

PSYCO 403

ADVANCED PERCEPTION

Winter, 2021

LEC B2 TR 11:00-12:20p.m. [remote]

Instructor: Dr. Karsten A. Loepelmann

Email: kloepelm@ualberta.ca

Class Website: <https://sites.ualberta.ca/~kloepelm/403/>

TA: Tim Woerle

Email: woerle@ualberta.ca

Prerequisites

The **required** prerequisite for this course is PSYCO 367: Perception (formerly PSYCO 267), and STAT 141 or 151 or equivalent; **no** exceptions or waivers. You may not take this course for credit if you already have credit in PSYCO 365. See [UAlberta Calendar](#) section Registration: [Prerequisite Course Requirements](#).

Course Description & Learning Outcomes

This course is an intensive exploration of selected theoretical, empirical, and applied issues in vision science and perception, including visual perception, time perception, face perception, synesthesia, perception and art, the perception of food and eating, and the neuroscience of stage magic. You will learn the theoretical and empirical contributions required to understand current conceptual schemes and disputes. To do this, you will be able to take multiple points of view: the nature of the physical stimuli; the structure and function of the sense organs and receptors, and neural paths from receptors to the brain; how the sensory information is represented and processed; and what it means to perceive. Specific learning objectives will be given in lectures for each topic.

Assessment

10 Quizzes, worth 10% (1% each)

2 PeerWise Questions, worth 2% (1% each)

Final Exam, worth 39%

2 Blog Post Assignments, worth 20% (10% each)

Midterm Exam, worth 29%

Quizzes (10, worth 1% each): The 10 quizzes are intended to keep you up to date in the required readings, and to familiarize you with written exams. Quizzes will be written online via eClass. Each quiz will be open for a 1-day (24-hour) window. You will have **10 minutes** to write a short answer to a question based on the assigned readings. Marks will be based on participation, not correctness of your answers.

Blog Post Assignments (2, worth 10% each): For each assignment, you will choose a peer-reviewed primary research journal article on a topic in sensation or perception, published in 2016-2021. Then you will write a blog post to summarize the article in a way that is understandable to the general public, and explain its relevance or importance. More information is provided in the [Blog Post Assignment document](#).

PeerWise Questions (2, worth 1% each): You will write two multiple-choice questions based on course content and submit them on the [PeerWise](#) website, where they will be available to the rest of the class for practice and review. PeerWise also allows for upvoting and downvoting of questions. The top-ranked question in each set will receive a bonus mark of 1%. More information is provided in the [PeerWise document](#).

Proctoring Trial (bonus 1%): A trial of the proctoring and exam integrity software ([Smart Exam Monitor](#) and [ExamLock](#)) will be given via eClass. You will receive a bonus 1% toward your final grade if you participate in this proctoring trial before the due date; your mark will not be based on how many questions you answer correctly.

Midterm Exam (worth 29%): The midterm will test material covered in the assigned readings and lectures. Although there is much overlap between the readings and lectures, it is not a complete overlap; some content is covered only in one or the other. You are responsible for **all** material. The midterm will consist of short-answer questions and an essay question. If you miss a midterm for an acceptable reason such as incapacitating illness or severe domestic affliction, then the weight of the excused exam will be added to the final exam (digitally signed [statutory declaration form](#) required). Documentation must be provided within 2 working days of the missed exam. **No** makeup exams or assignments are accepted. Exams will not be available for review. See [UAlberta Calendar](#) sections Academic Regulations: [Attendance](#) and [Examinations \(Exams\)](#).

Final Exam (worth 39%): See the Office of the Registrar's [exam schedule](#) for official date, time, and location. The final exam will have short-answer questions and an essay question based on the entire course, with an emphasis on the material covered after the midterm. If you miss this exam, you must apply to your Faculty Office for a deferral of the final exam within **two** working days of the final exam date. See [UAlberta Calendar](#) sections Academic Regulations: [Attendance](#) and [Final Examinations](#).

Schedule of Classes (* indicates a quiz day)

