



**TEXAS A&M**  
**UNIVERSITY**  
**CENTRAL TEXAS**

**POLI 4395:**  
**Political Science**  
**Capstone Course**  
**Spring 2023**  
**Section 110 (CRN 10135)**  
**6 PM – 9 PM Wed / FH 212**



**Dr. Jeffrey Dixon**

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**Office Hours:** Mon 5-6 PM, Tues 4:30-5:45 PM, Wed 5-5:45 PM

### **Catalog Description**

Integrate and use fundamental concepts learned in previous political science courses to research and analyze real-world political phenomena and problems. Students present oral and written reports on their research, supplemented by appropriate internet and multimedia materials, as well as portfolios documenting their research.

### **Course Objectives and Learning Outcomes**

The theme of the course is the use of formal, rational-choice models to predict political behavior (decisions). This course teaches and critiques rational choice models of political decision-making and bargaining, both in the abstract and as applied to the subfields of political science – American politics, comparative politics, international relations, and normative political theory. Such models include:

- Decision theory (including expected utility theory and its competitors)
- Spatial models of politics (including the median and mean voter theorems)
- Game theory (and other formal models of bargaining and strategic interaction)
- Collective social choice theory (including Arrow's Theorem and the collective action dilemma)

The central learning objectives for this course are that at its conclusion, students will be able to:

1. Identify, apply (make a prediction in a particular case), and critique the empirical and normative assumptions of each type of formal rational choice model of political choice listed above under Course Objectives and Learning Outcomes. (*Learning Outcome 1*)
2. Analyze and critique the assumptions of political arguments and models (*Learning Outcome 2*)
3. Improve writing proficiency through a process of continuous revision and addition as the research portfolio progresses (*Learning Outcome 3*).

4. Dissect, evaluate, and construct political arguments, using your critical thinking skills. Of particular importance is The simplified Toulmin model: A basic model of a valid argument as consisting of a *claim*, accompanied by *evidence*, which supports the claim via a *warrant* (*Learning Outcome 4: You should be able to identify the claim, evidence [if any], and warrants [implied or express] of a given argument*)

Learning Outcome 1 is assessed using the homework and final exam. Learning Outcome 2 is assessed using the literature review section of the required research portfolio. Learning Outcome 3 is assessed using the research portfolio. Learning Outcome 4 is assessed using weekly worksheets and in-class discussion and exercises.

### **Writing-Instructive Course Requirements**

This is a Writing Instructive (WI) course so writing will be an integral part of my instruction and our interactions. Writing will also be a fundamental way that I measure student mastery of course content. WI means that you will have several opportunities to work on improving your writing skills. In concrete terms, this means engaging in a process of continuous revision and resubmission of drafts. Grammar and spelling errors will reduce the credit you receive, even for otherwise correct answers. See Canvas for a link to my pet grammatical peeves.

Of course, good writing requires more than correct spelling and grammar, and in longer pieces I'm looking for a thesis, for paragraphs to have topic sentences, and for well-cited and evidence-based argumentation. An argument is complete if it contains a claim (something you are trying to prove), evidence (properly-cited, of course), and a warrant (the evidence logically supports the claim). The citation system we'll be using in this class is that of the American Political Science Association (APSA), which is a slightly modified form of the parenthetical documentation system in the Chicago Manual of Style (**not** the note system found in the same volume). A guide to APSA citations is available on Canvas.

### **Course Format**

This course meets face-to-face, with supplemental materials made available online through the Texas A&M-Central Texas Canvas Learning Management System [<https://tamuct.instructure.com>]. **We strongly recommend the latest versions of either the Chrome or Firefox browsers. Canvas no longer supports any version of Internet Explorer.**

### **Student-Instructor Interaction**

I check my email at least once each weekday and strive to reply to students within 24 hours, when they request a response. Reading and response times are longer over weekends and university holidays.

### **Required Readings**

The following **two** books are required for this course. The other required readings are on Canvas. Note that a student is under no obligation to purchase textbooks from the university bookstore. Other sources, including online retailers, may offer lower prices. Do pay careful attention to delivery dates so that you have each book on time.



Spaniel, William. 2015. *Game Theory 101: The Complete Textbook*. 2014-2015 Edition. Charleston, NC: CreateSpace. ISBN: 978-1492728153

Spaniel, William. 2014. *Game Theory 101: Bargaining*. Charleston, NC: CreateSpace. ISBN: 9781503016972

### Technology Requirements and Support

This course will use the Texas A&M-Central Texas Instructure Canvas learning management system for course readings (posted in Adobe pdf format, which can be opened by the free Adobe Reader and most modern web browsers), optional walkthrough videos related to course readings, and the Academic Integrity Exercise.

- Logon to A&M-Central Texas Canvas [<https://tamuct.instructure.com/>] or access Canvas through the TAMUCT Online link in myCT [<https://tamuct.onecampus.com/>]. You will log in through our Microsoft portal.  
Username: Your MyCT email address. Password: Your MyCT password
- Use the Canvas Help link, located at the bottom of the left-hand menu, for issues with Canvas. You can select “Chat with Canvas Support,” submit a support request through “Report a Problem,” or call the Canvas support line: 1-844-757-0953.
- For log-in problems, students should contact Help Desk Central.  
24 hours a day, 7 days a week:  
Email: [helpdesk@tamu.edu](mailto:helpdesk@tamu.edu)  
Phone: (254) 519-5466  
[Web Chat](http://hdc.tamu.edu): [<http://hdc.tamu.edu>]  
*Please let the support technician know you are an A&M-Central Texas student.*
- For issues related to course content and requirements, contact your instructor.
- *Online Proctored Testing*: Texas A&M University -- Central Texas uses Proctorio for online identity verification and proctored testing. This service is provided at no direct cost to students. If the course requires identity verification or proctored testing, the technology requirements are: Any computer meeting the minimum computing requirements, plus web camera, speaker, and microphone (or headset). Proctorio also requires the Chrome web browser with their custom plug in.

### Drop Policy

If you discover that you need to drop this class, you must complete the [Drop Request](#) Dynamic Form through Warrior Web:

[<https://federation.ngwebsolutions.com/sp/startSSO.ping?PartnerIdId=https://eis-prod.ec.tamuct.edu:443/samlSSO&SpSessionAuthnAdapterId=tamuctDF&TargetResource=https%3a%2f%2fdynamicforms.ngwebsolutions.com%2fSubmit%2fStart%2f53b8369e-0502-4f36-be43-f02a4202f612>]

Faculty cannot drop students; this is always the responsibility of the student. The Registrar’s Office will provide a deadline on the Academic Calendar for which the form must be completed. Once you submit the completed form to the Registrar’s Office, you must go into Warrior Web and confirm that you are no longer enrolled. If you still show as enrolled, FOLLOW-UP with the Registrar’s Office immediately. You are to attend class until the procedure is complete to avoid penalty for absence. Should you miss



the drop deadline or fail to follow the procedure, you will receive an F in the course, which may affect your financial aid and/or VA educational benefits.

**Grading** (90/80/70/60, rounded to the nearest percentage)

- Academic Integrity Exercise: This consists of watching a brief lecture, taking a quiz, seeing where any mistakes on the quiz came from, and signing a statement. Once you successfully complete this exercise, you will no longer need to do so in future political science courses.

**\*\*\*If you have not done so in a previous course from me, then completing the Academic Integrity Exercise is a prerequisite to passing this course. It must be completed before the due date on the course calendar.\*\*\***

- **Rubric: If you have not previously completed this exercise in one of my classes, then you will fail the course if you have not completed the Academic Integrity exercise on or before the due date.** Students who have previously completed this exercise in another one of my courses do not need to repeat it for this course.
- Weekly Worksheets (14.5%). One of these is due each week after the first week, except for presentation week. Each one is worth equal credit. The worksheets can be found at the end of this syllabus, and are graded on a check system:
  - If the student completes the worksheet and shows his/her work properly, then the student gets full credit, even if his/her final answers happen to be incorrect.
  - If the student does not complete all but does complete (or show his/her work on) more than half of the exercise, then the student gets a check-minus (half credit).
  - If the student fails to complete (or show work on) even half of the work assigned, the student gets an X (zero credit).
- Participation (7.5%). This will be graded using a simple system. A student who attends and does little else will receive 2 points. A student who constructively participates in about half of the class will receive 4 points. A student who constructively participates throughout class will receive 6 points. You are expected to average 5 points per session, making consistent full participation a modest form of extra credit.
  - Constructive participation means making comments or asking questions that demonstrate familiarity with the assigned readings for the week. It also means actively engaging in any in-class exercises.
  - As the amount of class time devoted to lecture increases, the amount of participation expected from students decreases proportionally. A good rule of thumb is to be sure to contribute something relevant (even just a question that shows engagement with the course material) at least twice an hour if there is no lecture or in-class exercise.



