**PSYC G4280 – Core Knowledge**

Dr. Koleen McCrink

Spring 2025

4 pts.  Wednesday, 2:10 – 4:00, Fayerweather Hall 302

Office Hours: Monday 10:30-12:30 Milbank 415K

**Prerequisites**

Courses in introductory psychology, cognitive or developmental psychology, and instructor permission.

**Required Texts**

What Babies Know: Core Knowledge and Composition (Spelke)

Infancy: The Development of the Whole Child (Oakes, LoBue, Casasola)

**Description**

Core Knowledge explores the origins and development of knowledge in infants and young children.  In this course, we will examine the child's conception of objects, number, language, and the social world.  We will look at which aspects of knowledge are uniquely human, and which are shared with other animals.

This course provides an overview of the methods and theories regarding cognitive development, specific to the domain of fundamental properties of the mind.  It serves to introduce several well-defined topics in cognitive development that many scientists believe to be foundational to our ability to navigate the world.

PSYC G4280 is an advanced seminar, designed particularly for graduate students, for advanced undergraduates who are majoring in Psychology or in Neuroscience and Behavior, and for students participating in the Postbac Psychology Program. These students will have priority in registration, followed by junior majors followed by non-majors.

It fulfills the following degree requirements:

* For Psychology Graduate Students, PSYC G4280 will apply toward the “two seriously graded seminars” requirement of the Master’s degree.
* For the Psychology major or concentration in the College and in G. S., for the Psychology minor in Engineering, and for the Psychology Postbac, G4280 meets the Group I (Perception and Cognition) distribution requirement.
* For the Neuroscience and Behavior joint major, G4280 will fulfill the 5th Psychology requirement: “one advanced psychology seminar from a list approved by the Psychology Department advisor to the program.”
* For non-majors in the College and GS, G4280 will count as one term of the natural science requirement, provided that students obtain the necessary permission and have taken the prerequisite psychology courses. Graduate students, and students who are majoring in Psychology or in Neuroscience and Behavior, will have priority over students who are taking the course for the science requirement, and we anticipate the course will rarely be used for the latter.
* For the Psychology Postbac certificate, PSYC G4280 will fulfill the advanced seminar requirement.
* For the Barnard Psychology major, PSYC G4280 will fulfill the senior seminar requirement.

**Weekly Topics and Readings**

1. *(1/22) Introduction to the course*
2. *(1/29) Methods and General Cognitive Processes*

            Oakes et al. – Chapter 1 (Why and How We Study Infant Development)

            Oakes et al. – Chapter 6 (The Development of Cognitive Skills)

1. *(2/5) Vision*

            Spelke – Chapter 2 (Vision)

            Oakes et al. – p. 117-143

1. *(2/12) Objects*

            Spelke – Chapter 3 (Objects)

            Oakes et al. – p. 225-242

1. *(2/19) Places*

            Spelke – Chapter 4 (Places)

            Oakes et al. – p. 243-250

1. *(2/26) Number*

            Spelke – Chapter 5 (Number)

            Oakes et al. – p. 251-256

1. *(3/5) Core Knowledge – Integrating what we know so far*

            Spelke – Chapter 5 (Core Knowledge)

1. *(3/12) Forms*

            Spelke – Chapter 6 (Forms)

1. *(3/19)****NO CLASS****- spring break*
2. *10. (3/26) Agents*

            Spelke – Chapter 7 (Agents)

            Oakes et al. – p. 365-376

1. *(4/2) Core Social Cognition*

            Spelke – Chapter 8 (Core Social Cognition)

            Oakes et al. – p. 377-386

1. *(4/9) Language*

            Spelke – Chapter 9 (Language)

            Oakes et al. – Chapter 9 (Language Development)

1. *(4/16) Student presentations on recent papers*
2. *(4/23)****NO CLASS****– Work on grant proposal topic and presentation for next week*
3. (*4/30*) *Student presentations on their grant proposals*

**Course assignments, requirements, and grading**

Attendance Policy: You may have one unexcused absence. More than one unexcused absence results in a loss of half of a letter grade.To have an absence excused, you must email in advance explaining the situation. If you are taking your excused absence, you are also excused from the discussion questions due that week. You cannot use your unexcused absence for the presentation weeks (4/16, 4/30).

***AI Policy: You may not use AI in this course. If I detect that you have used AI, or any translation program or LLM  that harnesses AI, I will report you for academic dishonesty.***

*Recent Article presentations: 20% of final grade*

On the next to last class (4/16), students will present an article published in the last year, on a topic from the course that interests them the most.  Students should prepare a 5-minute presentation which incorporates thought-provoking questions addressed to the class. The presentation should be comprehensive, but be open enough in format to allow for ongoing discussion.

*Class participation: 20% of final grade*

Students are required to do the assigned reading before class, and ask relevant questions during each class meeting.

*Discussion questions / responses: 25% of final grade*

Students will compose **3 talking points** about the readings and submit them via Courseworks no later than 24 hours before class. No questions are due for the weeks of student presentations or weeks in which we do not have class. These talking points should not be minimal; each talking point should be accompanied by a paragraph that situates the talking point in the findings from the readings.

*Final paper presentation: 10% of final grade*

The last class will be devoted to a presentation of the grant experiments proposed in your final paper.  Presentations will be brief ( ~5 minutes ), with an additional 5 minutes for questions from your classmates, and will be graded on how well you convey the importance of the topic, the clarity of the discussion of the design and stimuli which address your question of interest, and your responses to the questions asked.

*Final paper - proposal: 5% of final grade*

The final paper should take the form of a grant proposal. The topic can be of the student’s choosing, but it must be on a subject that was discussed in class.  **The student must submit his/her paper idea by 4/9.**The student’s proposal on 4/9 should include a 10-reference literature review on the topic, about one page outlining what the plan for the proposal is, and should be based on readings cited in the texts as well as original research done in a psychology database such as PsychInfo or Web of Science on the topic.

*Final paper - 20% of final grade*

Important criteria for grading of the grant proposal itself will be theoretical motivation and rigor, attention to design and methods, and inventiveness and value of the proposed studies.  The paper should be 12-15 pages (double-spaced).  It is recommended that students begin research on a topic fairly early in the semester so that they can develop and reflect on the ideas via class, and talk them over with the instructor during individual meetings in office hours.

***The research proposal is due on Monday 5/5 @ 5 pm. If you need an extension that goes into the reading period, please let me know.***