

# PSYCH 147: Methods in Cognitive Development

TIME TBD

LOCATION TBD

**Instructors:** TBD

**Office hours:** Kidd: TBD

**Discussion section:** TBD

**Course objectives:** The goal of this course is to introduce you to the excitement of studying development, primarily in humans. The course covers different methodologies for studying development, and how to interpret the resulting data. Students will become more wise consumers of empirical data on development, whether those data appear in scholarly or popular media. This course provides students with the analytical tools and productive skepticism required to objectively evaluate findings in developmental science.

**Attendance policy:** Reliable attendance is crucial to learning and success in this class. The course relies heavily on lectures, demos, and discussions, all of which happen during the class time. Though attendance will not be taken, you must attend the lectures reliably to do well in the course. Additionally, 5% of your grade depends on your participation in in-class discussions.

**Laptop policy:** A laptop section of the classroom will be established for students who wish to use their laptops to take notes, but students are encouraged to consider whether this is necessary for note-taking only and avoid laptop usage for other purposes in order to minimize distractions for others in the classroom. Slides will be made available after lectures via Blackboard.

**Email list:** We have established an email list on Google Groups for this course, to which you have already been added if you enrolled in the course before the first day of classes. The group is [devmindbrain@googlegroups.com](mailto:devmindbrain@googlegroups.com). We will use this group to send you information and readings for the course. If you are not already enrolled, or you would like to receive these messages at a different preferred email address, simply request to be added to this group or email one of us to request that we add you.

**Course email:** You may email any one of us with questions about the course or assignments; however, written assignments should be submitted to the course email address,

**devmindbrain@gmail.com.** Assignments must be submitted before the beginning of class on the day on which they are due to this account.

**Exams:** Exams in this course will require you to use your analytical reasoning abilities, in conjunction with your (newly acquired) knowledge of experimental design for developmental science. You will not be asked to recall details of experiments, but rather you will be tested on your conceptual knowledge of developmental science methodologies. Testing will take the form of three exams (two in-class and one final exam during the finals period).

**Readings:** There is no textbook for this course. Peer-reviewed journal articles that utilize the developmental methods under discussion will be sent out to the class via the class email list ([devmindbrain@googlegroups.com](mailto:devmindbrain@googlegroups.com)). The point of these readings is to familiarize students with developmental methods and practices. Diligent reading will help prepare students for the three problem-solving based exams.

**Question responses:** Each week during which there is no exam, you will be given a big question relating to the topics under discussion for which you must write a one-page (single-spaced) written response. Responses are due at the beginning of class one week from when they were assigned, and should be submitted via email to the class email account ([devmindbrain@gmail.com](mailto:devmindbrain@gmail.com)). Of these seven assignments, some will be graded for content and others for completion. You will not know in advance which assignment will receive which grading treatment, so do your best on all. As part of these, you will also be asked to pose your own “big” question about developmental science to the professor and TAs.

**Late work:** Assignments are due in paper form at the beginning of class on the day on which they are due. They should be emailed to [devmindbrain@gmail.com](mailto:devmindbrain@gmail.com). **Late assignments will not be accepted.**

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|-----------------|-----------------------------------|------------|
| <b>Grading:</b> | <b>Exams</b>                      | <b>75%</b> |
|                 | Exam 1                            | 20%        |
|                 | Exam 2                            | 25%        |
|                 | Exam 3 (Final)                    | 30%        |
|                 | <b>Weekly written assignments</b> | <b>20%</b> |
|                 | Content grades                    | 10%        |
|                 | Completion grades                 | 10%        |
|                 | <b>Participation</b>              | <b>5%</b>  |

**Guest lectures:** TBD

**Academic honesty:** We will take any evidence of duplication or plagiarism (e.g., copying someone else's writing, or failing to cite the work, ideas, or writings of someone else, and presenting it as your own) very seriously, and expect students to adhere to the principles laid out in the UC Berkeley Honor Code.

**Learning assistance:** Students with disabilities are encouraged to work with the Disabled Students' Program for assistance in seeking accommodations to maximize their learning potential. They can be reached at (510) 642-0518, visit us at 260 César Chávez Student Center, or e-mail [dsp@berkeley.edu](mailto:dsp@berkeley.edu).

