

COURSE SYLLABUS

PSYCHOLOGY 368(001): Perceptual Processing, Term 2 2023W

Calendar Description: Perceptual phenomena and their underlying brain mechanisms
[3 credits]

Prerequisites: Psyc 367

Contacts

Instructor: Professor Hee-Yeon Im

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We are easily reached through **Canvas** using **Piazza**. **All questions** about lecture material, readings and test content should be posted publicly for the rest of the class to see; you may choose to remain anonymous to your classmates. Questions of a personal nature should be posted privately for only Dr. Im or the TAs to see. Please **sign up** at <https://piazza.com/ubc.ca/winterterm22023/psyc368001>

Acknowledgements: The land on which our class will be meeting is the traditional, ancestral, and unceded territory of the Musqueam people. Hee-Yeon Im lives and works on the traditional territories of the Musqueam, Squamish and Tsleil-Waututh peoples. The Canvas course entitled [Respect, Sincerity & Responsibility](#) is a good place to start learning about respectful engagement with Indigenous communities.

Learning Activities and Materials

Lectures: Tuesday & Thursday, 11:00 am - 12:20 pm in [MATX-1100](#)

Textbook: *Sensation & Perception, 6th edition* (2021) by J. Wolfe, K. Kluender, D. Levi et al.

Note: this is the same book that was used in Psyc 367 last term (2023W). If you do not already have the textbook, we recommend the 6-month ebook rental as the cheapest option and to gain access to online student resources.

(hardcover new ~\$240 or ebook ~\$186 the.bookstore.ubc.ca/books/course-search;

ebook rental 6-month ~\$82 or 12-month ~\$134 vitalsource.com/en-ca/products/sensation-and-perception-jeremy-wolfe-keith-kluender-v9780197542705;

1 copy on 2-hour loan in Koerner Library Course Reserves; 1st [2006], 2nd [2009], 3rd [2012], 4th [2015], 5th [2018], or international editions are **not** suitable)

Learning Management System: canvas.ubc.ca

(to access: downloadable files [course syllabus, lecture outlines + learning outcomes, lecture slides]; textbook activities & essays; library course reserves [textbook excerpts]; **Piazza** [peer, instructor & TA discussions]; grades)

PSYCHOLOGY 368(001): Perceptual Processing

Course Details

Course Learning Outcomes: By the end of this course you will be able to

- describe the visual processes underlying our perception of objects, colour, depth and motion, and discuss how these processes develop and become deficient;
- explain the links between eye movements and motion perception, and between vestibular stimulation and spatial orientation perception;
- distinguish among the various aspects, neural mechanisms and disorders of attention, and describe how attention contributes to scene perception;
- explain the various aspects of haptic perception arising from our sense of touch;
- describe the auditory processes underlying our perception of complex sounds, music and speech;

as we explore these topics through lectures, readings, and in-class demonstrations.

Readings and Lectures: This course comprises in-person activities. This is the most effective way to engage in the demonstrations, group activities and discussions that will form a critical part of your learning in the course. All lectures will be given in person at the scheduled class time; they will not be live-streamed or recorded. Almost-final version of the lecture slides will be available on **Canvas (Modules)** on the morning of each lecture to facilitate your preparation and note taking, and to help you catch up if you need to miss a class. Please note that some of the material covered in lectures is not in the textbook, and some of the material in the textbook will not be covered in lectures. Therefore, the textbook is required reading. An excerpt of textbook material that we anticipate will not be covered in lectures is available on **Canvas (Library)**. We recommend that you both attend lectures and read ahead in the textbook (see page 4). When it comes to the tests, you are responsible for ALL material covered in lectures and ALL material assigned from the textbook including figures, tables, and definitions.

Lecture and Textbook Learning Outcomes: Statements indicating what you should learn in the lectures and readings will be included on the first slide for each lecture and in the lecture outline, which will be available on **Canvas (Modules)** on the morning of each lecture. These outcomes are to guide your studying and to make it unnecessary for you to ask us what you need to know for the tests. Many students choose to treat each outcome as an exam question and attempt to answer it. We **strongly recommend** this method of studying, but we do not have a compiled list of correct answers. *You should be able to master the content in this course by attending lectures, completing the assigned reading, preparing answers to each lecture/textbook outcome and clarifying your answers by attending office hours or posting on Piazza. Also, the electronic version of the textbook includes practice test questions.*

Learning Assessments: Your learning will be evaluated through individual quizzes and exams. All of these will be in person and on paper to promote academic honesty and to avoid technological issues. The quizzes and midterm exams will occur during the scheduled class time (dates & topics – page 4). The final exam will occur during the formal exam period (April 16-27). Each quiz and exam will consist of multiple-choice questions. *Midterm exam* will include material tested on *Quiz 1*. The *Final exam* will include material covered after *Midterm exam*.