- Final Exam (33%). The final exam will be five pairs of problems that parallel the homework and in-class exercises. There will be one pair each on the topics of decision theory, basic game theory (Nash Equilibria in pure strategies and subgame-perfect equilibria), advanced game theory (mixed strategy equilibria), bargaining theory, and social choice theory. Students will receive the *higher* of the two scores for each pair of problems. Students may use the assigned readings, any materials they have personally prepared, and course handouts on the exam.
  - The grade for each question is evenly divided between whether the student followed the correct method for solving the problem and whether the student actually identified the correct solution to the problem.
  
- Course portfolio (40%). The centerpiece of the course is a portfolio in which students will apply a formal model of politics to answer a puzzle in political science. The portfolio consists of a literature review, a theory and a corresponding rational-choice formal model, and hypotheses derived from (that is, proven to be logical implications of) the model. There are several milestones that must be met:
  - Draft 1. *Puzzle, Question, and Article Review*. This is a brief draft focusing on your puzzle (see Appendix A for some ideas), its practical *and* disciplinary importance, and at least one journal article or scholarly book that addresses the puzzle using a formal model. Follow these steps to construct this initial draft (worth 25 points):
    - Create a cover page. Come up with a title other than “POLI 4395 Draft” or the like (you may want to save this part for last, since you may not know your thesis yet); add your name and institutional affiliation (Texas A&M University – Central Texas). [2 points]
    - Begin the draft by offering a puzzle in politics; then establish your research question and its importance for both political life and political science. This should take a paragraph or two. [6 points]
    - Then provide a thesis about where the solution to the puzzle may lie. Incorporate strategic interaction between political actors in your explanation.
    - Now discuss an article from an academic journal, a thesis or dissertation, or an academic/scholarly book that used a formal (mathematical) model to address part of all of your puzzle. **If you are trying to access academic journal articles and the like from home, then you may wish to follow the advice in Appendix B.** Once you’ve found a study with a formal model (typically expected utility theory, game theory, or social choice theory), describe its dependent variable, its theoretical approach (answer) to the question, its research design, and the author’s conclusions. Conclude your discussion of the article by examining the weaknesses of the author’s approach (especially the formal model itself, to the extent that you can figure out what assumptions it makes) and what knowledge we gain from the study (if any) over previous studies discussed by the author(s) in their literature review. [15 points]
    - Attach a works cited page in APSA format. [2 points]
    - Note that one point will be deducted for every two spelling/grammar errors in this draft, so be sure to proofread.

- Draft 2. *Literature Review*. The literature review (50 points) should revise the first draft in accordance with comments received and substantially expand the portfolio from a discussion of one article's approach and findings to a discussion of five such pieces of academic literature and their approaches to the puzzle. Describe and critique the theories and results of at least five peer-reviewed articles, dissertations/theses, or research monographs from scholarly presses (or all of them, if five such sources do not exist – which is the student's burden to prove). Meeting this milestone is worth up to 50 points, depending on the quality of the work.
  - Failure to clearly identify the question will result in the deduction of half of the points which the portfolio would otherwise have earned.
  - For every one source fewer than five, ten points will be deducted. The exception is if the student demonstrates to the satisfaction of the instructor that all work relevant to the question has been reviewed.
    - No more than two assigned readings from class can count towards the five-source minimum.
    - For each source which does not meet the academic criteria for inclusion, up to ten points will be deducted, depending on how distant the source is from original scholarly research (for example, other literature reviews or academic textbooks are worth only 60% credit while encyclopedias are worth only 20% credit).
    - Each source discussed must clearly relate to the question. If the relationship is unclear, up to five points may be deducted.
  - For every two spelling/grammar errors, one point will be deducted.
- Draft 3. *Revision and Model Development*. The student must revise the question and literature review of the portfolio in accordance with criticism of that work. In addition, the student must now add a formal model that addresses the issue. The model should be fully specified – its assumptions and definitions should be clear, as should its structure. Meeting this milestone is worth up to 75 points, depending on the quality of the work.
  - The question and literature review are worth 20 points. You will receive these points in proportion to the amount of required revision that was made in this draft. In other words, simply tacking the old literature review (without revisions) onto the new draft will result in the loss of 20 points.
  - Clearly stating the attributes of the formal model (e.g. a game, an expected utility model, an evolutionary model, etc) is worth 10 points.
  - Defining the non-standard terms in the model and listing its non-standard assumptions are worth 10 points. A non-standard term or assumption is something not already embedded in the generic class of model. For example, a game-theoretic model of deterrence need not define terms such as strategy, node, or Nash Equilibrium – these are part of game theory, and anyone who understands game theory already knows what they mean. However, the term “deterrence” would need to be defined, and any assumptions about players' preferences would need to be clearly stated.



- Having a complete structure to the model, so that someone with sufficient skill could use it to deduce hypotheses, is worth 25 points.
    - Justifying the attributes, each non-standard definition or assumption, and the structure of the model are collectively worth 10 points.
    - For every spelling/grammar error, one point will be deducted.
  - Draft 4. *Revision and Hypothesis Generation*. The student must revise the earlier sections of the portfolio in accordance with criticism of that work. In addition, the student must solve the model and prove that it leads to at least three testable hypotheses. Meeting this milestone is worth up to 100 points, depending on the quality of the work.
    - Revisions to earlier sections of the portfolio are worth 35 points. Failure to revise will result in a 35-point deduction, while full revision in accordance with all critiques will result in no deduction.
    - The solution to the model is worth 50 points. Students must show their work (just use an appendix if doing so disrupts the flow of the portfolio).
    - Each testable hypothesis is worth five points (15 points total).
    - For every spelling/grammar error, one point will be deducted.
  - *Final Draft*. The student must revise the earlier sections of the portfolio in accordance with criticism of that work and complete the process of generating a self-contained formal model and critical commentary on that model. The final product is worth 150 points.
    - Revisions to earlier sections of the portfolio are worth 75 points. Failure to revise will result in a 75-point deduction, while full revision in accordance with all critiques will result in no deduction.
    - The remainder of the credit is based on formatting and a brief abstract (100 words is ideal) which identifies the problem, briefly describes the model, and identifies its most interesting predictions.
    - For every spelling/grammar or formatting error, two points will be deducted.
- Research Presentation (5%). Prepare a 7-12 minute summary of your puzzle, model, and most interesting hypothesis. Do not use a script, although notes are fine. Some prepared visual aid (a handout for everyone in the class and the instructor, a PowerPoint presentation, etc) is required. You will be graded on preparation, professionalism, content, and how you address questions about your work from other students or the instructor. Your own questions of the other presenters form the participation grade for this session.
  - Rubric: Your presentation will be scored on these criteria.
    - Preparation (structure, notes, use of visual aids): 0 2 4 6 8 10 12
    - Professionalism (professional dress, conduct, language): 0 2 4 6 8 10 12
    - Content (puzzle, model, most interesting hypotheses) : 0 2 4 6 8 10 12
    - Question handling: 0 2 4 6 8 10 12
    - Over/under time limits: -1 per minute over/under

## POLI 4395 Course Grade Rubric

Item	Points	Percent
Worksheets (13)	145 total (divided evenly)	14.5%
Participation (15 sessions)	5 per session = 75 total	7.5%
Course Portfolio	300	40%
Research Presentation	50	5%
Final Exam	330	33%
<b>TOTAL POSSIBLE</b>	<b>1000</b>	<b>100%</b>
895+ = A    795-894=B    695-794=C    595-694=D    594 or lower = F		

### Regrade Policy

It is possible for me to make a mistake when grading. So if you think that I graded part or all of an assignment incorrectly, you have one week to return it to me for regrading against the rubric. You may request that all or only part of the assignment be regraded. I take no offense at this. The same policy applies to the final exam; you have one week from when grades are posted to request a regrade of one or both questions. As for participation, I make the daily participation grades available both during the class break and after class, so if you need to remind me of something you said that didn't receive credit, do so that night as I probably won't remember who said what the next week.

### Attendance, Make-Up Work, Late Work, and Incompletes

- Attendance is required. Students must inform the instructor *prior to an absence*. Send me an email stating the dates(s) you will be missing and the reason(s). (Protect yourself! Don't rely on my memory – send me something written that I can keep in my files).
  - If all else fails, you or a friend may call my office and speak to me or my voicemail. There are very few situations in life that preclude making a phone call or having a friend do so; failure to contact the instructor *prior to class* will normally rule out any sort of make-up.
  - If you have to leave early, please do the make-up participation work for that week (provided on Canvas).
- Make-up work is required for any *excused* absence. It makes up for the inability of the student to participate in the class. Note that this is in addition to completing the exercises for the missed week – the two are graded separately. **When you return from an excused absence, be sure to bring the make-up work (see Canvas for the make-up work for each session). It is your duty to have it completed, not the instructor's duty to remind you to do it.**
- Late exercises are only accepted in the case of extended excused absences such that a student could not complete the exercises during any day of the week. Because of the nature of the exercises and how we cover them in class, you cannot turn them in after class, even if it's still the same night.
- If any portion of the portfolio is late, there is a 10%/day penalty for that portion of the portfolio. This is computed as a fraction of credit earned, so that three days late = 30% penalty = student receives 70% of credit *which he/she would otherwise have earned*.
- Grades of incomplete are not to be used when students simply fall behind. Instead, they are used when some event such as a hospitalization or deployment effectively takes the student out of the





class after the drop deadline. By university policy, incompletes must be finished in the subsequent semester.

