Once conceived as a single formal system, epistemic logic has become a general formal approach to the study of the structure of knowledge, its limits and possibilities, and its static and dynamic properties. Recently there has been a resurgence of interest in the relation between epistemic logic and epistemology. Some of the new applications of epistemic logic in epistemology go beyond the traditional limits of the logic of knowledge, either by modeling the dynamic process of knowledge acquisition or by modifying the representation of epistemic states to reflect different theories of knowledge. In this seminar, we will explore a number of topics at the intersection of epistemic logic and epistemology, centered around epistemic closure, higher-order knowledge, and paradoxes of knowability.

Due each Friday: précis of one of weekly readings.
Due at end of term: research paper of 15-20 pages.
Each participant presents the reading for one or more sessions.

For some sessions, readings are classified as “primary” or “secondary” with the following meaning: complete all primary readings and as much of secondary readings as possible.

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Aug. 24 Course Overview

Aug. 31 Skepticism and Closure
Reading: Steiner 1979; Holliday 2012a.

Sept. 7 Margins for Error I

Sept. 14 Margins for Error II
Primary reading: Égré 2008; Dokic and Égré 2009.

Sept. 21 Margins for Error III
Reading: Williamson 2011; Williamson 2012.

1The electronic version at philosophy.berkeley.edu/people/page/124 contains hyperlinks to readings and resources.
Sept. 28  **The Surprise Exam**  
in static epistemic logic  

Oct. 5  **The Surprise Exam**  
in dynamic epistemic logic  
Reading: Gerbrandy 2007; Marcoci 2010, Ch. 3.

Oct. 12  **The Surprise Exam**  
and Gödel’s 2nd incompleteness theorem  
Reading: Kritchman and Raz 2010.

Oct. 19  **The Knower Paradox**  
Reading: Kaplan and Montague 1960; Anderson 1983.

Oct. 26  **The Knower Paradox**  
and epistemic closure  

Nov. 2  **Two-Dimensional Modal Logic**  
Primary reading: Davies and Humberstone 1980.  

Nov. 9  **Fitch’s Paradox**  
and the actuality operator  

Nov. 16  **Fitch’s Paradox**  
temporal analyses  
Reading: Burgess 2009; Proietti and Sandu 2010.

Nov. 23  **Fitch’s Paradox**  
dynamic analyses  
Primary reading: van Benthem 2004; van Ditmarsch et al. 2011.  

Nov. 30  **Beyond Propositional Epistemic Logic**  

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**Readings**


Other Resources

Epistemic Logic

For a historical survey of epistemic logic, see the “Epistemic Logic” entry in the Handbook of the History of Logic, Vol. 7. Modern epistemic logic began with Hintikka’s Knowledge and Belief (1962), which is still worth reading, as is Wolfgang Lenzen’s follow-up, Recent Work in Epistemic Logic (1978). In the late 80s and early 90s, there was a “rediscovery” of epistemic logic in computer science, leading to the textbooks Reasoning about Knowledge (1995) and Epistemic Logic for AI and Computer Science (1995); and in the late 90s, there was another rediscovery in game theory with Robert Aumann’s “Interactive Epistemology I: Knowledge” (1999). For discussions of the relation between epistemic logic and epistemology in the 21st century, see Vol. 128 (2006) of Philosophical Studies.

Dynamic Epistemic Logic

For textbooks on dynamic epistemic logic, see van Ditmarsch et al.’s Dynamic Epistemic Logic (2008) and van Benthem’s Logical Dynamics of Information and Interaction (2011).