psychology course instructors use the following criteria when assigning letter grades:

A+ grade: *Exceptional Performance.* An A+ grade indicates near perfect performance on multiple choice and short answer exams. For research papers/essays/course projects/presentations, an A+ grade is awarded for exceptional work deserving of special recognition and is therefore not a common grade.

A, A- Range: *Excellent Performance.* Superior understanding of course material. Written work is very strong in terms of critical and original thinking, content, organization, and the expression of ideas, and demonstrates student's thorough knowledge of subject matter.

B Range: *Good Performance.* Above average understanding of course material. Written work shows evidence of critical thinking and attention to organization and editing but could be improved in form and/or content.

C Range: *Satisfactory Performance.* Adequate understanding of course material. Knowledge of basic concepts and terminology is demonstrated. Written work is satisfactory and meets essential requirements but could be improved significantly in form and content. Note: All prerequisites for courses offered by the Faculty of Arts must be met with a minimum grade of C-.

D range: *Marginally meets standards.* Minimal understanding of subject matter. Written work is marginally acceptable and meets basic requirements but requires substantial improvements in form and content. Student has not mastered course material at a level sufficient for advancement into more senior courses in the same or related subjects.

F grade: *Course standards not met.* Inadequate understanding of subject matter. Written work does not meet basic requirements. Student has not demonstrated knowledge of course material at a level sufficient for course credit.

Grading Scale

A+	96-100%	B+	80-84%	C+	67-71%	D+	54-58%
A	90-95%	B	76-79%	C	63-66%	D	50-53%
A-	85-89%	B-	72-75%	C-	59-62%	F	0-49%

It is at the instructor's discretion to round off either upward or downward to determine a final grade when the average of term work and final examinations is between two letter grades.

To determine final letter grades, final percentage grades will be rounded up or down to the nearest whole percentage (e.g., 89.5% will be rounded up to 90% = A but 89.4% will be rounded down to 89% = A-).

Tentative Lecture Schedule

Date	Topic/Activity	Assignment Due
W Sep 8	Sleep – Intro	
M Sep 13	DST Discussion	Watch DST lecture and complete Quiz on D2L before class
W Sep 15	Sleep – Basics	
R Sep 16		<i>Last day to drop a class without a penalty</i>
F Sep 17		<i>Last day to add or swap a course</i>
M Sep 20	Sleep – Lifespan	
W Sep 22	Sleep – Evolution	
F Sep 24		<i>Fee payment deadline for Fall Term full and half courses.</i>
M Sep 27	<i>Sleep Discussion – Lifespan</i>	Presentation #1 and Thought Paper #1 Due
W Sep 29	Sleep – Neural Regulation 1	Sleep Questionnaires Due
R Sep 30	No Classes National Day for Truth and Reconciliation	
M Oct 4	Sleep – Neural Regulation 2 + Narcolepsy	
W Oct 6	Sleep – Sleep Disorders 1	
F Oct 8		Submit DST media link
M Oct 11	<i>Thanksgiving Day, University closed (except Taylor Family Digital Library, Law, Medical, Gallagher and Business Libraries). No lectures.</i>	
W Oct 13	Sleep – Sleep Disorders 2	
M Oct 18	<i>Sleep Discussions – Sleep aids</i>	Presentation #2 and Thought Paper #2 Due
W Oct 20	Sleep – Sleep and Learning 1	
M Oct 25	Sleep – Sleep and Learning 2	
W Oct 27	-----=====Midterm Exam=====	
M Nov 1	Circadian – Introduction	
W Nov 3	Circadian – Basics and properties	
Nov 7-13	<i>Term Break No Classes</i>	
R Nov 11	<i>Remembrance Day (Observed). University Closed (except Taylor Family Digital Library, Law, Medical, Gallagher and Business Libraries). No lectures.</i>	
M Nov 15	Circadian – Properties and Entrainment	
W Nov 17	Circadian – Anatomy	
M Nov 22	Circadian – Molecular	
W Nov 24	Circadian – Vision	
M Nov 29	<i>Sleep Discussions – Melatonin</i>	Presentation #3 and Thought Paper #3 Due
W Dec 1	Circadian – Non-photic	
M Dec 6	Circadian – Human Rhythms 1	
W Dec 8	Circadian – Human Rhythms 2	
R Dec 9		<i>Fall Term Lectures End. Last day to withdraw with permission from Fall Term half courses.</i>
Dec 13-22	Fall Final Exam Period	

Supporting Documentation

Students may be asked to provide supporting documentation for an exemption/special request. This may include, but is not limited to, a prolonged absence from a course where participation is required, a missed course assessment, a deferred examination, or an appeal. Students are encouraged to submit documentation that will support their situation. Supporting documentation may be dependent on the reason noted in their personal statement/explanation provided to explain their situation. This could be

medical certificate/documentation, references, police reports, invitation letter, or a statutory declaration, etc. The decision to provide supporting documentation that best suits the situation is at the discretion of the student. Students cannot be required to provide specific supporting documentation, such as a medical note.