### **Academic Integrity**

*University Code of Academic Honesty:* Texas A&M University -Central Texas values the integrity of the academic enterprise and strives for the highest standards of academic conduct. A&M-Central Texas expects its students, faculty, and staff to support the adherence to high standards of personal and scholarly conduct to preserve the honor and integrity of the creative community. Academic integrity is defined as a commitment to honesty, trust, fairness, respect, and responsibility. Any deviation by students from this expectation may result in a failing grade for the assignment and potentially a failing grade for the course. Academic misconduct is any act that improperly affects a true and honest evaluation of a student's academic performance and includes, but is not limited to, cheating on an examination or other academic work, plagiarism and improper citation of sources, using another student's work, collusion, and the abuse of resource materials. All academic misconduct concerns will be reported to the university's Office of Student Conduct. Ignorance of the university's standards and expectations is never an excuse to act with a lack of integrity. When in doubt on collaboration, citation, or any issue, please contact your instructor before taking a course of action.

More [information regarding the Student Conduct process](https://tamuct.campuslabs.com/engage/organization/tamuct-student-conduct-panel) is available at the following link:

[<https://tamuct.campuslabs.com/engage/organization/tamuct-student-conduct-panel>].

If you know of potential honor violations by other students, you may [submit a report](https://cm.maxient.com/reportingform.php?TAMUCentralTexas&layout_id=0),

[[https://cm.maxient.com/reportingform.php?TAMUCentralTexas&layout\\_id=0](https://cm.maxient.com/reportingform.php?TAMUCentralTexas&layout_id=0)].

Specific guidelines for this course, which supplement and do not replace University policy:

- **Violations:** There are plenty of ways to cheat listed by the Student Handbook. Some common violations of academic integrity that I have observed while teaching similar classes at TAMUCT are
  - Copying another student's homework. I encourage study groups, but copying must be avoided. Discuss the readings as long as you wish, but don't "share" your answers to the homework. You may not "jointly" complete any of the homework exercises in this course unless otherwise indicated on the assignment; these are to be completed by yourself alone. As an alternative to solving homework problems collectively, you can go over the final exam review or make-up problems in this syllabus to check whether you know the material. Note that if you provide another student with a copy of your homework and they copy it, both you and the copier will be deemed to have violated the policy.
  - **Using direct quotes without quotation marks.** Even if you are just using three- or four-word phrases, you need to surround them with quotation marks if you didn't create them yourself. This is true even if you cite the source! Remember that changing a few words in a sentence does not transform a direct quote into a paraphrase; instead, it transforms one long direct quote into several shorter direct quotes with a word of your own between each. A true paraphrase is the expression of the cited source's ideas in your own words.
  - Paraphrasing another person's words without citing the source.
  - Listing or citing sources in a research portfolio which were not actually consulted by the student.



- **Penalties:**
  - The normal penalty for a violation of academic integrity (whether or not it is specifically listed above) in any of my classes is a grade of zero for the work or a deduction of 20% (two letter grades) from your course grade, whichever is **greater**. The infraction will be reported to the TAMUCT administration, with a recommendation for probation in the case of deliberate violation or remedial education on Academic Integrity in the case of clearly inadvertent violation.
  - The (a) outright purchase, download, or completion by others of an exam, or (b) second or subsequent violation of academic integrity (in this course or other courses) display such serious disregard for academic integrity that either one of them will result in course failure **and** recommendation for expulsion to the TAMUCT administration.

### **Professors are Mandatory Reporters**

Texas State Law states that:

- “An employee of a postsecondary educational institution who, in the course and scope of employment, witnesses or receives information regarding the occurrence of an incident that the employee reasonably believes constitutes **sexual harassment, sexual assault, dating violence, or stalking** and is alleged to have been committed by or against a person who was a student enrolled at or an employee of the institution at the time of the incident shall promptly report the incident to the institution's Title IX coordinator or deputy Title IX coordinator.”
- Further: “A person commits an offense if the person is required to make a report...and knowingly fails to make the report. ... A postsecondary educational institution shall terminate the employment of an employee whom the institution determines in accordance with the institution's disciplinary procedure to have committed [such] an offense.”

### **Student Resources**

- **Emergency Warning System for Texas A&M University – Central Texas: SAFEZONE.** SafeZone provides a public safety application that gives you the ability to call for help with the push of a button. It also provides Texas A&M University-Central Texas the ability to communicate emergency information quickly via push notifications, email, and text messages. All students automatically receive email and text messages via their myCT accounts. Downloading SafeZone allows access to push notifications and enables you to connect directly for help through the app.
  - You can download SafeZone from the app store and use your myCT credentials to log in. If you would like more information, you can visit the SafeZone website [[www.safezoneapp.com](http://www.safezoneapp.com)].
  - To register SafeZone on your phone, please follow these 3 easy steps:
    1. Download the SafeZone App from your phone store using the link below:
      - iPhone/iPad: [<https://apps.apple.com/app/safezone/id533054756>]
      - Android Phone / Tablet [<https://play.google.com/store/apps/details?id=com.criticalarc.safezoneapp>]
    2. Launch the app and enter your myCT email address (e.g. {name}@tamuct.edu)
    3. Complete your profile and accept the terms of service



- **For updates on COVID information**, please monitor the University [website](https://www.tamuct.edu/covid19/) [https://www.tamuct.edu/covid19/]
- **Academic Accommodations:** At Texas A&M University-Central Texas, we value an inclusive learning environment where every student has an equal chance to succeed and has the right to a barrier-free education. The Warrior Center for Student Success, Equity and Inclusion is responsible for ensuring that students with a disability receive equal access to the university's programs, services and activities. If you believe you have a disability requiring reasonable accommodations, please contact the Office of Access and Inclusion, WH-212; or call (254) 501-5836. Any information you provide is private and confidential and will be treated as such.
  - Texas A&M University-Central Texas supports students who are pregnant and/or parenting. In accordance with requirements of Title IX and related guidance from US Department of Education's Office of Civil Rights, the Dean of Student Affairs' Office can assist students who are pregnant and/or parenting in seeking accommodations related to pregnancy and/or parenting. Students should seek out assistance as early in the pregnancy as possible. For more information, please visit [Student Affairs](https://www.tamuct.edu/student-affairs/pregnant-and-parenting-students.html) [https://www.tamuct.edu/student-affairs/pregnant-and-parenting-students.html]. Students may also contact the institution's Title IX Coordinator. If you would like to read more about these [requirements and guidelines](http://www2.ed.gov/about/offices/list/ocr/docs/pregnancy.pdf) online, please visit the website [http://www2.ed.gov/about/offices/list/ocr/docs/pregnancy.pdf].
  - Title IX of the Education Amendments Act of 1972 prohibits discrimination on the basis of sex and gender—including pregnancy, parenting, and all related conditions. A&M-Central Texas is able to provide flexible and individualized reasonable accommodation to pregnant and parenting students. All pregnant and parenting students should contact the Associate Dean in the Division of Student Affairs at (254) 501-5909 to seek out assistance. Students may also contact the University's Title IX Coordinator.
- **Tutoring:** Tutoring is available to all A&M-Central Texas students, both virtually and in-person. Student success coaching is available online upon request.
  - If you have a question, are interested in becoming a tutor, or in need of success coaching contact the Warrior Center for Student Success, Equity and Inclusion at (254) 501-5836, visit the Warrior Center at 212 Warrior Hall, or by emailing [WarriorCenter@tamuct.edu](mailto:WarriorCenter@tamuct.edu).
  - To schedule tutoring sessions and view tutor availability, please visit [Tutor Matching Services](https://tutormatchingservice.com/TAMUCT) [https://tutormatchingservice.com/TAMUCT] or visit the Tutoring Center in 111 Warrior Hall.
  - Chat live with a remote tutor 24/7 for almost any subject from on your computer! Tutor.com is an online tutoring platform that enables A&M-Central Texas students to log in and receive online tutoring support at no additional cost. This tool provides tutoring in over 40 subject areas except writing support. Access Tutor.com through Canvas.
- **University Writing Center:** Located in Warrior Hall 416, the University Writing Center (UWC) at Texas A&M University–Central Texas (A&M–Central Texas) is a free service open to all A&M–Central Texas students. The hours of operation are from 10:00 a.m.-5:00 p.m. Monday thru Thursday in Warrior Hall 416 (with online tutoring available every hour as well) with satellite hours available online only Monday thru Thursday from 6:00-9:00 p.m. and Saturday from



12:00-3:00 p.m.

