

ECONOMICS 405
ANALYTICAL FRAMEWORK FOR POLICY AND DECISIONS

ORGANIZATION

Times/location: M/W 1:30-3:20pm / Savery 136
Professor: Yu-chin Chen
Office: Savery 338
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Course webpage: <https://canvas.uw.edu/courses/1021893>
Office Hours: Monday 4:00-5:00pm

COURSE DESCRIPTION

This course offers an opportunity for advanced students in Economics to see how insights and analytical framework from economics and finance can be used to design policies and formulate strategies to solve real-life problems. The course expects students to already have a solid training in economic theory and econometrics, but will introduce additional analytic and computational tools, particularly those directed toward dynamics, uncertainty, and/or interactive decision-making. The emphasis is on the application of techniques to formulate policy analysis, not formal derivations. Students encounter case studies, methodological readings, computational exercises, and problem sets oriented towards in-class presentation and discussion.

LEARNING OBJECTIVE

- Develop students' ability to define problems, construct modeling strategy, diagnose it, and design solutions using economic framework
- Give students practice in crafting formal descriptions of the world that can serve as a basis for policy analysis and empirical testing
- Emphasize in-class discussion and group presentation

PREREQUISITES

Math 307; AND Econ 400 or 401; AND Econ 382, 482, 483, or 424.

TEXTBOOKS

No textbooks. The course draws from articles and sections of various reference books, to be specified within each topic.

GRADING POLICY

Course grades will be based on weekly tasks to be turned-in (40%), in-class participation in discussion (30%), and a final project – both write-up and presentation (30%).

PROBLEM OF THE WEEK (“WORD PROBLEM”)

For most weeks, a problem of the week will be distributed ahead of time, and it will serve as the focus for a significant amount of discussion. Students will be expected to analyze the problem and be prepared to discuss their thinking and/or results.

ACADEMIC HONESTY

Please review the Department’s Academic Conduct Policy on the course website. Specifically, **do NOT copy your classmate’s homework or past homework solutions.**

LIST OF TOPICS

The following outline provides a guide to the material that we will aim to cover in this course. Please refer to the updated course website for readings for each topic.

- I. Conceptual Thinking, Modeling, and Optimization: Mapping Words to Math
- II. Inter-temporal Choice Theory: Dynamic Programming
- III. Behavioral vs. Rational Economics
- IV. Uncertainty, Learning, and Risk Sharing
- V. Multi-Agent Modeling