

PSYC21. Advanced Development: Dev Soc Neuroscience
Prof. Haley

Advanced Development: Neuroscience of the Mind (PSYC21)

Tuesdays, 7-9 pm
Room SW 128

Professor:

Dr. David W. Haley
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Course Web site: Blackboard, U of T Portal
<https://weblogin.utoronto.ca/>

Course texts: Selected readings will be available as a course reader at the UTSC bookstore and online (as PDFs on the course Web site); see list of readings below.

Exams: 1 term exams and 1 final exam (details below)

Teaching Assistants:

Diane Mangalindan
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TA office hours arranged by appointment.

Course Description

The neuroscience of the mind is an emerging discipline in psychology that examines the mind's developing capacity to understand others. The first half of the course reviews some of the foundational theories of social emotional development across the life span. The second half of the course is focused primarily on our ability to understand others. Throughout the course, developmental, social, cultural, and evolutionary perspectives are highlighted and discussed.

Since the topics of the course cover a mixture of established and cutting edge research, we will read book chapters and recent review articles as well as some articles from newspapers and popular magazines, which will be made available online.

Evaluation

DATE	EVALUATION	PERCENT
Feb 1 & March 15	Reviews	20%
Feb. 12	Mid-term Exam	30%
Exam week	Final Exam	40%
Weekly	Online participation in discussion groups	10%
TBA	Extra Credit	2%
	Total	100%

Schedule and Readings

Meetings	Topics	Description	*Main Readings	Week
Jan 11	Introduction I	Developmental Neuroscience of Mind: Methods and questions	deHaan & Gunnar (2009)	1
Jan 18	Introduction II	Why do humans have such big brains?	Dunbar & Shultz (2007)	2
Jan 25	Attachment I	Overview of attachment theory and research	Cassidy (2002)	3
Feb 1	Attachment II	Theoretical bridges between attachment and theory of mind	Cortina & Liotti (2010)	4
Feb 8	Mid-term Review	An optional review will be provided in class. Exam date and location TBA.	-----	5
Feb 15	Social Mind I	The evolutionary and developmental origins of social communication.	Myowa-Yamakoshi & Tomonaga (2009)	6
Feb 22	Reading Week	No class	-----	7
March 1	Social Mind II	Competing theories about the developmental origins of intersubjectivity	Gallagher (2008)	8
March 8	Social Brain I	The neuroscience of empathy and emotion: The mirror neuron system	Gallese (2009)	9
March 15	Social Brain II	The neuroscience of empathy: I feel your pain	Mundy (2011)	10
March 22		No class (professor is out of town for a conference)		11
March 29	Memory	The development of memory systems have been linked to development of the brain	Bauer (2011)	12
April 5	Final Exam Review	An optional review will be provided in class. Exam date and location TBA.	-----	13

*Readings available on the course web site

Reviews: Each student will be responsible for writing reviews of two of the weekly reading assignments (not including the occasional *New York Times* articles). You may choose any of the weekly reading for your reviews. The goal of the written reviews is to provide both an interesting summary of *and* a critical reflection on the chosen readings. Each review should consist of two double-spaced pages. The first page should provide the summary component (weighted 50%), and the second page should consist of the critical reflection component (weighted 50%). The summary component should be relatively straightforward, although figuring out how to summarize the most interesting and essential points in a single page requires some talent and time. The critical reflection component is more challenging and will require more thought and time than the summary. One way to begin to reflect critically on a reading is to consider the following questions: 1) What is the reading trying to demonstrate (main ideas, assumptions, models, methods)? 2) How convincing is it (evidence, arguments used, logic, consistency)? 3) What significance does it have to society (what are its applications, usefulness, and ethical implications)? *Reviews are due at the end of class.* Reviews will not be accepted late unless you can provide me with a UTSC medical note.

Online participation: We will hold an online discussion forum on Blackboard. The goal of the discussion is for students to raise and answer important questions that relate to the readings and lectures. Ideally, students will alternate between raising and answering questions. Comments are also encouraged; these may include discussions of real-life applications of the material and of additional studies that support existing or alternative understandings. Each week the TAs will report to me some of the major points that have been raised that week in the Blackboard discussion, and I will briefly summarize them in class to provide feedback on and address questions raised there. These in-class reviews will provide an opportunity to raise new questions based on the readings and lecture, which in turn should stimulate further discussion online. To participate online, you will need to be registered on Blackboard. To receive full credit for participation, each student should plan to post every week.

