Learning is an important topic in philosophy and in the sciences. Learning in strategic situations poses especially challenging problems; choices of one learner can feed back by influencing the decisions of other learners. In this seminar, we will study Drew Fudenberg and David K. Levine’s book "The Theory of Learning in Games" (Cambridge: MIT, 1998) and, if time permits and depending on the interests of the participants, selected chapters of H. Peyton Young’s book "Strategic Learning and its Limits” (Oxford: OUP, 2004). I have copies in my office, if you do not have access to these books. Please contact me in this case.

For the first seminar on September 27, please read the first chapter of Fudenberg and Levine’s book. The requirement for getting a grade is writing a paper on one of the topics of this course. The following five topics are fundamental and therefore required.

**Topic 1:** Fudenberg and Levine: *Introduction*

**Topic 2:** Fudenberg and Levine: *Fictitious Play*

**Topic 3:** Fudenberg and Levine: *Replicator Dynamics and Related Deterministic Models of Evolution*

**Topic 4:** Fudenberg and Levine: *Stochastic Fictitious Play and Mixed-Strategy Equilibria*

**Topic 5:** Fudenberg and Levine: *Adjustment Models with persistent Randomness*

We will also choose from the following list of topics, depending on the interests of the participants and on time constraints.

**Topic 6:** Fudenberg and Levine: *Extensive-Form Games and Self-Confirming Equilibria*

**Topic 7:** Fudenberg and Levine: *Nash Equilibrium, Large Population Models, and Mutations in Extensive-Form Games*

**Topic 8:** Young: *Reinforcement and Regret*

**Topic 9:** Young: *Equilibrium*

**Topic 10:** Young: *Conditional No-Regret Learning*

**Topic 11:** Young: *Bayesian Learning*