

ISS 3930: Special Topics in PPEL

(Economic Analysis of Voting)

I. General Information

Class Meetings:

- Spring 2026
- 100% in person
- Room: CSE 0453
- Time: T 1:55 - 2:45 PM, R 1:55 - 3:50 PM
- 3 Credits

Instructor:

- Dr. Mitchell Harvey
- Office: CSE 0434
- Email: mitchell.harvey@ufl.edu
- Tel: (352) 2941 563
- Office Hours: Tuesdays, 2:45 PM to 4:45 PM, or by appointment.

Course Description

This course provides a basic introduction to the fundamental questions of positive political theory: Is it possible to design a rational voting system? Can we make predictions about politician/voter behavior? Will democracies generate efficient policy outcomes? How do lobbyists and financial interests influence political behavior? To investigate these questions, students will receive an introduction to formal methods for social science. These methods have transferable applications to fields such as economics, political science and statistics.

Required Readings and Works

All course material will be created by Dr. Harvey and made available on Canvas prior to class.

Course Objectives

1. Understand the justifications for and limitations of formal methods in social science.
2. Identify key debates, discoveries and concepts in positive political theory/economic analysis of politics.
3. Understand the key insights, applications and limitations of social choice theory, spatial models of voting, accountability models of voting, and simple models of interactions between lobbyists and policy-makers.
4. Be able to build and solve simple models of political behavior, assess their usefulness and critique their value.

Please click the following [link](#) to access University academic policies and campus resources.

II. Graded Work

Description of Graded Work

1. Participation and Class Expectations: 10%

- a. Students will be expected to come to class prepared, having reviewed the relevant material, attempted homework exercises and be willing to share their work with the class.
- b. No use of phones, laptops, iPad's, or any other electronic device is permitted in class. All students are encouraged to take notes by pen and paper, which will be provided to students on request.

2. Attendance: 10%

- a. On-time class attendance is required for this component of the course grade. You may have three unexcused absences without any penalty. But starting with the fourth class missed, your grade will be affected. Any unexcused absence beyond the third reduces your attendance grade by 3 points: a 90 becomes an 87 and so on.
- b. Except for absence because of religious holiday observance, documentation is required for excused absences, per university policy. Excessive unexcused absences (10 or more) will result in failure of the course. If you miss 10 or more classes (excused or not), you will miss material essential for successful completion of the course.

3. In-Class Tests: 20%

- a. There will be four in-class tests, each worth 5%:
 - i. Thursday, January 29th;
 - ii. Thursday, February 12th;
 - iii. Thursday, March 12th; and
 - iv. Tuesday, April 7th.
- b. Each test will assess student comprehension of material covered in the previous two or three weeks of class.

4. Mid-Term Exam: 30%

- a. The mid-term will take place on Thursday, 26th of February. It will consist of a series of multiple choice and short-answer questions.

5. **Final Exam: 30%**

- a. The final exam date is Monday, April 27th.

III. Weekly Schedule

All methods will be taught in-class - there is no need to have any background training.

Week 1: January 12th

Motivating Questions

1. What is this course about? What is Positive political economy?
2. Is this a good way to study politics?
3. What is the Condorcet Voter Theorem?
4. What does it mean for an agent to be \textit{rational}?
5. What is Transitivity?
6. What is Completeness?

Methods

- Basic Binomial Probability
- Introductory Set Theory
- Introductory Preference Relations

Please note that there is a holiday on January 19th

Week 2: January 20th

Motivating Questions

1. What does it mean for a choice to be rational?
2. What restrictions does rationality impose on individual choice?
3. What is Condition α (Condition alpha)?
4. What is Condition γ (Condition gamma)?

5. What is Path Independence?

Methods

- Introductory Set Theory
- Introductory Preference Relations

Week 3: January 26th

First Quiz is on Thursday 29th of January.

Motivating Questions

1. Do voting systems generate rational preferences?
 - a. Is the run-off rule rational?
 - b. Is the plurality rule rational?
 - c. Can we treat nations as unitary actors?

Methods

- Introductory Set Theory
- Introductory Preference Relations

Week 4: February 2nd

Motivating Questions

1. Can we design a rational voting system?
2. What other conditions should a voting system satisfy (beyond rationality)? What does it mean for a voting system to be:
 - a. Non-Dictatorial?
 - b. Weakly Paretian?
 - c. Independent of Irrelevant Alternatives (IIA)?

- d. Are there any voting systems that are universally Non-Dictatorial, Weakly Paretian and IIA? What about;
 - i. Simple Majority Rule?
 - ii. Pareto Extension Rule?
 - iii. Borda Rule?
- 3. What is Arrow's Impossibility Theorem?

Methods

- Introductory Set Theory
- Introductory Preference Relations

Week 5: February 9th

Second Quiz is on Thursday 12th of February.

Motivating Questions

- i. Under what conditions can we generate predictions about voting outcomes?
 - a. What are single-peaked preferences?
 - b. What is the McKelvey-Schofield Chaos theorem?
 - c. Can Institutional Structure guarantee choices?