- Tutors are prepared to help writers of all levels and abilities at any stage of the writing process. While tutors will not write, edit, or grade papers, they will assist students in developing more effective composing practices. By providing a practice audience for students' ideas and writing, our tutors highlight the ways in which they read and interpret students' texts, offering guidance and support throughout the various stages of the writing process. In addition, students may work independently in the UWC by checking out a laptop that runs the Microsoft Office suite and connects to WIFI, or by consulting our resources on writing, including all of the relevant style guides. Whether you need help brainstorming ideas, organizing an essay, proofreading, understanding proper citation practices, or just want a quiet place to work, the UWC is here to help!
- Students may arrange a one-to-one session with a trained and experienced writing tutor by making an appointment via [WOnline](https://tamuct.mywconline.com/) [https://tamuct.mywconline.com/]. In addition, you can email Dr. Bruce Bowles Jr. at [bruce.bowles@tamuct.edu](mailto:bruce.bowles@tamuct.edu) if you have any questions about the UWC, need any assistance with scheduling, or would like to schedule a recurring appointment with your favorite tutor.
- **University Library & Archives:** The University Library & Archives provides many services in support of research across campus and at a distance. We offer over 350 electronic databases containing approximately 631,525 eBooks and 75,149 journals, in addition to the 97,443 items in our print collection, which can be mailed to students who live more than 50 miles from campus. Research guides for each subject taught at A&M-Central Texas are available through our website to help students navigate these resources. On campus, the library offers technology including cameras, laptops, microphones, webcams, and digital sound recorders.
  - Research assistance from a librarian is also available 24 hours a day through our online chat service, and at the reference desk when the library is open. Research sessions can be scheduled for more comprehensive assistance, and may take place virtually through WebEx, Microsoft Teams or in-person at the library. [Schedule an appointment here](https://tamuct.libcal.com/appointments) [https://tamuct.libcal.com/appointments]. Assistance may cover many topics, including how to find articles in peer-reviewed journals, how to cite resources, and how to piece together research for written assignments.
  - Our 27,000-square-foot facility on the A&M-Central Texas main campus includes student lounges, private study rooms, group work spaces, computer labs, family areas suitable for all ages, and many other features. Services such as interlibrary loan, TexShare, binding, and laminating are available. The library frequently offers workshops, tours, readings, and other events. For more information, please visit our [Library website](https://tamuct.libguides.com/index) [https://tamuct.libguides.com/index]

**Important University Dates** (From <https://www.tamuct.edu/registrar/academic-calendar.html>)

January 17, 2023	Add, Drop, and Late Registration Begins for 16- and First 8-Week. \$25 fee assessed for late registrants.
January 17, 2023	Classes Begin for Spring Semester
January 19, 2023	Deadline for Add, Drop, and Late Registration for 16- and First 8-Week Classes

February 1, 2023	Deadline to Drop 16-Week Classes with No Record
February 1, 2023	Educator Preparation Program (Teacher and Principal) application deadline
February 1, 2023	Superintendent Program application deadline
March 10, 2023	Deadline for Admissions Applications (Spring)
March 13-17, 2023	Spring Break
March 20, 2023	Advising Begins for Summer Semester
March 20, 2023	Class Schedule Published For Summer Semester
March 31, 2023	Deadline for Graduation Application for Ceremony Participation
April 1, 2023	Clinical Teaching Placement Form Deadline
April 1, 2023	School Counselor Program Application deadline (Summer)
April 1, 2023	Deadline for GRE/GMAT Scores to Office of Graduate Studies
April 3, 2023	Registration Opens for Summer Semester
April 5, 2023	Priority Deadline for International Student Admission Applications (Summer)
April 7, 2023	Deadline for Scholarship Applications for the Summer Semester
April 7, 2023	Deadline to Drop 16-Week Classes with a Quit (Q) or Withdraw (W)
April 14, 2023	Deadline for Final Committee-Edited Theses with Committee Approval Signatures
April 24, 2023	Priority Deadline for VA Certification Request (Summer)
April 28, 2023	Student End of Course Survey Opens (16- and Second 8-Week Classes)
May 12, 2023	Deadline for Applications for \$1,000 Tuition Rebate for Spring Graduation (5pm)
May 12, 2023	Deadline for Degree Conferral Applications to the Registrar's Office. \$20 Late Application Fee.
May 12, 2023	Deadline to Withdraw from the University for 16- and Second 8-Week Classes
May 12, 2023	Spring Semester Ends
May 13, 2023	Commencement Ceremony Bell County Expo Center 3 pm

### Amendments

Not all exigencies can be foreseen. I reserve the right to amend the syllabus at any time. Any such amendment will be provided to the students in writing by uploading a revised syllabus to Canvas.



## Course Schedule

Dates	Topic	Assigned Readings and Due Dates (all to be completed before class)	Videos (Canvas – optional unless otherwise noted)
Jan 18	Rationality and Preference in Political Life	<ul style="list-style-type: none"> <li>None</li> </ul>	<i>A Clean Escape (43 min)</i>
Jan 25	Decision Theory I: Rational Choice Under Uncertainty	<ul style="list-style-type: none"> <li>Hansson, <u>Decision Theory: A Brief Introduction</u>, Sections 1-5 and 9 (Canvas)</li> <li><b>Academic Integrity Exercise Due</b></li> </ul>	
Feb 1	Decision Theory II: Risk and Expected Utility	<ul style="list-style-type: none"> <li>Davis, <u>Game Theory: A Nontechnical Introduction</u>, Chapter 4: “Utility Theory” (Canvas)</li> <li>Morrow, <u>Game Theory for Political Scientists</u>, Chapter 2: “Utility Theory” (Canvas)</li> </ul>	
Feb 8	Game Theory I: Pure Strategy Nash Equilibria	<ul style="list-style-type: none"> <li>Spaniel, <u>GT 101: The Complete Textbook</u>, Lessons 1.1-1.4</li> <li>Hobbes, <u>Leviathan</u>, Chapter 13 (Canvas)</li> </ul>	<i>Game Theory 101: 1.1 to 1.4</i>
Feb 15	Game Theory II: Mixed Strategy Nash Equilibria and Repeated Games	<ul style="list-style-type: none"> <li>Spaniel, <u>GT 101: The Complete Textbook</u>, Lessons 1.5-1.7</li> <li>Axelrod, “Effective Choice in the Prisoner’s Dilemma” (Canvas)</li> </ul>	<i>Game Theory 101: 1.5 to 1.7; The Iterated Prisoner’s Dilemma and The Evolution of Cooperation</i>
Feb 22	Game Theory III: Backwards Induction and Subgame Perfect Equilibria	<ul style="list-style-type: none"> <li>Spaniel, <u>GT 101: The Complete Textbook</u>, Lessons 2.1-2.5, 2.7</li> <li>Clinton, “Game Theory, Legal History, and the Origins of Judicial Review: A Revisionist Analysis of <i>Marbury v. Madison</i>” (Canvas)</li> <li>Bonanno and Nehring, “Agreeing to Disagree: A Survey,” Excerpt (Canvas)</li> <li>Reeves, “The Real Tragedy of Myerson-Satterthwaite” (Canvas)</li> <li><b>Draft I Due</b></li> </ul>	<i>Game Theory 101: 2.1 to 2.5 and 2.7; Myerson-Satterthwaite Explained</i>
Mar 1	Spatial Models I: Bargaining and Conflict	<ul style="list-style-type: none"> <li>Cartwright, “The Nash Bargaining Problem” (Canvas)</li> <li>Morgan, <u>Untying the Knot of War</u>, Chapter 2: “A Spatial Model of Crisis Bargaining” (Canvas)</li> </ul>	