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Course Details continued

Learning Assessments continued: Your test marks will be posted on **Canvas (Grades)** as soon as they are available. Tests will not be returned to you, but you may review them with TAs during office hours. Dr. Im will review correct answers in class. You are expected to use the terminology introduced in this course in your written answers (with only minor deviations from correct spelling).

Quiz 1 (Jan 30)	15%
Midterm Exam (Feb 27)	25%
Quiz 2 (Mar 21)	15%
Final Exam (Apr 16-27)	25%
Research Project Paper (Apr 11)	20%
Total	100%
Human Subject Pool participation	3%

Note: supplemental exams to improve your grade are not offered in any course in the Faculty of Arts.

Photographing, screenshotting, video or audio recording of lectures, quizzes or exams is not permitted at any time.

Human subject pool (HSP): As part of this course, you are invited to earn up to **3 bonus marks**. Most students will choose to earn these by spending 3 hours participating in psychology studies (worth 1 point for each hour). You can create an account at <https://hsp.psych.ubc.ca>. Please do this by the **end of January** to earn your first ½ point through a brief online survey that will increase your eligibility for more studies. Once registered in the system, you will be able to select the studies you wish to participate in, sign up for available timeslots, and confirm your accumulated points afterward. The subject pool closes at the end of the day on **April 12**, after which you will no longer be able to receive or allocate points. We strongly urge you to participate in studies long *before* the last week of class because many studies will not offer timeslots near the end of the term.

As an alternative to participating in studies, you may complete a library writing project which consists of reading and summarizing a research article (not a review article, news item or letter to the editor) from the journal *Psychological Science*, published from the year 2000 to the present. Each written summary counts as 1 hour of participation, and must be submitted using Turnitin (class ID is **41815379**, class name is "**HSP W2 2023-2024**", password is "**Research**") after you create an HSP account. Summaries must be submitted before **April 2**.

More information on both research participation and library options can be found at <https://psych.ubc.ca/wp-content/uploads/sites/2/2023/12/Info-for-Participants-W2-23-24.pdf> in the document entitled "Subject Pool Information for Participants."

Be sure to check your recorded bonus points for this course before the online system closes at the end of the term. These points will be added to your final course grade, after any scaling that may be required.

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Lecture Schedule and Assigned Readings

Date		Topic	Reading
Jan	9	[1] Intro; Object perception: middle vision	Ch.4 (p 100-109)
Jan	11	[2] Object perception: recognition	Ch.4 (p 109-124; essay 4.1*)
Jan	16	[3] Object perception: faces, cortical processing	Ch.4 (p 93-100,124-127; essay 4.4*)
Jan	18	[4] Colour vision: stimuli	Ch.5 (p 131,137-138,140-143)
Jan	23	No class ; Zoom recording (Instruction of Research Project Paper) to be uploaded; Choose a paper topic and collect data	
Jan	25	[5] Colour vision: trichromacy; opponency	Ch.5 (p 132-140,143)
Jan	30	[6] Colour vision: deficiency; Quiz 1 (30 minutes) Jan 9 – Jan 25 material	Ch.5 (p 144-152; essay 5.1*,5.3*)
Feb	1	[7] Colour vision: cortical processing	Ch.5 (p 152-163; essay 5.4*)
Feb	6	[8] Depth perception: cues Research project data due	Ch.6 (p 167-186)
Feb	8	[9] Depth perception: binocular vision	Ch.6 (p 186-193)
Feb	13	[10] Depth perception: brain, development, disorders	Ch.6 (p 193-197; 202-208)
Feb	15	[11] Depth perception: size constancy	Ch.6 (p 197-201; essay 6.6*)
Feb	20 & 22 No class ; Midterm Break		
Feb	27	Midterm Exam (80 minutes) Jan 9 – Feb 15 material	
Feb	29	[12] Motion perception: types, computation	Ch.8 (p 249-255)
Mar	5	[13] Motion perception: cortical processing	Ch.8 (p 256-260; essay 8.3*)
Mar	7	[14] Motion perception: disorders, development	Ch.8 (p 260-263,270-271)
Mar	12	[15] Motion perception: eye & head movements	Ch.8 (p 263-269)
Mar	14	[16] Spatial Orientation Perception	Ch.12 (p 384-405)
Mar	19	[17] Attention: space	Ch.7 (p 211-224; essay 7.3*)
Mar	21	[18] Attention: time, brain; Quiz 2 (30 minutes) Feb 29 – Mar 19 material	Ch.7 (p 224-231)
Mar	26	[19] Attention: disorders, scenes	Ch.7 (p 231-245; essay 7.1*)
Mar	28	[20] Haptic perception	Ch.13 (p 434-448)
Apr	2	[21] Perception of complex sounds	Ch.10 (p 320-333)
Apr	4	[22] Music perception	Ch.11 (p 335-343)
Apr	9	[23] Speech production	Ch.11 (p 343-349)
Apr	11	[24] Speech perception Research project paper due	Ch.11 (p 349-361; essay 11.1*)
Apr	16-27 Final Exam (80 minutes) Feb 29 – Apr 11 material		

