

Psych 321: Conceptual Development WINTER 2013

Course Location : Arts Lecture Hall 208
Meeting Times: Mondays & Wednesdays, 10:30am to 11:50am

Instructor: Mathieu Le Corre
Office Number: PAS 4010
Office Hours: By appointment

COURSE EMAIL: Please contact us via LEARN. If you need to reach me (Prof. Le Corre), DO NOT email me at my uwaterloo address. Email your TA and ask to be put in touch with me. They will get on my case to make sure that I get back to you promptly.

Teaching assistants

Pierina Cheung (your TA if your last name starts with letter between A and Lee)

Office Number: PAS 4011
Office Hours: Tuesdays, 2:00pm to 3:00pm

Meghan Dale (your TA if your last name starts with letter between Leh and Z)

Office Number: PAS 4022
Office Hours: Wednesdays, 12:00pm to 1:00pm

Course Description

Where does human knowledge come from? In this course we will explore the origins and development of human knowledge across three different time scales: ontological development (the development of the individual child), evolutionary development, and historical/cultural change. We focus on 7 case studies of knowledge in the domains of depth perception, object representation, number, space, language, understanding other minds, and morality. For each of these case studies we will examine evidence from multiple disciplines, including developmental psychology, cognitive neuroscience, anthropology, and the history of science. This evidence will be brought to bear on questions including: How does knowledge change over the human lifespan? How does experience shape knowledge? How variable is human knowledge across different cultures? What aspects of knowledge are unique to our species, and what aspects are shared with other animals?

Required Readings

Courseware package, available at Bookstore in South Campus Hall.

Lecture Notes (PowerPoint slides) & Podcasts

Lecture notes (PowerPoint slides) will be made available on the course website within the hour following the end of class. Moreover, all lectures will be recorded

and turned into podcasts. Pending technical difficulties, the podcast of a lecture will be available two to three days after the lecture.

Evaluations

Tests (100%). Students will take two midterms and a final exam. The final exam will take place during the final examination period. The exam with the highest score will be worth 40%; the other two will be worth 30% each. All questions on the exams will be multiple-choice. *The midterms and the final exam will not be cumulative.* See the course schedule for test dates.

The Official Version of the Course Outline

If there is a discrepancy between the hard copy outline (*i.e., if students were provided with a hard copy at the first class*) and the outline posted on ACE, the outline on ACE will be deemed the official version. Outlines on ACE may change as instructors develop a course, but they become final as of the first class meeting for the term.

Students with Disabilities

The Office for Persons with Disabilities (OPD), located in Needles Hall, Room 1132, collaborates with all academic departments to arrange appropriate accommodations for students with disabilities without compromising the academic integrity of the curriculum. If you require academic accommodations to lessen the impact of your disability, please register with the OPD at the beginning of each academic term.

Concerns About the Course or Instructor (Informal Stage)

We in the Psychology Department take great pride in the high quality of our program and our instructors. Though infrequent, we know that students occasionally find themselves in situations of conflict with their instructors over course policies or grade assessments. If such a conflict arises, the Associate Chair for Undergraduate Affairs (Dr. Myra Fernandez) is available for consultation and to mediate a resolution between the student and instructor. Dr. Fernandez's contact information is as follows:

Email: mafernan@uwaterloo.ca
Ph 519-888- 4567 ext 32142

A student who believes that a decision affecting some aspect of his/her university life has been unfair or unreasonable may have grounds for initiating a grievance. See Policy 70 and 71 below for further details.

Academic Integrity, Academic Offenses, Grievance, and Appeals

To protect course integrity, as well as to provide appropriate guidance to students, course outlines in the Faculty of Arts must include the following note on avoidance of academic offenses:

Academic Integrity: In order to maintain a culture of academic integrity, members of the University of Waterloo community are expected to promote honesty, trust, fairness, respect and responsibility. [Check <http://www.uwaterloo.ca/academicintegrity/> for more information.]

Discipline: A student is expected to know what constitutes academic integrity, to avoid committing academic offenses, and to take responsibility for his/her actions. A student who is unsure whether an action constitutes an offense, or who needs help in learning how to avoid offenses (e.g., plagiarism, cheating) or about 'rules' for group work/collaboration should seek guidance from the course professor, academic advisor, or the Undergraduate Associate Dean. When misconduct has been found to have occurred, disciplinary penalties will be imposed under [Policy 71](#) - Student Discipline. For information on categories of offenses and types of penalties, students should refer to [Policy 71](#) - Student Discipline, <http://www.adm.uwaterloo.ca/infosec/Policies/policy71.htm> For typical penalties check Guidelines for the Assessment of Penalties <http://www.adm.uwaterloo.ca/infosec/guidelines/penaltyguidelines.htm>

Grievance: A student who believes that a decision affecting some aspect of his/her university life has been unfair or unreasonable may have grounds for initiating a grievance. Read [Policy 70](#) - Student Petitions and Grievances, Section 4, <http://www.adm.uwaterloo.ca/infosec/Policies/policy70.htm> When in doubt please be certain to contact the department's administrative assistant who will provide further assistance.

