Summary
This course equips students with theoretical foundations and methodological tools to analyze planning problems and to design and evaluate related interventions. Planners must employ rigorous analytical methods within environments of complexity, uncertainty, and budgetary constraints. To prepare students for these challenges, this course examines both the conceptual and empirical dimensions of planning analysis. Methods covered include decision analysis, forecasting, cost-benefit analysis, linear programming and constraint theory, and spatial interaction modeling, among others.

Learning objectives
Upon course completion, you will be able to:

- Analyze planning problems and feasible interventions
- Understand the relative benefits and drawbacks of planning analysis tools
- Apply models using software packages

Course prerequisites
No previous coursework is formally assumed. However, students should possess modest comfort with economic principles and statistics, and preferably a familiarity with and curiosity about planning issues.

Course materials
Materials (assignments, supplementary readings, PowerPoints, and announcements) will be uploaded to Blackboard before class. Students will want to familiarize themselves with content before each class. Readings are drawn from:

- Ragsdale, Cliff. *Spreadsheet Modeling & Decision Analysis: A Practical Introduction to Management*

Student expectations

- Regular, punctual, and engaged attendance is expected. A noticeable number of absences will elicit an inquiry from me and a possible reduction in class participation grade.
- Students should comport themselves with consideration for the needs of fellow students and teaching staff, and should refrain from distracting behavior. Mobile phone use is not permitted, and laptop use is permitted only for course-related purposes. I reserve the right to modify these rules at any time.
- Students must observe the university’s *Code of Academic Integrity* in all matters.
- Students are responsible for being aware of all announcements made in lectures or on Blackboard.
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Accommodations for students with disabilities
In compliance with the Cornell University policy and equal access laws, I am available to discuss appropriate academic accommodations that may be required for students with disabilities. Requests for academic accommodations are to be made during the first three weeks of the semester, except for unusual circumstances, so arrangements can be made.

Grading
- 10%: class participation
- 40%: assignments (6)
- 50%: mid-term and noncumulative final exam (2 x 25%)

Important dates
February break: No class Tues 2/21
Midterm due 3/10
Spring break: No class 4/1-10
No class Thurs 4/27

Assignment due dates (submitted on Blackboard by 5pm)
Assignment 1: 02/10  Assignment 3: 03/10  Assignment 5: 04/14
Assignment 2: 02/24  Assignment 4: 03/31  Assignment 6: 04/28

Tentative outline of topics (supplemental readings TBA on a weekly basis)

1. Planning logic and analysis (Jan 31, Feb 2)
   - Hopkins, Chapters 1-4

2. Decision analysis (Feb 7, 9)
   - Stokey and Zeckhauser, Chapter 12; Ragsdale, Theory of Expected Utility

3. Difference equations (Feb 14, 16)
   - Stokey and Zeckhauser, Chapter 4.

4. Forecasting (Feb 23, 28, Mar 2)
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5. Queues *(Mar 7, 9)*
   - Stokey and Zeckhauser, Chapters 5 & 6; Ragsdale, Chapter 13.

6. Project evaluation and benefit-cost analysis *(Mar 21, 23)*
   - Stokey and Zeckhauser, Chapter 9.

7. Framework for policy analysis *(Mar 28, 30)*
   - Stokey and Zeckhauser, Chapters 13 and 14.

8. Equity planning *(Apr 11, 13)*

9. Linear programming *(Apr 18, 20)*
   - Stokey and Zeckhauser, Chapter 11; Ragsdale. Chapters 2-4; Oppenheim, Chapter 5.

10. Spatial interaction modeling *(Apr 25, 27)*
    - Oppenheim, Chapter 4