Dates	Topic	Assigned Readings and Due Dates (all to be completed before class)	Videos (Canvas – optional unless otherwise noted)
Mar 8	Spatial Models II: Group Decisions	<ul style="list-style-type: none"> <li>Black, “On the Rationale of Group Decision-making” (Canvas)</li> <li>Krehbiel, “Spatial Models of Legislative Choice” (Canvas)</li> </ul>	
Mar 15	No Class (Spring Break)	<ul style="list-style-type: none"> <li>None</li> </ul>	
Mar 22	Bargaining I: Ultimatums and Bargaining Power	<ul style="list-style-type: none"> <li>Spaniel, <u>Game Theory 101: Bargaining</u>, Chapters 1-5</li> <li><b>Draft II Due</b></li> </ul>	<i>Bargaining 101: Chapter 1-5 Lectures</i>
Mar 29	Bargaining II: Rubinstein Games and Commitment Problems	<ul style="list-style-type: none"> <li>Spaniel, <u>Game Theory 101: Bargaining</u>, Chapters 6-11</li> <li>Walter, <u>Committing to Peace: Successful Settlements of Civil Wars</u>, Chapter 2: “Theory and Hypotheses” (Canvas)</li> </ul>	<i>Bargaining 101: Chapters 6, 7, 9, and 10 Lectures</i>
April 5	Social Choice I: The Collective Action Problem	<ul style="list-style-type: none"> <li>Hindmoor, “Collective Action Problem” (Canvas)</li> <li>Ferguson, “The Basic Economics of Collective Action” (Canvas)</li> <li>Sandler, “‘With a Little Help From My Friends:’ Principles of Collective Action” (Canvas)</li> <li><b>Draft III Due</b></li> </ul>	
April 12	Social Choice II: Impossibility Theorems	<ul style="list-style-type: none"> <li>Morreau, “Arrow’s Theorem” (Canvas)</li> <li>Aldrich, “The Dilemma of a Paretian Liberal: Some Consequences of Sen's Theorem” (Canvas)</li> <li>Patty and Penn, “The Debates Surrounding Social Choice” (Canvas)</li> </ul>	
April 19	Social Choice III: Elections	<ul style="list-style-type: none"> <li>Stone, <u>Candidates and Voters: Ideology, Valence, and Representation in US Elections</u>, Excerpts (Canvas)</li> <li>Kurrild-Klitgaard, “Trump, Condorcet and Borda: Voting Paradoxes in the 2016 Republican Presidential Primaries” (Canvas)</li> </ul>	

Dates	Topic	Assigned Readings and Due Dates (all to be completed before class)	Videos (Canvas – optional unless otherwise noted)
April 26	Alternatives: “Boundedly Rational” Models of Decisionmaking	<ul style="list-style-type: none"> <li>• Shannon, McGee, and Jones, “Bounded Rationality and Cognitive Limits in Political Decision Making” (Canvas)</li> <li>• Vieider and Vis, “Prospect Theory and Political Decision Making” (Canvas)</li> <li>• Mintz, Redd, and Tal-Shir, “The Poliheuristic Theory of Political Decision-Making” (Canvas)</li> <li>• Hilbe and Schmid, “The Evolution of Deliberate Ignorance in Strategic Interaction” (Canvas)</li> <li>• <b>Draft IV Due</b></li> </ul>	
May 2	Rational Choice Models of Politics: An Annual Conference for POLI 4395 Students	<ul style="list-style-type: none"> <li>• <b>Research Presentations Due</b></li> <li>• <b>Final Draft Due</b></li> </ul>	
May 9	Final Exam	<ul style="list-style-type: none"> <li>• Suggested: Final Exam Review Packet</li> </ul>	





**Appendix A: 50 Ideas for Decision-making Paper Topics**

These questions might all be usefully addressed using game theory or spatial models of collective decision-making.

**A. American Politics**

1. When do Presidents choose to go public with policy proposals?
2. When do Presidents decide to use executive agreements in foreign policy rather than treaties?
3. What influence does partisanship have over Presidential veto decisions?
4. When do Presidents use force unilaterally rather than seeking Congressional authorization?
5. What explains the roll-call votes of members of Congress?
6. Why are members of Congress Congressional frequently more ideologically extreme than their own constituents – even co-partisans in the electorate?
7. What causes Congressional gridlock?
8. Do campaign donations change policy?
9. What predicts the votes of Supreme Court Justices, either individually or as a group?
10. What predicts whether the Supreme Court will agree to hear a case?
11. Why so some people bother to vote?
12. What affects the choice of candidates by voters?
13. What effect do political factors have on judicial decisions to uphold convictions, favor the rich, or impose the death penalty?
14. When does the Supreme Court uphold executive agency decisions?
15. Can polarization at the candidate level drive real or apparent polarization among the electorate?

**B. Comparative Politics**

1. Does state strength cause or prevent political violence?
2. What causes – or reverses -- democratization?
3. What causes genocides?
4. What causes civil wars?
5. Why do some civil wars recur?
6. Why do some civil wars end in negotiated settlements while others end only in military victory or stalemate?
7. What explains how much foreign aid a country will give?
8. When do power-sharing agreements work?
9. Why are some countries characterized by more income inequality than others?
10. What causes domestic terrorism?
11. What causes coups d'état?
12. Under which forms of government do we expect leaders to retain office the longest?
13. Does federalism promote peace/development/democratic consolidation?
14. Does resource scarcity or resource abundance promote conflict/autocratization?
15. What leads to more/less respect for human rights by leaders?



### C. International Relations

1. What causes interstate war?
2. Why don't democracies fight each other?
3. Does trade promote international peace?
4. Why do some crises escalate to war while others are resolved short of war?
5. What effects do arms races have on the probability of war?
6. What effect do outside alliances have on the probability of war?
7. When do states honor international agreements, such as human rights treaties or the laws of war?
8. Why are some cease-fires more successful than others?
9. What determines where peacekeepers are sent?
10. What are the political causes of trade?
11. Do international organizations promote peace?
12. What causes nuclear proliferation?
13. Do nuclear weapons produce peace?
14. What counterinsurgency strategies are most effective?
15. Are power-seeking states under international anarchy condemned to fight one another?

### D. Normative Political Theory

1. Which decision-rule would people seeking both their own welfare and stability adopt for determining Rawlsian distributive justice under a veil of ignorance (represented by uncertainty) – maximax, maximin, or minimax regret?
2. Given a particular political theorist's view of the social contract, what determines whether it is honored?
3. Can an expected-utility maximizer with the right preferences always act consistently with the ethical prescriptions of Mill's utilitarianism?
4. How might people overcome the collective action problem of how to enforce natural law/natural rights if they had no government?
5. Under what circumstances is Gauthier's principle of minimax relative concession likely to predict behavior?



## Appendix B: Accessing research articles from home

WarriorQuest can be accessed from home, provided you have your login information (which is the same as your TAMUCT email account). If you are having trouble finding what you want, Google Scholar [<https://scholar.google.com/>] is another good place to begin. If you are working from home, it may be frustrating to be (apparently) unable to access most academic journals, but you can take the following two steps:

1. If you spot an article you cannot access from home, go to the TAMUCT library's web site [<https://tamuct.libguides.com/index>] and click on **Journal Title Search**, type in the journal's name, and see if we have access. You will be prompted to log in to our library's journal title search engine; this process is the same as logging into your TAMUCT email account. Then you can click through to the journal, paying attention to the year, volume, and issue number of the article to find what you need.
2. For some journals, there is a quicker method. It doesn't work with all library-accessible resources, but it works with perhaps half of them.
  - a. Create a new bookmark in your browser. Name it what you want – I named mine "Access through TAMUCT." For the address, type in the following line of text:  
`javascript:void(location.href="https://tamuct.idm.oclc.org/login?url="+location.href)`
  - b. When you click on an article that won't let you access it, try clicking the bookmark. This will route the request through TAMUCT's servers, often granting you access. Once again, you will have to log in as prompted by TAMUCT using the same credentials as your TAMUCT email.
  - c. If the bookmark doesn't work, just use step 1 to access the material.

**Appendix C: Weekly Worksheets for POLI 4395/5301**

POLI 4395/5301

Name \_\_\_\_\_

Worksheet on Decision Theory I

1. You have a dollar in your pocket. Draw a *decision matrix* for the decision on whether to buy a randomly-numbered lottery ticket (the exact probability of winning is not needed to correctly answer this question). Imagine that the ticket is one dollar and the payout is one million dollars. You do not need to “solve” the matrix (i.e. you don’t need to decide whether to buy the ticket); I just want to see you *represent* the problem using a table of states of nature (aka states of the world) and choices.

2. Provide the minimax regret solution (see Hansson, 61-62) for the following decision problem under uncertainty. Which policy is selected? Don’t forget to make the regret matrix as instructed by Hansson.

	State of the World 1	State of the World 2	State of the World 3	State of the World 4
Policy 1	1	5	0	2
Policy 2	2	7	5	5
Policy 3	4	4	5	1
Policy 4	5	6	1	3
Policy 5	6	2	3	2
Policy 6	9	1	4	1

Regret Matrix:

	State of the World 1	State of the World 2	State of the World 3	State of the World 4
Policy 1				
Policy 2				
Policy 3				
Policy 4				
Policy 5				
Policy 6				



3. Use leximin (that is, maximin that breaks ties by progressively examining the value of the next-worst outcome of tied “best worst” outcomes) to solve the same decision problem:

	State of the World 1	State of the World 2	State of the World 3	State of the World 4
Policy 1	1	5	0	2
Policy 2	2	7	5	5
Policy 3	4	4	5	1
Policy 4	5	6	1	3
Policy 5	6	2	3	2
Policy 6	9	1	4	1

4. One criticism of maximin is embodied in the following decision matrix. Which choice is recommended by maximin when  $n = 2$ ? Does that choice seem like a reasonable one?