Appeals: A student may appeal the finding and/or penalty in a decision made under [Policy 70](#) - Student Petitions and Grievances (other than regarding a petition) or [Policy 71](#) - Student Discipline if a ground for an appeal can be established. Read [Policy 72](#) - Student Appeals, <http://www.adm.uwaterloo.ca/infosec/Policies/policy72.htm>

Academic Integrity website (Arts):

http://arts.uwaterloo.ca/arts/ugrad/academic_responsibility.html

Academic Integrity Office (UW): <http://uwaterloo.ca/academicintegrity/>

Students who are requesting accommodation for course requirements (*assignments, midterm tests, final exams, etc.*) due to illness should do the following:

- seek medical treatment as soon as possible and obtain a completed UW Verification of Illness Form:
http://www.healthservices.uwaterloo.ca/Health_Services/verification.html
- submit that form to the instructor within 48 hours.
- (preferably) inform the instructor by the due date for the course requirement that you will be unable to meet the deadline and that documentation will be forthcoming.

NOTE: Travel plans are NOT acceptable grounds for granting an alternative final examination time (www.registrar.uwaterloo.ca/exams/finalexams.html).

In the case of a missed final exam, the instructor and student will negotiate an extension for the final exam which will typically be written as soon as possible, but no later than the next offering of the course.

In the case of a missed assignment deadline or midterm test, the instructor will either:

1. waive the course component and re-weight remaining term work as he/she deems fit according to circumstances and the goals of the course, or
2. provide an extension.

In the case of bereavement, the instructor will provide similar accommodations to those for illness. Appropriate documentation to support the request will be required.

Students who are experiencing extenuating circumstances should also inform their academic advisors regarding their personal difficulties.

Policy on missed exams

Standard university policy will be followed in the event that a student misses a test or exam due to illness or domestic reasons. These regulations can be found in the UW Undergraduate Calendar. Requests may be granted on the basis of valid medical or extremely serious domestic grounds. If you think you will miss a test you are strongly recommended to let your teaching assistant know **before** the test begins. If this is not possible then you must contact your teaching assistant no later than a day or two after the missed test. You will need to provide formal documentation for the reason you missed the test or exam.

Important: For missed tests you are responsible for making arrangements with your teaching assistant to schedule a time to write a makeup test. Makeup tests

must be written within four school days of the end of your illness or serious domestic issue.

Course Schedule

| DATE | TOPIC | REQUIRED READING <small>(chapters in parentheses refer to full version of textbook)</small> |
|-------------|--------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| January 7 | Introduction | |
| January 9 | Space perception | Descartes; Berkeley |
| January 14 | Space perception | Kellman & Arterberry Gibson & Walk |
| January 16 | Space/Physical World | Gibson & Walk; Mill; Spelke (1998) |
| January 21 | Physical World | Spelke (1998); Spelke (1990); Baillargeon (1994); McCloskey (1983) |
| January 23 | Physical World | Spelke (1998); Spelke (1990); Baillargeon (1994); McCloskey (1983) |
| January 28 | MIDTERM 1 | |
| January 30 | Numbers | Dehaene (adult number line); Dehaene (talented and gifted animals) |
| February 4 | Numbers | Dehaene (talented and gifted animals); Matsuzawa (1985); Feigenson, Dehaene & Spelke (2004) |
| February 6 | Numbers | Feigenson, Dehaene & Spelke (2004); Nieder, Freedman, & Miller (2002) |
| February 11 | Numbers | Dehaene (language of numbers); Carey (2004) |
| February 13 | Numbers | Carey (2004); Gordon (2004) |
| February 25 | Navigation & Spatial reasoning | Gallistel (1989; pp. 155-167 and 184-185 (conclusions) only) Don't read Ekstrom et al. (2003) |
| February 27 | Navigation & Spatial reasoning | Hermer & Spelke (1994) Epstein & Kanwisher (1998) |
| March 4 | Language | <i>Bowerman, M., & Choi, S. (2003). Space under construction: Language-specific spatial categorization in first language acquisition. Language in mind: Advances in the study of language and thought, 387-427.</i> <i>Li, P., Abarbanell, L., Gleitman, L., & Papafragou, A. (2011). Spatial reasoning in Tenejapan Mayans. Cognition, 120(1), 33-53</i> |