Date:	Topic:	Assigned Readings:
Jan 12, 14	Introduction to the course Introduction to vision science	Enns (2004a): What is vision science?
Jan 19, 21*	Theoretical approaches to perception	Palmer (1999a): Theoretical approaches to vision
Jan 26, 28*	Neurophysiology of vision	Stone (2012): The visual brain
Feb 2, 4*	Functional architecture of perception Brightness, lightness, & edge detection	Enns (2004b): Edges
Feb 9, 11*	Proctoring trial due: Tue., Feb. 9 The raw primal sketch Perceptual organization	Palmer (1999b): Processing image structure Frisby & Stone (2010): Seeing figure from ground
Feb 16, 18	No classes (Reading Week)	
Feb 23, 25*	Blog Post #1 due: Tue., Feb. 23 Depth perception PeerWise Question #1 due: Thu., Feb. 25	Mather (2016): Depth perception
Mar 2, 4	Midterm Exam: Tue., Mar. 2 Time perception	(based on all above readings and lectures) Wallisch (2008): An odd sense of timing
Mar 9, 11*	Object perception	Bruce et al. (2003): Object recognition
Mar 16, 18	Face perception	Snowdon et al. (2012): The perception of faces
Mar 23, 25*	Synesthesia	Cytowic & Eagleman (2008): Inside a synesthete's brain
Mar 30, Apr 1*	Perception and art	Goldstein (2002): Pictorial perception and art
Apr 6, 8*	Blog Post #2 due: Tue. Apr. 6 The psychology of food & eating	Logue (2015a): The nose knows (and so does the tongue) Logue (2015b): This or that: Choosing what we eat and drink
Apr 13, 15*	Neuromagic PeerWise Question #2 due: Thu., Apr. 15	Martinez-Conde & Macknik (2008): Magic and the brain

As per the exam schedule, the final exam is scheduled for **Monday, April 26, 2021 at 2:00 p.m.** online.

You must verify this date on [Bear Tracks](#) when the final exam schedule is posted.

(Deferred final exam will be held Monday, May 10, 2021 at 12:00 p.m. online.)

Grading

Final grades will be assigned based on the University of Alberta letter grading system. This grade translation is approximate; the instructor reserves the right to use expert judgment to adjust grades as necessary.

A+ = 90-100%	B+ = 75-80%	C+ = 60-62%	D+ = 46-49%
A = 85-89%	B = 69-74%	C = 55-59%	D = 40-45%
A- = 81-84%	B- = 63-68%	C- = 50-54%	F = 0-39%

Required Readings

All required readings are available in a print coursepack from the bookstore; almost all of the readings are posted online on the eClass website for this course.



- Enns, J. T. (2004a). What is vision science? In J. T. Enns, *The thinking eye, the seeing brain: Explorations in visual cognition* (pp. 2-33). W.W. Norton and Company. **[not on eClass due to copyright restrictions]**
- Palmer, S. E. (1999a). Theoretical approaches to vision. In S. E. Palmer, *Vision science: Photons to phenomenology* (pp. 45-73, 85-93). The MIT Press.
- Stone, J. V. (2012). The visual brain. In J. V. Stone, *Vision and brain: How we perceive the world* (pp. 112-133). The MIT Press.
- Enns, J. T. (2004b). Edges. In J. T. Enns, *The thinking eye, the seeing brain: Explorations in visual cognition* (pp. 120-163). W.W. Norton and Company.
- Palmer, S. E. (1999b). Processing image structure (4.3: Computational Approaches). In S.E. Palmer, *Vision science: Photons to phenomenology* (pp. 171-185). The MIT Press.
- Frisby, J. P., & Stone, J. V. (2010). Seeing figure from ground. In J. P. Frisby & J. V. Stone, *Seeing: The computational approach to biological vision* (2nd ed.) (pp. 155-172). The MIT Press.
- Mather, G. (2016). Depth perception. In G. Mather, *Foundations of sensation and perception* (3rd ed.) (pp. 323-352). Psychology Press.

-
- Wallisch, P. (2008, February/March). An odd sense of timing. *Scientific American Mind*, 19(1), 37-43.
<https://doi.org/10.1038/scientificamericanmind0208-36>
- Bruce, V., Green, P. R., & Georgeson, M. A. (2003). Object recognition. In V. Bruce, P. R. Green, & M. A. Georgeson, *Visual perception* (4th ed.) (pp. 265-287). Psychology Press.
- Snowden, R., Thompson, P. & Troscianko, T. (2012). The perception of faces. In R. Snowden, P. Thompson, & T. Troscianko, *Basic vision: An introduction to visual perception* (Revised ed.) (pp. 299-331). Oxford University Press.
- Cytowic, R. E., & Eagleman, D. M. (2009). Inside a synesthete's brain. In R. E. Cytowic & D. M. Eagleman, *Wednesday is indigo blue: Discovering the brain of synesthesia* (pp. 199-233, 268-273). The MIT Press.
- Goldstein, E. B. (2005). Pictorial perception and art. In E. B. Goldstein (Ed.), *Blackwell handbook of sensation and perception* (pp. 344-378). Blackwell Publishing.
- Logue, A. W. (2015a). The nose knows (and so does the tongue). In A. W. Logue, *The psychology of eating and drinking* (4th ed.) (pp. 45-62). Brunner-Routledge.
- Logue, A. W. (2015b). This or that: Choosing what we eat and drink. In A.W. Logue, *The psychology of eating and drinking* (4th ed.) (pp. 109-126). Brunner-Routledge.
- Martinez-Conde, S. & Macknik, S. L. (2008, December). Magic and the brain. *Scientific American*, 299(6), 72, 74-79.
<https://doi.org/10.1038/scientificamerican1208-72>

