

PSYC/NEUR477
Sleep and Biological Rhythms
Winter 2021

Instructor:	Dr. Michael Antle	Lecture Location:	D2L and online
Phone:	403-220-2574	Lecture Days/Time:	TuTh 11:00 - 12:15PM
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Office:	AD018		
Office Hours:	Email to schedule a time to meet on Skype or Zoom.		

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 psyc.ucalgary.ca/undergraduate/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 questions Thought paper 1 Presentation 1	1,4	C
2. Outline the neural underpinnings of sleep, wake and circadian rhythms	Short answer questions	1	C
3. Assess various sleep disorders	Short answer questions	1	C
4. Debate the various functions of sleep	Short answer questions	2	C
5. Explain the formal properties of biological rhythms	Short answer questions	1	C
6. Analyze the primary literature in sleep and circadian fields	Thought papers 3+4 Presentation 3+4	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, 7 = apply psychological knowledge and skills. 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 course will use a hybrid format. Some lectures will be taught live via Zoom during each scheduled class as marked by asterisks in the course schedule below and will be recorded and posted to D2L after class. Other class materials will be posted to the course D2L page by the day/time of each scheduled class as per the course schedule.

Prerequisites

Psychology 300, 301 and 375 (Brain and Behaviour) and admission to the major or honours program

Required Text

None – references to recommended readings will be provided on D2L

Assessment Methods

- 1. Lecture Summaries** **12 summaries x 5% each** **60%**
- a. Student will prepare a summary of lectures as per the lecture table. Summaries should emphasize the big take-home message of each lecture. Details for these summaries will be posted to D2L.
 - b. There are 12 summaries worth 5% each
 - c. Summaries to be submitted to D2L Dropbox
 - d. Due Dates are in the Lecture Schedule Table. S# or C# indicated the Sleep or Circadian lecture# due on those days. Due dates with 2 numbers means 2 different lectures need to be summarized together in a single submission.
 - e. Summaries based on one lecture should be 1-2 pages double spaced. Summaries based on two lectures can be up to 3 pages double spaced.

2. In Class Discussions (Thought papers (TP) and Presentations (P))

Our 4 discussion days will have 2 components: a small written paper and an oral presentation

Thought papers (TP#) 5% each 20%

Presentations (P#) 4% each 16%

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 (2 digital pages). Thought papers should be organized as if answering the question “Tell me about ____”. See D2L for more detailed instructions.

	Date	Topic
Discussion 1 (Group)	Thursday, January 28 th	Sleep across the lifespan
Discussion 2 (Individual)	Thursday, February 11 th	Treating sleep problems
Discussion 3 (Group)	Tuesday, March 11 th	Daylight Saving Time
Discussion 4 (Group)	Tuesday, April 1 st	Melatonin

Please submit to the appropriate D2L dropbox

Students who are unable to give their presentations live on ZOOM will be required to record a presentation and upload it to D2L. Normal university policies for missed assignments will apply.

3. Sleep Questionnaires (SQ)

Due on D2L Feb 2nd

4%

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
 - a. <https://www.thewep.org/documentations/mctq/item/english-mctq-core>

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%

As stated in the University Calendar, 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	Live?	Topic	Assignment Due
M Jan 4-8		<i>Winter term begin, Block Week Courses</i>	
T Jan 12	Y	Sleep 1 – Intro, terminology, methodology	
R Jan 14	Y	Sleep 2 – Methods and Development	
T Jan 19		Sleep 3 – Evolution and Neural Control	
R Jan 21	Y	Sleep 4 – Neural Control <i>Last day to drop a class without financial penalty</i>	S2
F Jan 22		<i>Last day to add or swap a course</i>	
T Jan 26		Sleep 5 – Neural Control	S3
R Jan 28	Y	<i>Sleep Discussion – Lifespan</i> Presentation #1 and Thought Paper #1 Due	P1, TP1
F Jan 29		<i>Tuition Fee Deadline</i>	
T Feb 2		Sleep 6 – Disorders 1 Sleep Questionnaires Due	SQ
R Feb 4	Y	Sleep 7 – Disorders 2	S4+5
T Feb 9		Sleep 8 – Disorders 3	
R Feb 11	Y	<i>Sleep Discussions – Sleep aids</i> Presentation #2 and Thought Paper #2 Due	P2, TP2
Feb 14-20		<i>Reading Week. No lectures. University open (except Family Day).</i>	
M Feb 15		<i>Alberta Family Day, University closed (except Taylor Family Digital Library, Law, Medical, Gallagher and Business Libraries). No lectures.</i>	
T Feb 23		Sleep 9 – Learning1	S6+7
R Feb 25	Y	Sleep 10 – Learning2	S8
T Mar 2		Circadian Rhythms 1 – Basics + Properties	
R Mar 4	Y	Circadian Rhythms 2 – Basics + Properties	S9+10
T Mar 9		Circadian Rhythms 3 – Basics + Properties	
R Mar 11	Y	<i>Sleep Discussions – DST</i> Presentation #3 and Thought Paper #3 Due	P3, TP3
T Mar 16		Circadian Rhythms 4 – Anatomy	C1+2
R Mar 18	Y	Circadian Rhythms 5 – Molecular 1	
T Mar 23		Circadian Rhythms 6 – Molecular 2	C3+4
R Mar 25	Y	Circadian Rhythms 7 – Vision	
T Mar 30		Circadian Rhythms 8 – Non-photic 1	C5+6
R Apr 1	Y	<i>Sleep Discussions – Melatonin</i> Presentation #4 and Thought Paper #4 Due	P4, TP4
F Apr 2		<i>Good Friday</i>	
M Apr 5		<i>Non-Instructional Day, University Open</i>	
T Apr 6		Circadian Rhythms 9 – Non-photic 2	C7
R Apr 8	Y	Circadian Rhythms 10 – Human Rhythms 1	
T Apr 13		Circadian Rhythms 11 – Human Rhythms 2	C8+9
R Apr 15	Y	Circadian Rhythms 12 – Wrap up session	
April 19			C10+11
Apr 19-29		<i>Final Exam Period</i>	
Apr 30		<i>End of Term</i>	

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

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 <http://www.ucalgary.ca/policies/files/policies/student-accommodation-policy.pdf>.

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, January 21, 2021**. Last day add/swap a course is **Friday, January 22, 2021**. The last day to withdraw from this course is **Thursday, April 15, 2021** <https://www.ucalgary.ca/pubs/calendar/current/academic-schedule.html>