

PSYC/NEUR477
Sleep and Biological Rhythms
Winter 2020

Instructor:	Dr. Michael Antle	Lecture Location:	D2L and online
Phone:	403-220-2574	Lecture Days/Time:	TuTh 2:00 - 3:15PM
Email:	antlem@ucalgary.ca		
Skype name:	michael_antle		
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 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	2	C
5. Explain the formal properties of biological rhythms	Short answer exams	1	C
6. Analyze the primary literature in sleep and circadian fields	Term paper 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.

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

Mid Term In Class – Tuesday Mar 3rd 30%

- Includes all material up to Mar 3rd

Final During exam period 30%

- Includes all material covered following the midterm exam
- 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

In place of a 30% final exam, students will submit a 1-2 page summary of each circadian lecture. As three lectures were delivered live prior to the start of remote learning, students can decide to submit or not submit summaries for those first 3 lectures. Summaries for circadian lectures 4-10 are mandatory. The grade will be spread evenly across the 7, 8, 9, or 10 submitted summaries. Due dates are as follows:

Circadian Lecture	Lecture date	Summary Due Date
Circadian Rhythms 1 – Basics + Properties	March 5th	March 23*
Circadian Rhythms 2 – Basics + Properties	March 10	March 23*
Circadian Rhythms 3 – Organization	March 12	March 23*
Circadian Rhythms 4 – Entrainment	March 19	March 26
Circadian Rhythms 5 – Mammalian	March 24	March 31
Circadian Rhythms 6 – Molecular	March 26	April 2
Sleep Discussion #4 – Melatonin project	No lecture	April 7 **
Term Paper	No lecture	April 15 **
Circadian Rhythms 7 – Human 1	March 31	April 21
Circadian Rhythms 8 – Human 2	April 2	April 21
Circadian Rhythms 9 – Feeding	April 9	April 25
Circadian Rhythms 10 – Exercise / Non-photoc	April 14	April 25

* - These summaries are optional, but will count towards your grade if submitted. The grade will be spread evenly across the 7, 8, 9, or 10 submitted summaries. ** - not a lecture summary, but rather other course assignments, included here just to help you plan your due dates.

2. Term Paper Wednesday April 15th at 4pm 20%

Your term paper can be on any Sleep or Rhythms topic that interests you. This must be novel work, which has not been prepared for previous classes. Please have your topic approved by the professor prior to beginning. While there is no official length requirements, papers that adequately address topic areas are usually about 15 double-spaced pages (excluding title page and references) with 10-20 references. Papers will be graded on the quality of your writing and argumentation rather than the quantity of writing or the amount of effort you put towards preparing your paper.

Submitted through D2L Dropbox by Wednesday April 15th at 4pm

3. In Class Discussions

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

Thought papers 2.5% each for papers #1+2; 4.5% each for papers #3+4 14%

Presentations 2% each 4%

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	Thursday, January 30 th	Sleep across the lifespan
Discussion 2	Thursday, February 13 th	Treating sleep problems
Discussion 3	Tuesday, March 17th Paper only	Daylight Saving Time
Discussion 4	Tuesday, April 7th Paper only	Melatonin

Please submit to the appropriate D2L dropbox

- 4. Sleep Questionnaires** Due in class, email or on D2L Feb 4th 2%
- 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
 - <https://www.thewep.org/documentations/mctq/item/english-mctq-core>

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.

Remote Learning

Circadian Lectures #4-10 will be video recorded and put on D2L the day before they were scheduled. Discussion boards for each lecture will be available on D2L. Please post your questions there. Questions on lecture material will only be answered on the discussion boards so that all students can benefit from the answer.

The Instructor will explore the possibility of holding **Zoom** teleconference meetings during regularly scheduled class time to answer questions. Details will be emailed to the class prior to each session. Viewing of the video lecture prior to these sessions is mandatory, as these sessions are only for discussion, not to repeat the actual lecture.