Students can make a Statutory Declaration as their supporting documentation (available at ucalgary.ca/registrar). This requires students to make a declaration in the presence of a Commissioner for Oaths. It demonstrates the importance of honest and accurate information provided and is a legally binding declaration. Several registered Commissioners for Oaths are available to students at no charge, on campus, please see ucalgary.ca/registrar.

Falsification of any supporting documentation will be taken very seriously and may result in disciplinary action through the Academic Discipline regulations or the Student Non-Academic Misconduct policy.

Absence From A Test/Exam

Makeup tests/exams are **NOT** an option without the approval of the instructor. Students who miss a test/exam have up to 48 hours to contact the instructor to ask for a makeup test/exam. It's the instructor's discretion if they will allow a make-up exam. Students who do not schedule a makeup test/exam with the instructor within this 48-hour period forfeit the right to a makeup test/exam. At the instructor's discretion, a makeup test/exam may differ significantly (in form and/or content) from a regularly scheduled test/exam. Once approved by the instructor a makeup test/exam must be written within 2 weeks of the missed test/exam on a day/time scheduled by the instructor. If a student cannot write their final exam on the date assigned by the Registrar's Office, they need to apply for a deferred exam <https://www.ucalgary.ca/registrar/exams/deferred-exams>.

Travel During Exams

Consistent with University regulations, students are expected to be available to write scheduled exams at any time during the official December and April examination periods. Requests to write a make-up exam because of conflicting travel plans (e.g., flight bookings) will NOT be considered by the department. Students are advised to wait until the final examination schedule is posted before making any travel arrangements. If a student cannot write their final exam on the date assigned by the Registrar's Office, they need to apply for a deferred exam <https://www.ucalgary.ca/registrar/exams/deferred-exams>. Students with an exceptional extenuating circumstance (e.g., a family emergency) should contact the Department of Psychology (psyugrd@ucalgary.ca).

Reappraisal of Graded Term Work <http://www.ucalgary.ca/pubs/calendar/current/i-2.html>

Reappraisal of Final Grade <http://www.ucalgary.ca/pubs/calendar/current/i-3.html>

Academic Accommodations

Students seeking an accommodation based on disability or medical concerns should contact Student Accessibility Services; SAS will process the request and issue letters of accommodation to instructors. For additional information on support services and accommodations for students with disabilities, visit www.ucalgary.ca/access/. Students who require an accommodation in relation to their coursework based on a protected ground other than disability should communicate this need in writing to their Instructor. The full policy on Student Accommodations is available at <https://www.ucalgary.ca/legal-services/university-policies-procedures/accommodation-students-disabilities-procedure>.

Academic Misconduct

For information on academic misconduct and its consequences, please see the University of Calgary Calendar at <http://www.ucalgary.ca/pubs/calendar/current/k.html>

Instructor Intellectual Property

Course materials created by professor(s) (including course outlines, presentations and posted notes, labs, case studies, assignments and exams) remain the intellectual property of the professor(s). These materials may NOT be reproduced, redistributed or copied without the explicit consent of the professor. The posting of course materials to third party websites such as note-sharing sites without permission is prohibited. Sharing of extracts of these course materials with other students enrolled in the course at the same time may be allowed under fair dealing.

Copyright Legislation

All students are required to read the University of Calgary policy on Acceptable Use of Material Protected by Copyright (www.ucalgary.ca/policies/files/policies/acceptable-use-of-material-protected-by-copyright.pdf) and requirements of the copyright act (<https://laws-lois.justice.gc.ca/eng/acts/C-42/index.html>) to ensure they are aware of the consequences of unauthorized sharing of course materials (including instructor notes, electronic versions of textbooks etc.). Students who use material protected by copyright in violation of this policy may be disciplined under the Non-Academic Misconduct Policy.

Freedom OF Information and Protection of Privacy

Student information will be collected in accordance with typical (or usual) classroom practice. Students' assignments will be accessible only by the authorized course faculty. Private information related to the individual student is treated with the utmost regard by the faculty at the University of Calgary

Student Support and Resources

<https://www.ucalgary.ca/registrar/registration/course-outlines>

Important Dates

The last day to drop this course with no "W" notation and **still receive a tuition fee refund is Thursday, September 16, 2021**. Last day add/swap a course is **Friday, September 17, 2021**. The last day to withdraw from this course is **Thursday, December 9, 2021**.

<https://www.ucalgary.ca/pubs/calendar/current/academic-schedule.html>