*Supplemental (i.e. not required) essays and textbook activities can be found through **Canvas (Modules)**, your ebook or at learninglink.oup.com/access/wolfe6e-student-resources; the access code you received when you purchased/rented a new hardcover or ebook is required. If you purchased a used book and do not have an access code, you may view this content during office hours. For copyright reasons we cannot make it available any other way.

PSYCHOLOGY 368(001): Perceptual Processing Course Policies

Accommodations: If you will be seeking accommodation through the *Centre for Accessibility*, please provide your accommodation letter to Dr. Im as soon as possible, and before the first quiz. Quizzes and exams for all students receiving accommodation must be scheduled through the Centre and booked according to their rules and deadlines.

If you anticipate a *religious or cultural observance* will conflict with a test, at least 2 weeks advance notice must be provided to Dr. Im in writing.

If you have *conflicting responsibilities* that will interfere with your attendance in this course, please discuss this with Dr. Im as soon as possible and before the course drop date (Jan 19); supporting documentation may be requested.

In-Term Academic Concession: You should not take a test when you are unwell. To miss a quiz or a midterm exam you must request academic concession through self-reporting of conflicting responsibilities, medical circumstances or compassionate grounds (refer to UBC calendar entry: www.calendar.ubc.ca/vancouver/index.cfm?tree=3,329,0,0), using your Faculty's procedure for submitting request forms (be sure to **let Dr. Im know** if you are submitting online instead of to her).

Arts 1st request - download file from **Canvas** (*Modules*); complete and email to Dr. Im

Arts 2nd request (online) - students.air.arts.ubc.ca/academic-concession-form/

Science - download file from **Canvas** (*Modules*); complete and email to Dr. Im

Kinesiology (online) - kin.educ.ubc.ca/undergraduate/bkin/academic-concession/concession-itw/

If concession is granted, Dr. Im will consult with you on an individual basis to determine the best option for your accommodation.

Concession will **not** be granted for: an exam that you have already taken, absences due to travel or other social plans or exam conflicts with other courses.

Final Exam Concession: If you are unable to write the final exam as scheduled, you must apply for deferred standing in the course through your Faculty academic advising office. If you are granted deferred standing (SD), you must write a make-up final exam at a later date. **Do not make April travel plans until the final exam schedule is released in February.**

Electronic Devices: Laptops and similar devices can be effective learning tools and are welcome in class. However, if you are using them for non-class-related activities it can be distracting for others, so please sit towards the back of the room. Cell phones should be kept in *silent mode* at all times and never answered during class. All electronic devices, including smart watches and Bluetooth enabled earplugs, must be stored out of reach during quizzes and exams.

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Departmental and University Policies

Scaling of Grades: In order to reduce grade inflation and maintain equity across multiple course sections, all psychology classes are required to comply with departmental norms regarding grade distributions. According to these norms, the mean grade in a 300-level class is 75 for an exceptionally strong class, 73 for an average class, and 71 for a weak class, with a standard deviation of 13. Scaling may be used in order to comply with these norms; grades may be scaled up or down as necessary by the professor or the department. Grades are not official until they appear on a student's academic record. You will receive both a percent and a letter grade for this course. At UBC, they convert according to the key below:

A+	90-100%	B+	76-79%	C+	64-67%	D	50-54%
A	85-89%	B	72-75%	C	60-63%	F	0-49%
A-	80-84%	B-	68-71%	C-	55-59%		

Student support: UBC provides resources to support student learning and to maintain healthy lifestyles but recognizes that sometimes crises arise and so there are additional resources to access including those for survivors of sexual violence. UBC values respect for the person and ideas of all members of the academic community. Harassment, discrimination and racism are not tolerated, nor is suppression of academic freedom. UBC provides appropriate accommodation for students with disabilities and for religious and cultural observances. UBC values academic honesty and students are expected to acknowledge the ideas generated by others and to uphold the highest academic standards in all of their actions. Details of the policies and how to access support are available on senate.ubc.ca/policies-resources-support-student-success. UBC's evolving anti-racism work is described at equity.ubc.ca/together-against-racism/

If you feel unwell (complete a self-assessment here: <https://bc.thrive.health/covid19/en>) or if you have tested positive for COVID-19, **please stay home**. If you feel unwell on a midterm exam day, apply for in-term concession and email Dr. Im ahead of time. To prepare for possibly needing to miss a class due to illness, we suggest you make a connection early in the term to another student or a group of students in the class. You can help each other by sharing notes. If you don't yet know anyone in the class, you can use Piazza to connect with other students. You can always come to office hours for extra assistance.

