Course Goals

The primary goal of the course is for students to become familiar with the theory and methods of cognitive psychology as they apply to learning and instruction. It is a core, survey course, so we will not go that deeply into any specific topic, but I hope that you will leave it familiar with the major issues in the field and how researchers address them. There is a definite “Michigan” slant to this course – with an emphasis on how issues related to learning play out in complex contexts such as classrooms.

The second goal of the course is for you to learn to critically read and discuss articles in the field of cognition and instruction. You will practice presenting empirical and theoretical articles, identifying important issues, and critically evaluating conclusions.

Finally, I hope that you get to know one another, learn from one another and come to appreciate the different disciplines and perspectives that are represented in the class. I look forward to getting to know you!

Requirements

This is a discussion-oriented seminar, and everyone will be expected to read the articles assigned before the class period and to actively participate in class discussion. The seminar will also include some brief lectures and student presentations.

Reaction Papers (20% of grade). In order to facilitate discussion, students should turn in brief (one page) reactions (not limited to, but perhaps including summaries) of the readings as well as three or more questions to discuss in class. The questions can be
anything from definitional questions (What is self-regulation?) to deep and more involved (“For the following reasons, I do not agree with the authors’ argument that X. Do the other participants concur?). The reactions and questions should be posted to the CTools site by 9 p.m. Monday before the weekly meeting. They should be posted on the course CTools site under the “assignment” feature – there will be one for each week.

“Get out of jail free card” – If you get busy with other work, you may skip one (and only one) reaction paper without impact on your course grade, but please still come to class.

Midterm exams. The course also includes two take-home midterms. The first midterm will be 20% of your grade, and the second will also be 20% of your grade. The midterms will consist of a choice of 2 out of 3 (or so) short essay questions for you to respond to based on the readings and class discussions.

- The **first take-home Midterm** will be distributed on 10/22 and will cover material through 10/15 – due on 11/8 at 11:30 p.m.

- The **second take-home Midterm** will emphasize material from 10/22 on and will be distributed on 11/26 and due on December 14 at 11:30 p.m.

Research Proposal. You will team up with another person who comes from a different program or who has a different background/interests than you and identify a researchable topic or question of interest to you both. You will then write a research proposal, with an introduction, hypothesis, and describe a study that would address this question, as well as the kind of data you might collect and the significance of the study. Your team will turn in one paper. This will account for a total of 20% of your grade.

- **Class presentation** You will also give a short presentation with a few slides describing your proposal.
9/3. Introduction


9/10. Fundamental Phenomena #1: Working Memory & Attention


A Michigan Perspective:


9/17. Fundamental Phenomena #2: Expertise & Deliberate Practice


**9/24. Role of Cognitive Psychology in Education**


10/1. Some major theoretical debates


A Michigan Perspective:


10/8. Methodological issues

A) Design research


*B) Can we tell what we’re thinking?*


*C) Neuroscience*


**10/15. Memory**


**10/22. What Can Large-Scale Studies Tell Us About Thinking And Learning In The Classroom?**


*For reference only:*


10/29. Cultural Perspectives


A Michigan Perspective:


11/5. Learning to Read


A Michigan Perspective:


11/12. Narratives, Writing, History


Harris, K. R., Graham, S., & Mason, L. H. (2006). Improving the writing, knowledge,


11/19. Mathematical Thinking


A Michigan Perspective:

equation solving. *Learning and Instruction, 18*(6), 565–579. doi:10.1016/j.learninstruc.2007.09.018


**11/26. Scientific Reasoning & Knowledge**


*A Michigan Perspective:*


**12/3. Critical Thinking, Problem Solving And Intelligence**


12/10. Presentation Of Research Proposals