	State of the World 1	State of the World 2
<b>Policy 1</b>	0	n
<b>Policy 2</b>	1/n	1

5. What if  $n = 1,000,000$ ? What choice does maximin recommend? Does that choice seem like a reasonable one?



1-6. List the six assumptions of expected utility theory in Davis. Assess the plausibility of each as a description of human thought or behavior.

7. Complete Exercise 2.1 from Morrow. Show your work.



8. See Exercise 2.4 in Morrow. Part (a) asks for a utility function, but you only need to establish the values of  $u[C_1]$ ,  $u[C_2]$ ,  $u[C_3]$ , and  $u[C_4]$ . You don't need to write the results as a function. Once you solve (a), solving (b) should be easy.

(a)

$u[C_1]=$

$u[C_2]=$

$u[C_3]=$

$u[C_4]=$

(b)

$u[L_1]=$

$u[L_2]=$

Which lottery is preferred, according to expected utility theory?



**Introduction:** A game in normal (or strategic) form usually looks like this:

	Strategy 1'	Strategy 2'
Strategy 1	Player 1 payoff, Player 2 payoff	Player 1 payoff, Player 2 payoff
Strategy 2	Player 1 payoff, Player 2 payoff	Player 1 payoff, Player 2 payoff

Note that the players are often referred to as R (the row player – by convention called Player 1) and C (the column player – by convention called Player 2). The payoffs are therefore listed as “row player, column player” – the first number represents what Player 1 gets and the number after the comma represents what Player 2 gets. Sometimes, the payoffs are represented as numbers in the lower left (Player 1 or Row Player) and upper-right (Player 2 or column player):

	Strategy 1'	Strategy 2'
Strategy 1	Player 1 payoff Player 2 payoff	Player 1 payoff Player 2 payoff
Strategy 2	Player 1 payoff Player 2 payoff	Player 1 payoff Player 2 payoff

The payoffs may represent either ordinal or cardinal utilities. Remember the rules of utility theory, which bar the interpersonal comparison of utility. The players are not trying to “get more utility” *than the other players*; rather, they are only attempting to maximize their own utility.

**Instructions:** This homework exercise asks you to “solve” a game using two different solution methods. Solving the game means eliminating possible outcomes until as few as possible remain. There may be zero, one, or many outcomes that remain after application of a given principle. The game is identical in each case; I’ve provided three copies of it.

1. Solve with iterated dominance (aka Successive Elimination of Strongly Dominated Strategies). Simply draw a line through each strongly dominated strategy and put a number next to the line (1, 2, 3, 4, 5, etc.) so I can see the sequence in which strategies were eliminated. Circle any outcomes which remain after this process.

	Strategy A'	Strategy B'	Strategy C'	Strategy D'	Strategy E'
Strategy A	1, 1	15, -2	5, -1	-3, 5	3, 3
Strategy B	3, 5	-2, 0	10, 4	15, -4	2, 3
Strategy C	1, 10	10, 2	6, 3	10, 5	0, 8
Strategy D	0, 3	1, 1	5, 5	4, 2	6, 4
Strategy E	2, 3	3, 7	8, 8	2, 3	4, 5
Strategy F	1, 5	2, -1	7, 0	0, 0	3, 1



2. Circle any Nash Equilibria which result from pure strategies. Mark each player's best response to each strategy that exists for the other player, e.g. using an asterisk or other symbol next to that player's payoff.

	Strategy A'	Strategy B'	Strategy C'	Strategy D'	Strategy E'
Strategy A	1, 1	15, -2	5, -1	-3, 5	3, 3
Strategy B	3, 5	-2, 0	10, 4	15, -4	2, 3
Strategy C	1, 10	10, 2	6, 3	10, 5	0, 8
Strategy D	0, 3	1, 1	5, 5	4, 2	6, 4
Strategy E	2, 3	3, 7	8, 8	2, 3	4, 5
Strategy F	1, 5	2, -1	7, 0	0, 0	3, 1

3. 2x2 games in normal form are named by the *preference ordering* for each player over their outcomes. The names of the strategies don't determine the name of the game. What game is this?

	Strategy 1*	Strategy 2*
Strategy 1	30, 30	0, 20
Strategy 2	20, 0	10, 10

4. Model the Hobbesian state of nature with a simple 2x2 game representing the interaction of two players under anarchy. Their strategies are to honor agreements or break them whenever it is convenient. Think about what happens to each player under each combination of strategies.

		Player 2	
Player 1			
		,	,
		,	,



In the game of football, one team at a time plays offense while the other team plays defense. The team on offense has two types of strategy open to it – running the ball, which has a high probability of gaining some ground (yardage), or passing the ball, which is less likely to succeed but usually offers more yardage if it does. As for the defense, they have the option to prepare a defense against an offensive run play or to prepare a defense better-suited to stop an offensive pass play. Some hypothetical average payoffs could be the following:

		Defense	
		Block the Run	Block the Pass
Offense	Run the Ball	0,0	5,-5
	Pass the Ball	10,-10	0,0

1. Mark any pure strategy Nash equilibria of the game. How many are there? \_\_\_\_\_
2. Now identify the mixed strategy Nash equilibrium of the game. This means solving for the probabilities that the offense plays Run the Ball ( $p$ ), the probability it Passes the Ball ( $1-p$ ), the probability the defense Blocks the Run ( $q$ ) and the probability that the defense Blocks the Pass ( $1-q$ ). Try to follow along with the following steps:

Write the expected utility for the Offense of choosing Run the Ball given  $q$  and  $1-q$  (the values of which are still unknown at this point).

$$EU_{\text{Off}}(\text{Run}) =$$

Write the expected utility for the Offense of choosing Pass the Ball given  $q$  and  $1-q$ ,

$$EU_{\text{Off}}(\text{Pass}) =$$

Write the expected utility for the Defense of choosing Block the Run given  $p$  and  $1-p$ .

$$EU_{\text{Def}}(\text{Run Block}) =$$

Write the expected utility for the Defense choosing Block the Pass given  $p$  and  $1-p$ .

$$EU_{\text{Def}}(\text{Pass Block}) =$$

Now set Player 2's (Defense) expected utilities (given  $p$  and  $1-p$ ) equal to each other. That is, substitute in the two utility functions immediately above for the following:

$$EU_{\text{Def}}(\text{Run Block}) = EU_{\text{Def}}(\text{Pass Block})$$



Now use the equation you wrote above to solve for p.

$$p = \underline{\hspace{2cm}} \quad 1-p = \underline{\hspace{2cm}}$$

Now set Player 1's (Offense) expected utilities to be equal to each other given q and 1-q. Substitute in the utility functions on the first page for the following:

$$EU_{\text{Off}}(\text{Run}) = EU_{\text{Off}}(\text{Pass})$$

Now use the equation you wrote above to solve for q.

$$q = \underline{\hspace{2cm}} \quad 1-q = \underline{\hspace{2cm}}$$

So the Offense Runs with probability  $\underline{\hspace{2cm}}$  and Passes with probability  $\underline{\hspace{2cm}}$ , while the

Defense Blocks the Run with probability  $\underline{\hspace{2cm}}$  and Blocks the Pass with probability  $\underline{\hspace{2cm}}$ .



3. Now suppose that a team acquires an excellent running back, so that successful runs pay off much better than previously:

		Defense	
		Block the Run	Block the Pass
Offense	Run the Ball	0,0	<b>8,-8</b>
	Pass the Ball	10,-10	0,0

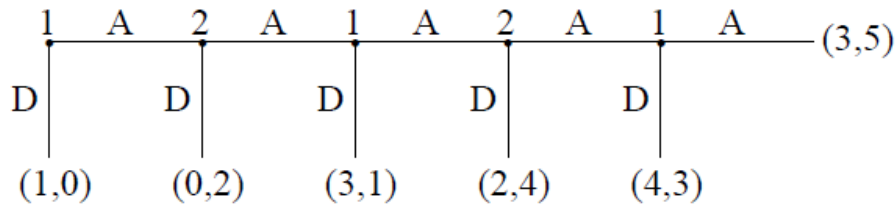
Find the mixed strategy equilibrium as in Question 2 (follow the same steps). Attach a sheet with your work.

4. Does the team that acquired a better running back for its offense in Question 3 run the ball more or less than it did in Question 2?
5. What is required for mutual cooperation to be a possible equilibrium in a Prisoners' Dilemma game?
6. Why did Tit-for-Tat outperform other strategies in Axelrod's tournament of Prisoners' Dilemma games?