Your teaching team will not come to class if they are unwell. Should Dr. Im need to stay home, you will be notified through a Canvas announcement; the lecture will be given during class time on Zoom if possible, otherwise a recording will be posted on Canvas.

Please help us to maintain a safe and respectful environment.

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Academic Integrity

As part of the academic community, you are expected to act honestly and ethically in all of your academic activities, just like the rest of us. In Psyc 368 that means doing your own work, avoiding collusion, not using aids that have been excluded by the examiner, not sharing material provided for you to use in this course, and acknowledging the ideas of others (more details on each of these below).

Make sure you understand UBC's definitions of [academic misconduct](#), [consequences](#), as well as expectations about [academic honesty](#). *Please ask if you're not sure how these apply to our course.* While you're checking out the calendar, you should also remind yourself about the "[Student Declaration and Responsibility](#)" statement you agreed to when you registered.

DO your own work. All individual work that you submit should be completed by you and submitted by you. All assessments are designed to help you learn about Perceptual Processing. It is *unacceptable* to misrepresent your identity by using someone else to complete any portion of this course (e.g., comment on Piazza, complete a test question). It is *unacceptable* to buy/sell/swap/share test questions or answers on any platform. It is *unacceptable* to help someone else cheat.

AVOID collusion. Collusion is a form of academic integrity violation that involves working too closely together without authorization. The resulting submitted work gains unfair advantage over other students because it is a measurement of the groups' understanding rather than the individual's understanding. Studying together does not count as collusion, but working together to write answers or answering someone else's question is considered to be collusion. You are expected to take tests on your own without any type of assistance.

DO NOT use aids that have been excluded by the examiner. Unless otherwise explicitly specified, all tests in Psyc 368 will be closed book. This means you may not use notes, lecture slides, books, calculators, websites, etc. to look up answers to test questions.

DO NOT share materials provided for you to use in this course. We are working hard to provide all the materials you need to succeed in this course. In return, please respect our work. All test questions and answers, Piazza posts, announcements, lecture slides and outlines, Canvas modules, and any other materials provided to you by Dr. Im and the TAs or in the textbook and other readings are for use in this course by students currently enrolled in PSYC 368. It is *unacceptable* to share any of these materials beyond our course, including by posting on file-sharing websites (e.g., CourseHero, GoogleDocs). It is *unacceptable* to copy and paste sentences from the textbook (e.g., definitions) into for-profit software (e.g., Quizlet) for use in studying. Please respect our intellectual property, and follow copyright law.

DO acknowledge the ideas of others. Scholars build on the work of others, and give credit accordingly—this is a quality of strong academic writing. As an example, most of these academic integrity principles were adapted from material prepared by Drs. Deborah Giaschi and Catherine Rawn.

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General Overview of Research Projects

Students will use the web-based PsyToolkit software for this research project <https://www.psychtoolkit.org/>. The project will be conducted outside of class time.

1. choose a research topic:

Each student will choose 1 of the following 4 topics:

- global vs. local object processing: exploring the global precedence effect using Navon letters (*Navon task*)
- attending in space: exploring covert orienting of attention and inhibition of return using a cost-benefit experiment (*Inhibition of Return (IOR)*)
- visual search: exploring the effect of set size on search time for a conjunction of features (*Visual Search*)
- attending in time: exploring speed limits of attention using a modified attentional blink paradigm (*Attentional Blink paradigm*)

To help you decide, demonstrations and background information for each experiment are available at <https://www.psychtoolkit.org/experiment-library/>

2. read the background journal article(s) on your topic:

These are available on **Canvas** (*Assignments and Library Online Course Reserves*).