**Course schedule:**

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|--------|--|------------------------|
| WEEK 1 | Course overview and introductions<br>Developmental science in popular media  |                        |
|        | Readings:<br>(1) Recent developmental news articles from popular press<br>(2) Baram-Tsabari & Osborne, Journal of Research in Science Teaching, 2015   |                        |
| WEEK 2 | Observational studies<br>Motor responses 1   | <b>Q1 Response Due</b> |
|        | Readings:<br>(1) Wilhelm Preyer, Mind of the Child Vols 1 & 2, 1882<br>(2) Piaget, Essential Piaget, 1977<br>(3) Everett, Don't Sleep There Are Snakes, 2008<br>(4) DeLoache et al, Science, 2004; TiCS, 2004  |                        |
| WEEK 3 | Motor responses 2<br>Verbal responses  | <b>Q2 Response Due</b> |
|        | Readings:<br>(1) Walk & Gibson, Sci. Am., 1960<br>(2) Adolph, Psych. Sci., 2000<br>(3) Hogrefe, Wimmer, & Perner, Child Development, 1986<br>(4) Gopnik & Astington, Child Development, 1988<br>(5) Baron-Cohen, Leslie, & Frith, 1985<br>(6) Repacholi & Gopnik, Developmental Psychology, 1997 |                        |
| WEEK 4 | High-amplitude sucking procedure<br>Fetal measures   | <b>Q3 Response Due</b> |
|        | Readings:<br>(1) Eimas et al., Science, 1971<br>(2) Ramus et al., Science, 2000<br>(3) Byers-Heinlein, Psych. Sci., 2010<br>(4) Mauriceau, The Diseases of Women, 1683<br>(5) Zimmer et al., Eur. Journ. of Obst., Gynecology, & Reproductive Biology, 1982                                      |                        |
| WEEK 5 | Exam 1 review / Q&A<br>EXAM 1  | <b>Exam 1</b>          |
|        | Readings:<br>None  |                        |

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| WEEK 6  | Habituation paradigms<br>Preferential listening & looking<br><br>Readings:<br>(1) Baillargeon, Spelke, & Wasserman, Cognition, 1985<br>(2) Baillargeon & DeVos, Child Dev, 1991<br>(3) Saffran, Aslin, & Newport, Science, 1996<br>(4) Fiser & Aslin, Psych. Sci, 2001<br>(5) Lew-Williams & Fernald, J. of Memory and Lang., 2010<br>(6) Lew-Williams & Fernald, Psych. Sci., 2007<br>(7) Hurtado et al., Dev. Sci., 2008 | <b>Q4 Response Due</b> |
| WEEK 7  | GUEST LECTURE (Looking paradigms)<br>Eye-tracking<br><br>Readings:<br>(1) Johnson et al., PNAS, 2003<br>(2) Aslin, Developmental Science, 2007<br>(3) Kidd et al., PLOS ONE, 2012  | <b>Q5 Response Due</b> |
| WEEK 8  | Learning trajectory analysis<br>Rearing experiments<br><br>Readings:<br>(1) Adams, Am. J. of Psych., 1952<br>(2) McMurray, Science, 2007<br>(3) Harlow, American Psychologist, 1958<br>(4) Wood, PNAS, 2013<br>(5) Wood, Cognition, 2016   | <b>Q6 Response Due</b> |
| WEEK 9  | Exam 2 review / Q&A<br>EXAM 2<br><br>Readings:<br>None   | <b>Exam 2</b>          |
| WEEK 10 | Computational modeling 1<br>Computational modeling 2<br><br>Readings:<br>(1) Téglás et al., Science, 2011<br>(2) Piantadosi et al., Dev. Sci, 2014<br>(3) Piantadosi & Kidd, PNAS, 2016  |                        |

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| WEEK 11 | GUEST LECTURE (Computational modeling)<br>Individual differences   | <b>Q5 Response Due</b> |
|         | Readings:<br><ul style="list-style-type: none"> <li>(1) Halberda et al., Nature, 2008</li> <li>(2) Kidd &amp; Archiuli, Child Development, 2016</li> </ul>   |                        |
| WEEK 12 | Cross-cultural comparison<br>GUEST LECTURE (Cross-cultural work)   | <b>Q6 Response Due</b> |
|         | Readings:<br><ul style="list-style-type: none"> <li>(1) Mindell et al., Sleep Medicine, 2010</li> <li>(2) Jara-Ettinger et al., Dev. Sci., 2015</li> <li>(3) Schieffelin &amp; Ochs, A Cultural Perspective, 1983</li> </ul> |                        |
| WEEK 13 | Classroom methods<br>The importance of convergent data   | <b>Q7 Response Due</b> |
|         | Readings:<br><ul style="list-style-type: none"> <li>(1) Shernoff et al., Learning and Instruction, 2016</li> <li>(2) Mattis et al., Technology, Knowledge, &amp; Learning, 2015</li> </ul>                                   |                        |
| WEEK 14 | The importance of skepticism<br>Exam 3 review / Q & A  |                        |
|         | Readings:<br><ul style="list-style-type: none"> <li>(1) Randi, Flim-Flam, 1980</li> <li>(2) Stephens &amp; Brynner, Dark Remedy: The Impact of Thalidomide, 2001</li> </ul>  |                        |
| FINAL   | EXAM 3   | <b>Exam 3 Today</b>    |