Methods

- Spatial Voting Models
- Introduction to intuitive pre-calculus mathematics.
- Introduction to Game Theory and the concept of a Nash Equilibrium.

Week 6: February 16th

Motivating Questions

- i. What insights can we get from studying one-dimensional voting models?

2. What is the Median Voter Theorem?
3. How would abstention impact political behavior?
4. How would valence impact candidate behavior?

Methods

- Introduction to Uniform Distributions.
- Spatial models of voting
- Nash Equilibrium and some simple mathematics

Week 7: February 23rd

Tuesday (24th) will be a revision class in preparation for the Mid-Term.

The mid-term takes place on Thursday (26th of February).

Motivating Questions:

1. How will rational actors behave when they are facing a trade-off? How do they maximize their happiness?

Methods:

- Introduction to Optimization.
- Introduction to uni-variate differential calculus.

Week 8: March 2nd

Motivating Questions

1. Do democracies generate efficient choices if voters are rational?
 - a. Will redistribution be efficiently provided?
 - b. Will public goods be efficiently provided?

Methods

- Simple optimization methods from differential calculus.
- Spatial Voting Models.
- Median Voter Theorem.

Week 9: March 9th

Motivating Questions:

1. How much does a lobbyist need to spend to influence voting behavior?
2. What happens when lobbyists are in conflict?
3. What strategies should lobbyists use to influence policy while minimizing their costs?
4. What type of firms lobby? What do they lobby for?

Methods:

- Game Theory and Nash Equilibrium.
- Simple differentiable calculus.

- SPRING BREAK -

Week 10: March 23rd

Motivating Questions:

1. How do voters hold politicians accountable?
2. What challenges do voters face when assessing candidate performance?

Methods:

- Introduction to Bayesian Updating:
 - Introduction to Conditional Probability
 - Introduction to Bayes Rule.

Week 11: March 30th

Quiz 4 will take place on Tuesday 7th

We will continue learning about Bayesian Updating and political accountability models from the previous week.

Week 12: April 6th

NO CLASSES – DR. HARVEY WILL BE OVERSEAS

Week 13: April 13th

No new material - this week will be dedicated to working through practice problems together in preparation for the final exam.

Week 14: April 20th

No new material - you will have an opportunity to ask any final questions on the material you have before the exam.

IV. Grading Scale and Rubrics

Grading Scale

For information on UF's grading policies for assigning grade points, see [here](#).

A	94 – 100%		C	74 – 76%
A–	90 – 93%		C–	70 – 73%
B+	87 – 89%		D+	67 – 69%
B	84 – 86%		D	64 – 66%
B–	80 – 83%		D–	60 – 63%
C+	77 – 79%		E	<60

Participation Rubric

A (90–100%)	Typically comes to class with pre-prepared questions about the readings. Engages others about ideas, respects the opinions of others and consistently elevates the level of discussion.
B (80–89%)	Does not always come to class with pre-prepared questions about the reading. Waits passively for others to raise interesting issues. Some in this category, while courteous and articulate, do not adequately listen to other participants or relate their comments to the direction of the conversation.
C (70–79%)	Attends regularly but typically is an infrequent or unwilling participant in discussion. Is only adequately prepared for discussion.
D (60–69%)	Fails to attend class regularly and is inadequately prepared for discussion. Is an unwilling participant in discussion.
E (<60%)	Attends class infrequently and is wholly unprepared for discussion. Refuses to participate in discussion.

Examination Rubric: Essays and Short Answers

	Completeness	Analysis	Evidence	Writing
A (90–100%)	Shows a thorough understanding of the question. Addresses all aspects of the question completely.	Analyses, evaluates, compares and/or contrasts issues and events with depth.	Incorporates pertinent and detailed information from both class discussions and assigned readings.	Presents all information clearly and concisely, in an organized manner.
B (80–89%)	Presents a general understanding of the question. Completely addresses most aspects of the question or address all aspects incompletely.	Analyses or evaluates issues and events, but not in any depth.	Includes relevant facts, examples and details but does not support all aspects of the task evenly.	Presents information fairly and evenly and may have minor organization problems.
C (70–79%)	Shows a limited understanding of the question. Does not address most aspects of the question.	Lacks analysis or evaluation of the issues and events beyond stating accurate, relevant facts.	Includes relevant facts, examples and details, but omits concrete examples, includes inaccurate information and/or does not support all aspects of the task.	Lacks focus, somewhat interfering with comprehension.
D (60–69%)	Fails fully to answer the specific central question.	Lacks analysis or evaluation of the issues and events beyond stating vague, irrelevant, and/or inaccurate facts.	Does not incorporate information from pertinent class discussion and/or assigned readings.	Organizational problems prevent comprehension.
E (<60%)	Does not answer the specific central question.	Lacks analysis or evaluation of the issues and events.	Does not adduce any evidence.	Incomprehensible organization and prose.

V. Required Policies

Academic Policy

All academic policies in this course are consistent with university policies, which can be found here: <https://go.ufl.edu/syllabuspolicies>