Department of Psychology Criteria for Letter Grades

Psychology professors 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	Topic/Activity/Readings/Due Date
T Jan 14	Sleep – Intro, terminology, methodology
R Jan 16	Sleep – Methods and development
T Jan 21	Sleep – Evolution and Neural Control
R Jan 23	Sleep – Neural Control <i>Last day to drop a class without financial penalty</i>
F Jan 24	<i>Last day to add or swap a course</i>
T Jan 28	Sleep – Neural Control
R Jan 30	<i>Sleep Discussion – Lifespan</i> Presentation #1 and Thought Paper #1 Due
F Jan 31	<i>Tuition Fee Deadline</i>
T Feb 4	Sleep Disorders 1 Sleep Questionnaires Due
R Feb 6	Sleep Disorders 2
T Feb 11	Sleep Disorders 3
R Feb 13	<i>Sleep Discussions – Sleep aids</i> Presentation #2 and Thought Paper #2 Due
Feb 16-22	<i>Reading Week. No lectures. University open (except Family Day).</i>
M Feb 17	<i>Alberta Family Day, University closed (except Taylor Family Digital Library, Law, Medical, Gallagher and Business Libraries). No lectures.</i>
T Feb 25	Sleep and Learning
R Feb 27	Sleep and Learning
T Mar 3	----- Midterm Exam -----
R Mar 5	Circadian Rhythms 1 – Basics + Properties
T Mar 10	Circadian Rhythms 2 – Basics + Properties
R Mar 12	Circadian Rhythms 3 – Organization
T Mar 17	<i>Sleep Discussions – DST</i> Thought Paper #3 Due
R Mar 19	Circadian Rhythms 4 – Mammalian VIDEO LECTURE on D2L
T Mar 24	Circadian Rhythms 5 – Molecular 1 VIDEO LECTURE on D2L
R Mar 26	Circadian Rhythms 6 – Molecular 2 VIDEO LECTURE on D2L
T Mar 31	Circadian Rhythms 7 – Human 1 VIDEO LECTURE on D2L
R Apr 2	Circadian Rhythms 8 – Human 2 VIDEO LECTURE on D2L
T Apr 7	<i>Sleep Discussions – Melatonin</i> Thought Paper #4 Due
R Apr 9	Circadian Rhythms 9 – Feeding VIDEO LECTURE on D2L
F Apr 10	<i>Good Friday, No lectures.</i>
M Apr 13	<i>Non-Instructional Day, University</i> <i>Open, No lectures.</i>
T Apr 14	Circadian Rhythms 10 – Exercise / Non-photoc VIDEO LECTURE on D2L
W Apr 15	<i>Last day of classes, last day to withdraw from winter semester</i>
Apr 18-29	----- Final Exam Period -----
Apr 30	<i>End of Term</i>

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

Seating During Exams

Instructors and exam invigilators are free to ask students to move seats before an exam begins or even during an exam. Students must comply with this request and refusal to do so may warrant a charge of academic misconduct.

Absence From A Test/Exam

Makeup tests/exams are **NOT** an option without the approval of the instructor. A student may be asked to provide supporting documentation for an exemption/special request for a make-up exam <https://www.ucalgary.ca/pubs/calendar/current/n-1.html>. 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 during exam make-up hours provided by the department <http://psychology.ucalgary.ca/undergraduate/exam-and-course-information#mues>. 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>

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.

Student Organizations

Psychology students may wish to join the Psychology Undergraduate Students' Association (PSYCHS). They are located in Administration 130 and may be contacted at 403-220-5567.

Student Union VP Academic:
Student Union Faculty Rep.:

Phone: 403-220-3911

suvpaca@ucalgary.ca
arts1@su.ucalgary.ca

Important Dates

The last day to drop this course with no “W” notation and **still receive a tuition fee refund** is **January 23, 2020**. Last day for registration/change of registration is **January 24, 2020**. The last day to withdraw from this course is **April 15, 2020**.