Midterm and Final Exams: The midterm and final exams will consist of True/False and multiple choice questions along with a few short answer and long essay questions. Practice questions for the exam will be posted on Blackboard.

Extra Credit (up to 2%): Generating your own exam questions and preparing answers for them is a good way to learn the course material, and some of the best questions for exams come from students. Accordingly, from anyone who would like extra credit, I will accept five exam questions, each of which should have a ¼- to ½-page answer; these questions must be received by me no later than one week prior to the midterm or final exam. For more information about this option please speak a TA. I will grant up to (and a maximum of) 2% extra credit to students who complete these assignments.

Course Web Site: I will make the syllabus and all readings, lecture notes, announcements, and exam review materials available on the course Web site (log in to the U of T Blackboard portal at <https://weblogin.utoronto.ca/>). Please check this Web site regularly for announcements and messages. Also, please ensure that your current e-mail address is correctly linked to your Blackboard account.

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Getting Help with Course Materials: If your question is not answered here in this syllabus or on the course Web site, you may post the question in the online discussion forum (on Blackboard; see above), bring the question to the TAs' weekly office hours, or discuss it with me during my office hours. You may also send an email to one of our TAs, but please allow *two working days' time* for a reply. Major questions relating to course content can be addressed in far greater depth in person.

Developmental Neuroscience Tutorials: Because this course covers material on both psychological development and biology, we will hold 3 or 4 in-class biology tutorials that will be designed to highlight key material you will need to master concerning genes, hormones, and neurotransmitters. The biology tutorials will be led by the TAs based on material discussed in lecture and in the readings.

Exams: Course requirements include two cumulative exams: one mid-term exam and one final exam. The mid-term exam is worth 30% of your total course grade, the final exam worth 40%. I will post short exam review sheets and sample test questions on the course Web site at least a week before the exams. Each exam will comprise approximately 75% multiple-choice questions and 30% short answer questions and will cover reading and lecture materials.

Missed Exams: If you provide valid, verifiable medical documentation on a UTSC Student Medical Certificate that documents your reason for missing the mid-term exam, I will re-weight your final exam so that it is worth 60% instead of 30%. Except in the case of an unforeseen, same-day emergency, you must notify me or one of the TAs more than 24 hours before the start of the midterm exam in order to be eligible for this re-weighting. If you miss the final exam, the procedure is different, and you must contact the UTSC Registrar's Office; professors and TAs are not authorized to negotiate changes to the final exam schedule. Please consult the university calendar for more information.

AccessAbility: Students with diverse learning styles and needs are welcome in this course. In particular, if you have a disability/health consideration that may require accommodations, please feel free to approach me and/or the AccessAbility Services Office as soon as possible. I will work with you and AccessAbility Services to ensure you can achieve your learning goals in this course. Enquiries are confidential. The UTSC AccessAbility Services staff (located in S302) are available by appointment to assess specific needs, provide referrals and arrange appropriate accommodations (416) 287-7560 or ability@utsc.utoronto.ca.

Academic Integrity: Academic integrity is essential to the pursuit of learning and scholarship in a university, and to ensuring that a degree from the University of Toronto is a strong signal of each student's individual academic achievement. As a result, the University treats cases of cheating and plagiarism very seriously. The University of Toronto's Code of Behaviour on Academic Matters (<http://www.governingcouncil.utoronto.ca/policies/behaveac.htm>) outlines the behaviours that constitute academic dishonesty and the processes for addressing academic offences. Potential offenses include, but are not limited to:

In papers and assignments:

- Using someone else's ideas or words without appropriate acknowledgement.
- Submitting your own work in more than one course without the permission of the instructor.

- Making up sources or facts.
- Obtaining or providing unauthorized assistance on any assignment.

On tests and exams:

- Using or possessing unauthorized aids.
- Looking at someone else's answers during an exam or test.
- Misrepresenting your identity.

In academic work:

- Falsifying institutional documents or grades.
- Falsifying or altering any documentation required by the University, including (but not limited to) doctors' notes.

All suspected cases of academic dishonesty will be investigated following procedures outlined in the Code of Behaviour on Academic Matters. If you have questions or concerns about what constitutes appropriate academic behaviour or appropriate research and citation methods, you are expected to seek out additional information on academic integrity from your instructor or from other institutional resources (see <http://www.utoronto.ca/academicintegrity/resourcesforstudents.html>).