The Fine Print

Academic Integrity

The University of Alberta is committed to the highest standards of [academic integrity](#) and honesty. Students are expected to be familiar with these standards regarding academic honesty and to uphold the policies of the University in this respect. Students are particularly urged to familiarize themselves with the provisions of the [Code of Student Behaviour](#) and avoid any behaviour which could potentially result in suspicions of cheating, plagiarism, misrepresentation of facts and/or participation in an offence. Academic dishonesty is a serious offence and can result in suspension or expulsion from the University.

All forms of dishonesty are unacceptable at the University. Any offence will be reported to the Associate Dean of Science who will determine the disciplinary action to be taken. Cheating, plagiarism and misrepresentation of facts are serious offences. Anyone who engages in these practices will receive at minimum a grade of zero for the exam or paper in question and no opportunity will be given to replace the grade or redistribute the weights. As well, in the Faculty of Science the sanction for cheating on any examination will include a disciplinary failing grade (no exceptions) and senior students should expect a period of suspension or expulsion from the University of Alberta.

Absences from Examinations

For an excused absence where the cause is religious belief, a student must contact the instructor(s) within two weeks of the start of Fall or Winter classes (within three days of the start of Spring or Summer classes) to request accommodation for the term (including the final exam, where relevant). Instructors may request adequate documentation to substantiate the student request.

A student who cannot write the final examination due to incapacitating illness, severe domestic affliction or other compelling reasons can apply for a deferred final examination. Students who failed at the start of term to request exam accommodations for religious beliefs are expected to follow the normal deferred final examination process. Such an application must be made to the student's Faculty office within two working days of the missed examination and must be supported by appropriate documentation or a Statutory Declaration (see UAlberta Calendar section [Absence from Final Exams](#)).

Deferred examinations are a privilege and not a right; there is no guarantee that a deferred examination will be granted. Misrepresentation of Facts to gain a deferred examination is a serious breach of the Code of Student Behaviour.

Term Work Policy

With the exception of term work for which students did not receive feedback before the posting of final grades, students must initiate a request for reevaluation of term work with the instructor prior to the day of the final exam or in the case of courses without final exams, before the posting of final grades.

Representative evaluative course material will be presented in class and posted on the eClass website for the course.

Support Services

Students who require additional help in developing strategies for better time management, study skills or examination skills should contact the [Academic Success Centre](#).

Students registered with Accessibility Resources have both rights and responsibilities with regard to accessibility-related accommodations. Consequently, scheduling exam accommodations in accordance with Accessibility Resources' deadlines and procedures is essential. Please note adherence to procedures and deadlines is required for U of A to provide accommodations. Contact [Accessibility Resources](#) for further information.

Privacy Policy

Be aware that you are subject to [PeerWise's privacy policies](#), and that your information may reside on servers located outside of Canada.

Recording Permissions Policy

Audio or video recording, digital or otherwise, of lectures, labs, seminars or any other teaching environment by students is allowed only with the [prior written consent](#) of the instructor or as a part of an approved accommodation plan. Student or instructor content, digital or otherwise, created and/or used within the context of the course (e.g., lecture notes) is to be used solely for personal study, and is not to be used or distributed for any other purpose without prior written consent from the content author(s).

Reexamination

Reexamination is not permitted in a course in which a passing grade was achieved. A student who writes the final examination and fails the course may apply for a reexamination. Reexaminations are rarely granted. Reexaminations are governed by *Calendar* sections Academic Regulations: Examinations (Exams): [Reexaminations](#), and by individual Faculty regulations. Misrepresentation of Facts to gain a reexamination is a serious breach of the Code of Student Behaviour.

Other Policies

Any typographical errors in this Course Outline are subject to change and will be announced in class. The date of the final examination is set by the Registrar and takes precedence over the final examination date reported in this syllabus.

Policy about course outlines can be found in [Course Requirements, Evaluation Procedures and Grading](#) of the University Calendar.

Remote Teaching & Learning Appendix

Due to the COVID-19 pandemic, this course will be delivered remotely. Remote delivery is not the same as an online course that has been carefully designed from the ground up to be a fully integrated online experience. In being required to deliver this course remotely, some tradeoffs have been made to try to preserve the essential experience of the in-person course. Every effort has been made to provide a high-quality learning experience. Be aware, though, that circumstances may result in deviations from procedures in the Before Times. Your patience and understanding are appreciated.