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|-------------|--------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| March 6 | MIDTERM 2 | |
| March 11 | Language | <i>Li et al. (2011)</i> <i>Devlin, K. (2000). Born to Speak (pp. 146-167). In The Math Gene.</i> |
| March 13 | Language | <i>Devlin, K. (2000). Born to Speak (pp. 146-167). In The Math Gene.</i> Marcus et al. (1999) Removed from reading list: Both Pinker chapters, Werker (1989), Saffran (1996), Marslen-Wilson (1997) |
| March 18 | Minds | Johnson (2000); Gergely et al. (2002); Onishi & Baillargeon (2005); Baron-Cohen (developing mindreading) |
| March 20 | Minds | Johnson (2000); Gergely et al. (2002); Onishi & Baillargeon (2005); Baron-Cohen (1995; developing mindreading) |
| March 25 | Minds | Baron-Cohen (1995; autism) Ekman (1992) |
| March 27 | Morality | Rozin et al. (2009) |
| April 1st | Morality | Hamlin et al. (2007) Blair (1995) |
| April 3 | Morality | Haidt & Joseph (2004) Kristof (New York Times Op-Ed) |
| April 11-25 | FINAL EXAM (date & location TBA) | |

Research Experience Marks Information and Guidelines

Experiential learning is considered an integral part of the undergraduate program in Psychology. Research participation is one example of this, article review is another. A number of undergraduate courses have been expanded to include opportunities for Psychology students to earn grades while gaining research experience.

Since experiential learning is highly valued in the Department of Psychology, students may earn a **"bonus" grade of up to 4%** in this course through research experience. Course work will make up 100% of the final mark and a "bonus" of up to 4% may be earned and will be added to the final grade if/as needed to bring your final grade up to 100%.

The two options for earning research experience grades (participation in research and article review) are described below. Students may complete any combination of these options to earn research experience grades.

Option 1: Participation in Psychology Research

Research participation is coordinated by the Research Experiences Group (REG). Psychology students may volunteer as research participants in lab and/or online (web-based) studies conducted by students and faculty in the Department of Psychology. Participation enables students to learn first-hand about psychology research and related concepts. Many students report that participation in research is both an educational and interesting experience. Please be assured that all Psychology studies have undergone prior ethics review and clearance through the Office of Research Ethics.

Educational focus of participation in research

To maximize the educational benefits of participating in research, students will receive feedback information following their participation in each study detailing the following elements:

- Purpose or objectives of the study
- Dependent and independent variables
- Expected results
- References for at least two related research articles
- Provisions to ensure confidentiality of data
- Contact information of the researcher should the student have further questions about the study
- Contact information for the Director of the Office of Research Ethics should the student wish to learn more about the general ethical issues surrounding research with human participants, or specific questions or concerns about the study in which s/he participated.

Participation in LAB studies is worth 0.5 participation credits (grade percentage points) for each 30-minutes of participation. Participation in ONLINE studies is worth .25 credits for each 15-minutes of participation. Researchers will record student's participation and will advise the course instructor of the total credits earned by each student at the end of the term.

How to participate?

Study scheduling, participation and grade assignment is managed using the SONA online system. All students enrolled in this course have been set up with a SONA account. You must get started early in the term.

For instructions on how to log in to your SONA account and for a list of important dates and deadlines please, as soon as possible go to:

<http://www.arts.uwaterloo.ca/~regadmin/regparticipant/sonainfo/#SonaSignUp>

**** Please do not ask the Course Instructor or REG Coordinator for information unless you have first thoroughly read the information provided on this website. ****

More information about the REG program is available at:

<http://www.arts.uwaterloo.ca/~regadmin/regparticipant/>

Option 2: Article Review as an alternative to participation in research

Students are not required to participate in research, and not all students wish to do so. As an alternative, students may opt to gain research experience by writing short reviews (1½ to 2 pages) of research articles relevant to the course. The course instructor will specify a suitable source of articles for this course (i.e., scientific journals, newspapers, magazines, other printed media). *You must contact your TA to get approval for the article you have chosen before writing the review.* Each review article counts as one percentage point. To receive credit, you must follow specific guidelines. The article review must:

- **Be submitted before the last lecture. Late submissions will NOT be accepted under ANY circumstances.**
- Be typed
- Fully identify the title, author(s), source and date of the article. A copy of the article must be attached.
- Identify the psychological concepts in the article and indicate the pages in the textbook that are applicable. Critically evaluate the application or treatment of those concepts in the article. If inappropriate or incorrect, identify the error and its implications for the validity of the article. You may find, for example, misleading headings, faulty research procedures, alternative explanations that are ignored, failures to distinguish factual findings from opinions, faulty statements of cause-effect relations, errors in reasoning, etc. Provide examples whenever possible.
- Clearly evaluate the application or treatment of those concepts in the article.
- Keep a copy of your review in the unlikely event we misplace the original.