- global vs. local object processing: 1. Navon, D. (1977) Forest before trees: the precedence of global features in visual perception. *Cognitive Psychology*, 9:353-383. (Expt 3 classic); 2. Kinchla, R. & Wolfe, J. (1979). The order of visual processing: “top-down”, “bottom-up”, or “middle-out”. *Perception & Psychophysics*, 25:224-231. (Fig 2b comparison)
- attending in space: 1. Posner, M. & Cohen, Y. (1984). Components of visual orienting. *In: Attention and Performance Vol X* (Bouma and Bouwhuis, eds.) pp. 531-556, Erlbaum. (Fig 32.2 + 32.3 classic & comparison)
- visual search: 1. Treisman, A. & Gelade, G. (1980) A feature-integration theory of attention. *Cognitive Psychology*, 12:97-136. (Expt 1 classic & comparison)
- attending in time: 1. Raymond, J., Shapiro, K. & Arnell, K. (1992). Temporary suppression of visual processing in an RSVP task: an attentional blink? *Journal of Experimental Psychology: Human Perception and Performance*, 18:849-860. (Expt 2 classic); 2. Duncan, J., Ward, R. & Shapiro, K. (1994). Direct measurement of an attentional dwell time in human vision. *Nature*, 369:313-315. (Expt 2 comparison)

You will include a summary of the main findings of the background article(s) in the Introduction to your research paper.

3. collect and analyze data:

Each student will collect 3 sets of data from human participants, including themselves, friend/family members, or classmates. Detailed instructions for running the PsyToolkit experiments will be provided in a recording to be uploaded on January 23. Analysis will involve sorting the data into conditions and plotting the group average data in a graph for comparison with previous studies.

4. upload raw data:

The trial-by-trial data you collect should be downloaded from the **PsyToolkit** website in .txt files, then uploaded to **Canvas** (*Assignments*) before class on **February 6**.

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General Overview of Research Projects continued

5. *prepare a research paper:*

Each student must hand in their own unique research paper based on their data set. Organize your paper with clearly labeled:

Introduction (include a description of the classic psychological phenomenon [from background article(s), lecture/textbook material], a summary of the main findings of the comparison background article on your topic [see 2. above], a typical explanation for why the phenomenon occurs)

Methods (for your **PsyToolkit** experiment: describe the stimuli, task, viewing conditions, number of trials, what you measured [dependent variable]; include enough detail for someone to recreate your experiment without using the **PsyToolkit**)

Results (describe how the data were analyzed; summarize your raw trial-by-trial data in a table that shows the average of the dependent variable for each condition; plot these averages in a graph and compare the pattern of your results to the one obtained in the comparison experiment)

Discussion (describe the extent to which you replicated the classic phenomenon; point out any differences between your **PsyToolkit** experiment and the comparison one, and how these might have affected your ability to replicate the classic phenomenon; discuss whether or not your results are consistent with the typical explanation for the phenomenon; review what is known about the underlying brain mechanisms for your phenomenon based on animal neurophysiology and human neuroimaging studies [cite at least 2 journal articles in addition to the background article(s)])

Reference list (include a full reference citation for each journal article [authors, year, title, journal, volume, page numbers]; do not list an article unless you have cited it). There is no specific format to follow; the limit is 5 double-spaced pages (12-pt font, 2 cm margins) + 1 page for graphs + reference list. You may have difficulty finding suitable references if you restrict your search to Google Scholar. You will have more success with the indexes and databases available through the UBC Library www.library.ubc.ca. Web of Science is the best tool to search forward to find articles that cite your background article.

6. *submit your paper to TurnItIn to check for plagiarism:*

To submit your paper on www.turnitin.com, you will need to create a unique user profile, consisting of a username (e-mail address) and password. To protect your privacy, UBC recommends creating an anonymous email address using a free service (gmail, hotmail, etc.), and using an alias or pseudonym instead of your name. This alias must be included on the paper you upload to **Canvas** for marking. At the top right of the **TurnItIn** website, go to **Create Account** and select **Student**. Enter the **Class ID** and **Enrolment Password** for this course. Prior to uploading, please **delete any identifying information** from the original document. This includes your name and student number in the document and title, as well as any metadata or hidden data that might be stored in the document itself. You can remove metadata from your Microsoft Word document using [Document Inspector](#) (Windows) or by clicking on **Word > Preferences > Security**, then selecting **Remove personal information from this file on save** (Mac). Your similarity index should be in the green zone. Revisions may be submitted until the due date, providing the same email address/TurnItIn account is used.

7. *upload your paper to Canvas:*

The final version of your paper should be uploaded to **Canvas** (*Assignments*) before class on **Thursday, April 11**. If you used an alias for your **TurnItIn** submission, be sure to include it at

the top of the first page of your paper.

Late assignments: *A 3-day extension (until April 14) may be requested; after that a penalty of 10% per day will be applied. Assignments received after April 16 will not be marked.*