To successfully participate in remote learning in this course, it is recommended that you have access to a computer with an internet connection that can support the tools and technologies the University uses to deliver content, engage with instructors, TAs, and fellow students, and facilitate assessment and examinations. Please refer to [Technology for Remote Learning](#) for details. If you encounter difficulty meeting the technology recommendations, please email the Dean of Students Office (dosdean@ualberta.ca) directly to explore options and support.

Please contact me by the add/drop date (Jan. 22) if you do not have access to the minimum technology recommended. I will try to make arrangements to accommodate those who contact me before this date. Failure to do so may result in a zero in any assessment that depends on the minimum technology.

Lectures

Although links to lecture videos will be posted throughout the semester on eClass, the videos themselves are hosted on YouTube. These videos are asynchronous; that is, they are **not** being run live at a specific day and time; this allows maximum flexibility to accommodate diverse situations (e.g., time zones, family obligations, work, etc.). This course is “synchronous” because Zoom meetings & exams are held during scheduled class time.

Office Hours

It will not be possible to have in-person office hours this term. Instead, you are encouraged to post general questions to the eClass discussion forum and ask personal questions via email. If there is enough interest, I may try holding sessions periodically via Google Chat, Google Meet, or Zoom.

Synchronous Activities

Students have the right to not participate in synchronous activities and may turn off their cameras and audio. It is recommended that students remove all identifiable and personal belongings from the space in which they will be participating. Synchronous activities will not be recorded/posted online.

Online Behaviour

Students from many different backgrounds participate in courses at the University of Alberta. Sexist, racist, homophobic comments and other inflammatory remarks are not conducive to learning in our courses, and absolutely are not permitted. All participants are governed by the [Code of Student Behaviour](#). Be mindful when discussions involve controversial topics or issues, and consider the possibility that members of our community have themselves experienced some of these issues and/or very different realities because of these issues. Participate in a respectful and considered manner.

If you are witness to or the target of abusive or offensive behaviour in any course, please inform your instructor immediately. You may also contact the Department of Psychology Undergraduate Advisor Kerry Ann Berrisford (psyscience@ualberta.ca), Associate Chair (Undergraduate) Dr Cor Baerveldt (cor@ualberta.ca), or Chair Dr Anthony Singhal (psych.chair@ualberta.ca).

Exams

You will write the exams remotely online synchronously (on the scheduled day and time) using exam integrity software (ExamLock) and proctoring software (Smart Exam Monitor); see below for technological requirements. While writing the online exams, you are **not** to refer to any notes, books, websites, people, or deities. Any use of these materials will be considered a violation of academic integrity, and will result in the matter being sent to the Associate Dean of Science (Undergraduate) and the academic discipline team. You should arrange for a place to write your exams without interruption. If you have concerns about the exam writing and/or proctoring process, please contact me as soon as possible (for example, if you have religious or other reasons that do not permit you to show your face).

You **will** be able to contact me during the exams if you encounter problems. Details to follow.

[ExamLock](#) is software that you download and run on your computer. It will prevent you from navigating away from the exam, and it will take screenshots of all your on-screen activity. System requirements for ExamLock are:

- ✓ macOS version 10.10 (Yosemite) or newer
- ✓ Windows 10
- ✗ iPads, tablets, and Chromebooks are **not** supported

[Smart Exam Monitor](#) is software that works with eClass; you do **not** have to download this to your computer. You are asked to share your screen, turn on your webcam and microphone (for the duration of the exam), show your ID, and show your face. System requirements for Smart Exam Monitor are:

- ✓ laptop, desktop, or Chromebook computer (phones, tablets, and iPads are not supported)
- ✓ operating system: macOS X, Windows, ChromeOS
- ✓ Google Chrome browser
- ✓ webcam
- ✓ microphone
- ✓ fully charged device and/or power supply

 It is important that you read the [information and privacy statement regarding remote exam proctoring](#), as well as the documentation in the Online Exams section of the eClass page for this course.

If you have any technical questions, please contact eClass support at (780) 492-9372 or eclass@ualberta.ca.

Quizzes

You will write the sort-of weekly quizzes on eClass; you have 10 minutes to answer the question. You will **not** use any exam integrity or proctoring software to write the quizzes, just eClass. You will receive feedback on your answer, but it will not be graded. That is, your mark will be based on participating in the quizzes. (The feedback is intended to help you prepare for the midterm exam and final exam).

Student Resources

Updates to university-related activities impacted by COVID-19 can be found on the [COVID-19 Information website](#).

General information about various services and resources for students, including academic, financial, health, safety, and career development, can be found on the website for [Current Students](#).