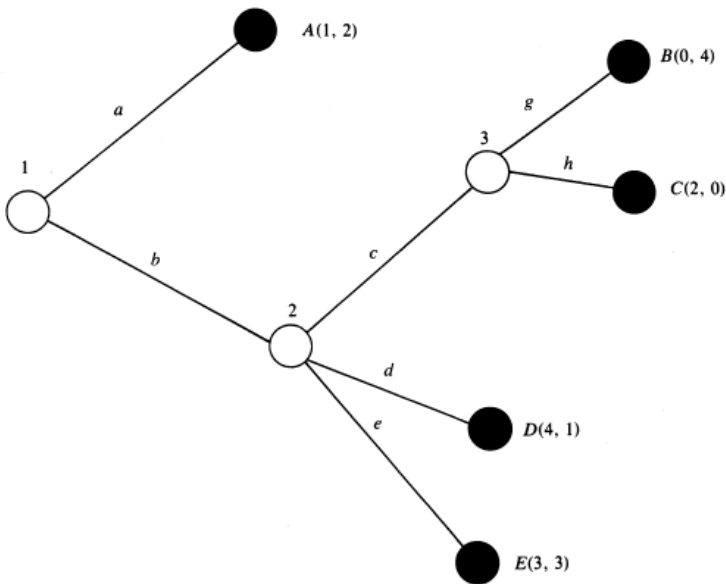


- Find the subgame-perfect equilibrium (SPE) for the following game through backwards induction. What, if anything, is odd about the SPE outcome?



- Solve Clinton's Marshall-Jefferson game using backward induction. Was the historical outcome a subgame perfect equilibrium?

Figure 1



- 1 = Jefferson's move.
- 2 = Marshall's move.
- 3 = Jefferson's move.
- = denotes an endpoint of tree.

Note: Lowercase letters indicate choices (described in text); uppercase letters denote outcomes (described in Table 1).

- What is Aumann's Agreement Theorem?

4. What is the Myerson-Satterthwaite Theorem, and how might it explain the existence of conflict between rational actors?



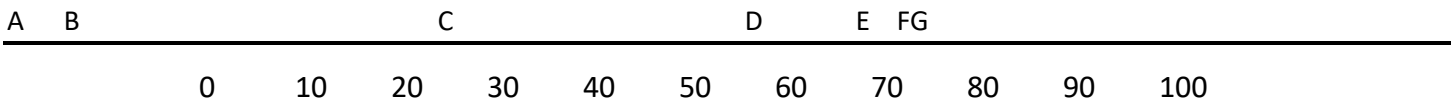
1. What is the Nash *bargaining solution* (which is different from a Nash Equilibrium in game theory)? That is, how do we *identify* the point that specifies how much expected utility each bargainer receives, given the risk orientation of each side and that the assumptions of the Nash bargaining problem are met?
2. How is war represented in Morgan's model? What is one criticism of this approach to the causes of war?
3. How is resolve represented in Morgan's model?



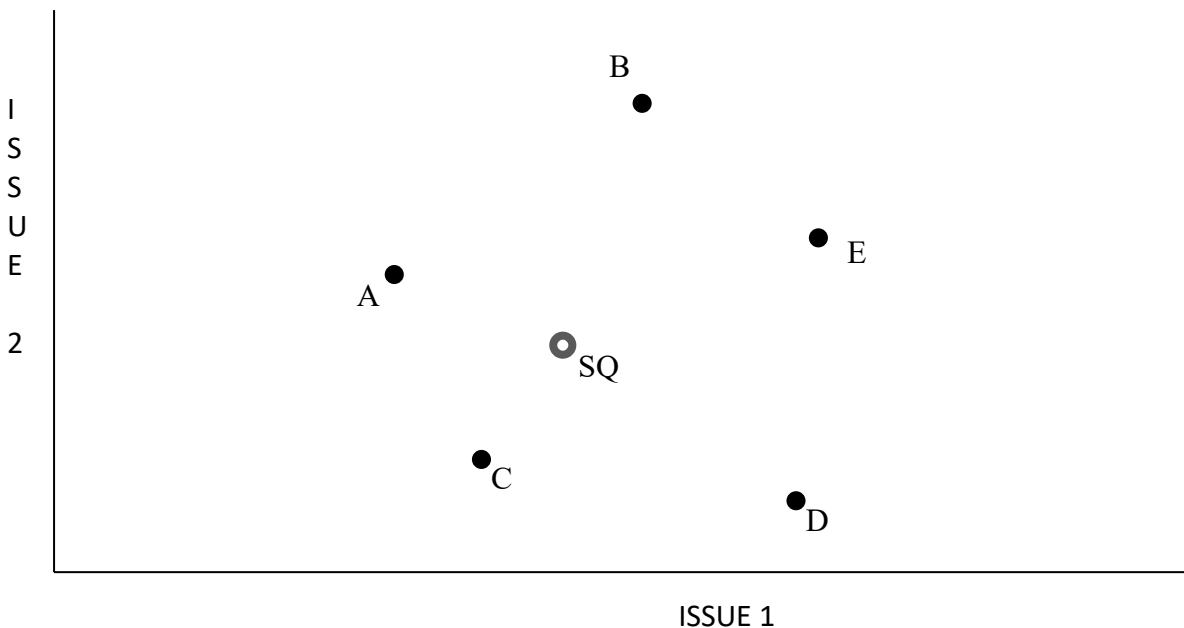




- Identify the policy chosen (by *approximate number*, **not** letter) in the following case, assuming that single-peaked preferences and all other assumptions of the median voter theorem apply. A-G are policymakers' ideal points and the numbers represent different policies along a continuum, from no action (0) to radical action (100).



- Using indifference curves for each voter, show that some new policy (mark it as P) can be reached from initial policy SQ through majority vote, given single-peaked, monotonic, and circular indifference curves for each voter. Note that P and SQ are policies, not voters. A, B, C, D, and E are the voters.

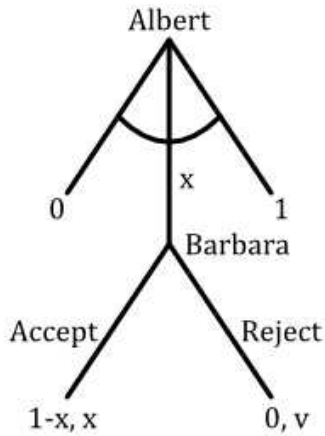


- How can proposal power be more powerful than the actual ability to cast a vote?

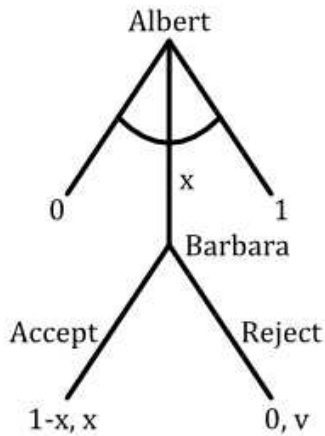




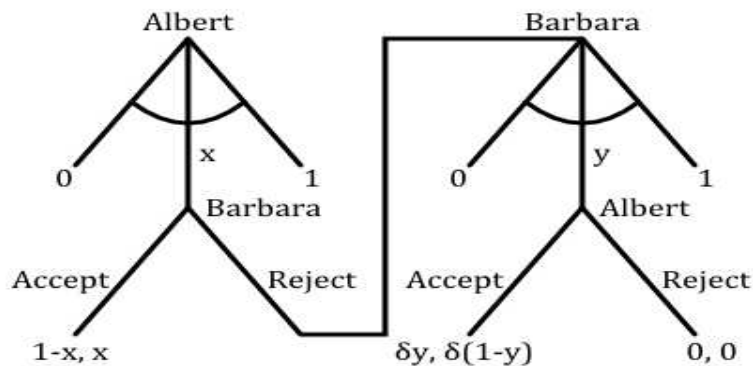
1. Solve for  $x$ , assuming that  $v=0$  and indifferent players accept offers.



2. Solve for  $x$  where  $v = 0.8$  and indifferent players accept offers.



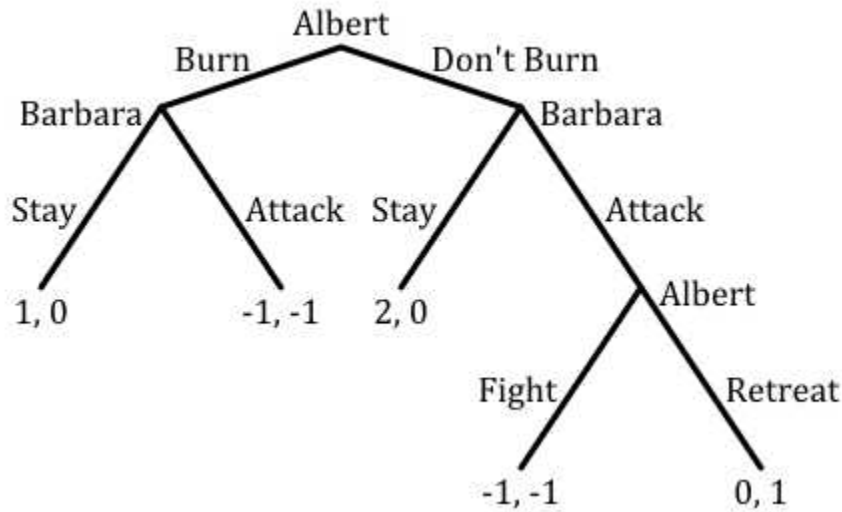
Here is a two-stage ultimatum game with a discount factor ( $0 > \delta > 1$ ), multiplicatively applied to each player's payoff after each round of bargaining after the first. Again, assume players accept when indifferent.



