The course will focus on discrete-time dynamic programming and its applications. The textbook is:


The emphasis will be on analysis, and not numerical methods. The central mathematical result is the Contraction Mapping Theorem. Applications will include:

- The theory of search: McCall *J. Business* ‘65
- Investment theory: Lucas & Prescott *Econometrica* ‘71
- Customer bases: Phelps & Winter ‘70
- Asset pricing: Lucas *Econometrica* ‘78, Harrison & Kreps *QJE* ‘78
- Growth theory: Romer *JPE* ‘86

The required reading for the applied topics will be confined to the textbook and to notes that I shall provide. The articles above are meant to provide students with an idea of what the applications are; they will not be required reading. We may add other applications depending on the directions taken in class discussion.