Readings

Week 1

de Haan, M., and M. R. Gunnar (2009). The Brain in a Social Environment: Why Study Development? In M. de Haan and M. R. Gunnar, eds., *Handbook of Developmental Social Neuroscience* (New York: Guilford Press), 3-10.

Week 2

Dunbar, R. I. M., and S. Shultz (2007). Evolution in the Social Brain, *Science* 317, 1344-47.

Week 3

Cassidy, J. (2002). The Nature of the Child's Ties. In J. Cassidy and P. R. Shaver, *Handbook of Attachment: Theory, Research and Clinical Applications* (New York: Guilford Press), 3-20

Week 4

Cortina, M., and G. Liotti (2010). Attachment is About Safety and Protection, Intersubjectivity is About Sharing and Social Understanding: The Relationships Between Attachment and Intersubjectivity, *Psychoanalytic Psychology*, 27, no. 4, 410-441.

Week 5

No reading (mid-term exam)

Week 6

Myowa-Yamakoshi, M. and M. Tomonaga (2009). Evolutionary Origins of Social Communication, in *Handbook of Developmental Social Neuroscience* (New York: Guilford Press), 207-221.

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Week 7

No reading (UTSC reading week)

Week 8

Gallagher, S. (2008). Inference or Interaction: Social Cognition without Precursors, *Philosophical Explorations* 11, no. 3, 165-74.

Week 9

Gallese, V. (2009). Mirror Neurons, Embodied Simulation, and the Neural Basis of Social Identification, *Psychoanalytic Dialogues* 19, no. 5, 519-536.

Week 10

Mundy, P. (2011). Neural Connectivity, Joint Attention, and the Social-Cognitive Deficits of Autism. In M. Legerstee, D. W. Haley, M. H. Bornstein (Eds.), *The Developing Infant Mind: Integrating Biology and Experience*. New York: Guilford.

Week 11

No class (professor is out of town for a conference)

Week 12

Bauer, P. (2011). Neural correlates of memory development. In M. Legerstee, D. W. Haley, M. H. Bornstein (Eds.), *The Developing Infant Mind: Integrating Biology and Experience*. New York: Guilford.

Week 13

No reading (final exam)

Supplemental Readings

Angier, N. (2008). About Death, Just Like Us or Pretty Much Unaware? *New York Times*, September 2, pages 1-3.

Blakeslee, S. (1995). Behind the Veil of Thought: Advances in Brain Research; In Brain's Early Growth, Time Table May Be Crucial. *New York Times*, August 29, 1995, 1-10.

Buckley, C. (2007). Why Our Hero Leapt onto the Tracks and We Might Not. *New York Times*, January 7, 2007, 1-2.

Damasio, A. (2010). *Self Comes to Mind: Constructing the Conscious Brain*. Pantheon: New York.

Gallese, V. (2003). The manifold nature of interpersonal relationships: The quest for a common mechanism. *Phil. Trans. R. Soc. London* 358: 517-528.

Goldberg, C. (2006). Empathy may begin at the neurons. *New York Times*, December 14, 2006, 1-3.

Gopnik, A. (2007). Cells That Read Minds? What the Myth of Mirror Neurons Gets Wrong about the Human Brain. *Slate*, April 26, 2007, 1-4.

Iacoboni, M., video discussion of mirror neurons and how we understand others,
<http://www.youtube.com/watch?v=ESM7b-X8zhQ&feature=related>.

Johnson, M. (2011). Building a Brain. In M. Johnson, *Developmental Cognitive Neuroscience* (London: Wiley-Blackwell), 42-80.

Markova, G., and M.Legerstee (2008). How Infants Come to Learn about the Minds of Others. *Zero to Three*, May, 2008, 26-31.

National Geographic: Mapping Memory,
<http://ngm.nationalgeographic.com/2007/11/memory/brain-interactive>.

Schmidt, L. A., and M. K. Jetha (2009). Temperament and Affect Vulnerability: Behavioral, Electrocortical, and Neuroimaging Perspectives. In M. De Haan & M. R. Gunnar, eds., *Handbook of Developmental Social Neuroscience* (New York: Guilford Press), 305-23.