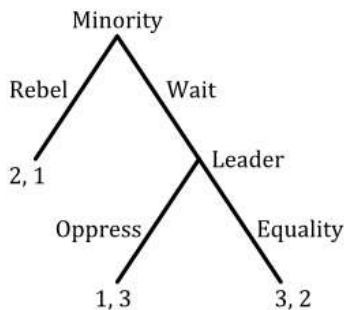
3. What is the subgame perfect equilibrium of the game?
  
4. What is the optimal offer for Player 1?



- Should one burn one's own bridges to prevent one's forces from retreating? What is the choice Albert makes in the first node under the subgame perfect equilibrium of the following game?



- What makes Albert's threat to fight credible?
- Imagine a new state becomes independent, with a leader of the majority group and a minority group that worries about being oppressed by the new majoritarian government. Further, assume that as the government consolidates its new authority, it becomes harder (in this case impossible) to challenge in armed rebellion. Should the minority rebel now or wait to see if they'll be oppressed once leadership is consolidated?



- What reduces the first mover advantage in Rubinstein bargaining?



5. Find the Subgame Perfect Equilibrium/Equilibria of Walter's basic model (Figure 2.1). Bear in mind that she doesn't say what happens when players are indifferent, so there may be many subgame-perfect equilibria. Once you have the payoffs for the Phase 3 subgame written down, just use normal form to find the Nash Equilibrium (there is only one) in pure strategies. Knowing the equilibrium payoffs of Phase 3 then allows you to solve Phases 1 and 2 by backwards induction.

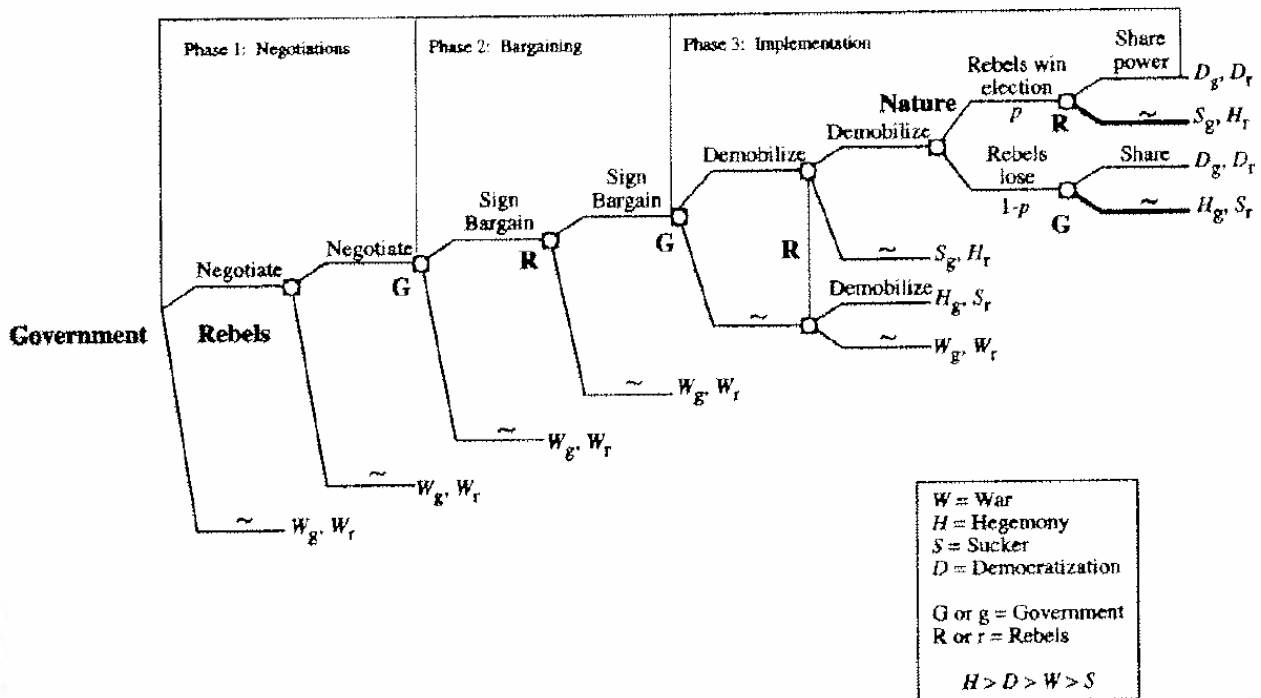


Fig. 2.1. Basic model

		Rebels	
		Demobilize	Don't Demobilize
Government	Demobilize		
	Don't Demobilize		



Under what conditions is the public good of “safety to walk the streets at night” provided, given the following information? The neighborhood has  $p$  potential participants  $P \{P_1, P_2, P_3, \dots, P_n\}$  in crime-fighting efforts.

**Participation carries a cost of  $c$  for each member that participates.** Safe streets provide a safety benefit of  $b$  for everyone, participants (P) and non-participants (N) alike. The amount of *safety* ( $b$ ) provided is given by the following equation

$$b = f + s \left( \frac{n}{x} \right)$$

or the minimal benefit provided by police ( $f$ ) plus the benefit of an effective neighborhood watch ( $s$ ) times the number of participants in it ( $n$ ) as a proportion of possible participants ( $x$ ). In other words, every person’s contribution matters by the same amount.

1. Write the expected utility for person  $P_i$  if he/she participates in the watch:

$EU_{P_i}[\text{Participate}] =$

2. Write the expected utility for person  $P_i$  if he/she does not participate in the watch:

$EU_{P_i}[\text{Do Not Participate}] =$

3. Now construct an inequality which, if true, means that a person chooses to participate. Assume that a person only participates if the expected utility of participation is greater than the expected utility of nonparticipation. Then simplify both sides as much as you can after writing the initial inequality.

4. Using your inequality from 3 above, does increasing the population of the community ( $x$ ) make the inequality more likely to be true or more likely to be false?







1-6. List Arrow's five assumptions (conditions), and how empirically plausible (i.e. it accurately describes reality) and normative desirability (i.e. a legitimate political process should meet this condition) of each?

Assumption 1:  
Empirical Plausibility:

Normative Desirability:

Assumption 2:  
Empirical Plausibility:

Normative Desirability:

Assumption 3:  
Empirical Plausibility:

Normative Desirability:

Assumption 4:  
Empirical Plausibility:

Normative Desirability:

Assumption 5:  
Empirical Plausibility:

Normative Desirability:



4. What is the “dilemma” faced by a Paretian liberal?
  
5. What does it mean for a choice function to be “strategy-proof,” in the Gibbard-Satterthwaite approach?
  
6. Summarize the core finding of the Gibbard-Satterthwaite Theorem. What is “impossible?”
  
7. What is Riker’s response to the idea of a “popular will” that makes democracy desirable?
  
8. What is Mackie’s primary argument against Arrow (and, by extension, Riker)?
  
9. **Extra Credit (up to 10 points):** Show that the following voting system violates one or more assumptions (conditions) of Arrow’s Theorem. An election with at least three candidates is held and the top two vote-getters then engage in a runoff election. For simplicity, assume that no voter is indifferent between any two candidates. *Hint: Start by using Unrestricted Domain to come up with rational preference rankings for the voters that result in a social preference ranking that violates one of Arrow’s other assumptions. I used 100 voters, divided into groups/blocs by their preferences, to illustrate this violation.*



1. What is the proximity rule of voter choice (in English, not just the equation)?
2. How do valence issues differ from position issues?
3. What is the valence rule of voter choice (in English, not just the equation)?
4. How does Stone define or identify “correct voting?”
5. What hypothesis is Stone’s alternative to the Leeway Hypothesis?



6. Which 2016 Republican Presidential hopeful would probably have defeated Trump in a pairwise comparison, but ended up losing the nomination to Trump because of the plurality-winner system used in the primaries?





6. In prospect theory, what is a weighting function?

7. China has done something that President Biden doesn't like and he needs to decide on a policy response. His advisers hand him reports on the likely diplomatic, economic, military, and domestic consequences of each proposed policy, as follows (higher numbers mean better consequences). Use poliheuristic theory to show how he might approach the problem. There are multiple correct answers to this question, but there are also incorrect answers. Be sure to use the two-phase method described by poliheuristic theory.

	Diplomatic Consequences	Economic Consequences	Military Consequences	Domestic Political Consequences
Policy 1	1	7	5	0
Policy 2	1	5	6	5
Policy 3	5	4	0	0
Policy 4	0	4	2	5
Policy 5	5	2	1	0
Policy 6	6	1	4	5

8. Hilbe and Schmid focus most of their chapter on which *two* mechanisms for how strategic ignorance can emerge?

