

Interdisciplinary Studies 301, Math and Politics
Spring 2015 Semester

Tuesday and Thursday, 1100-1215

Course Website: <http://bb.siue.edu>

Class Location: 3417 Peck Hall

Professor: Dr. Ken Moffett
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Professor: Dr. Adam Weyhaupt
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Office Hours (Dr. Moffett): Tuesday and Thursday, 1230-1400; and by appointment.

Office Hours (Dr. Weyhaupt): Tuesday and Thursday, 9:30am – 10:50am and by appointment.

Prerequisites: Four years of high school mathematics or permission of the instructors

Course Description: The purpose of this course is to illustrate the degree of interconnectedness between two seemingly disconnected disciplines: mathematics and political science. Toward this end, we will investigate a series of topics that demonstrate how math can be used to provide insights about politics. We will explore different types of social choice procedures, learn about theories of collective choice, use these theories to provide insights about different types of voting systems, and discuss the problems of fairness and allocating representation. By the end of the course, students will develop an appreciation for different routes by which democratic societies arrive at outcomes.

Assigned Text: This book is available at Textbook Rental.

Taylor, Alan D. and Allison M. Pacelli 2008. *Mathematics and Politics: Strategy, Voting, Power and Proof*. Second Edition. New York City, New York: Springer-Verlag Publishing.

Learning Objectives: By the end of the course, students will be able to:

- 1) Identify and distinguish between different social choice procedures and the designs of varying yes-no voting systems;
- 2) Recognize the different ways in which representation and other goods can be allocated, including the strengths and weaknesses associated with each;
- 3) Utilize Microsoft Excel to perform computations and quantitatively analyze data;
- 4) Communicate research findings in writing to broader audiences by making arguments grounded in facts and logic; and
- 5) Appreciate the disciplinary differences and similarities between mathematics and political science, especially when it comes to analyzing political topics.

Course Requirements: We will determine your grade based on a series of homework assignments, and a *comprehensive* final examination.

Assignment One	130 points
Assignments Two and Three (80 points each)	160 points
Midterm Examination	110 points
Final Examination	150 points
Total	<u>550 points</u>

You are expected to do all of the assigned readings and assignments before each class starts and be ready to actively contribute to classroom discussions. It is vital that you keep up in this class because much of the material builds upon that which you have previously learned and can be technically and mathematically demanding. It is impossible to do your assignments and readings at the last minute, or immediately before any exam and expect to do well in this class. A good grade in this course is unattainable if you do not regularly attend class.

Grading Policy: We will use the following cutoffs to determine letter grades: 90% and above, A; 80-89%, B; 70-79%, C; 60-69%, D; and 60% and below, F. All students who have completed thirteen weeks of the course and do not satisfy the requirements for the grades of “NS,” “WR,” “I,” “UW,” or “WP” will receive one of the aforementioned letter grades for their performance in the class.

“NS” or “no show” grades will only be assigned if a student: 1) was never in class during the semester; or 2) attended class on the first day, but at no point thereafter.

“WR” (or “withdrawal by registrar”) grades will only be assigned if all of the following criteria are satisfied: 1) a student ceases attendance and participation in the course at some point during the semester; 2) the student, his or her designee, or the Dean of Students (or his/her designee) notifies one or both of us *prior* to the end of the semester of mitigating circumstances that are beyond the student’s direct control; and 3) these circumstances exist such that a grade of “I” (or “Incomplete”) is not an appropriate option. We reserve the right to require appropriate documentation of mitigating circumstances prior to issuing a grade of “WR.” Students who do not produce this documentation, when requested, will receive a grade of “UW.” We reserve full discretion to determine whether the mitigating circumstances are sufficient to warrant the WR grade.

A grade of “I” (or “Incomplete”) will only be assigned if a student has completed, “...most of the work required for a class but is prevented by a medical or similar emergency from completing a small portion of the course requirements” (SIUE Grading Policy 2012, available at <http://www.siu.edu/registrar/class/grading.shtml>). Before the grade of incomplete is assigned, we require all of the following: 1) the student has completed at least 50% of the course requirements; 2) s/he has received a grade of at least 60% on all tests/quizzes and assigned homework problems at the time of the request; 3) appropriate written documentation of the circumstances surrounding a request for a grade of “I;” 4) s/he meets with one or both of us to determine the timeframe in which the remaining requirements will be satisfied; and 5) s/he signs

a written agreement agreeing to this timeframe. Copies of this agreement will be forwarded to the Registrar and to the Chairs of the Departments of Political Science and Mathematics and Statistics. Students who do not meet all of these requirements will not be eligible for this grade.

A grade of “UW” (or “unauthorized withdrawal”) will be assigned if both conditions are satisfied: 1) the student has attended more than one day of the course, but stopped attending prior to the end of the thirteenth week of the semester; and 2) s/he did not withdraw from the course prior to the end of the thirteenth week of the semester.

Finally, Mathematics and Statistics Department policy states that, "the Grade 'WP' can be given only when a student has at least 60% on all tests, quizzes and assigned homework problems at the time of withdrawal."

Assignments: There will be three assignments throughout the semester. These assignments may require you to use a spreadsheet, perform computations, and analyze phenomena in light of what you have learned in class.

Due dates are listed with each assignment. Details of the assignments will be posted on the course website, and will be discussed in class at the same time that we formally "assign" an assignment.

Late assignments are accepted with a substantial penalty. The number of lost points is calculated as follows: ten points for one calendar day (or any fraction thereof) late; 15 points for the second calendar day (or any fraction thereof) late, 20 points for the third calendar day (or any fraction thereof) late, and so on. Using this formula, you will lose 45 points for an assignment that you submit three days late. You will continue to lose points until you have no points remaining for that assignment. Students are exempt from the aforementioned policy if submitting the assignment late was due to university-authorized reasons.

Exams: Your exams will consist of short essays and problems. If you need to reschedule an exam for *any* reason, you need to notify us prior to the start of that exam. Generally speaking, students who arrive late for an in-class exam are not allowed to take that test once another student has finished it. We will *only* reschedule exams for university-authorized reasons.

Extra Credit: We reserve the right to assign small extra credit assignments throughout the course.

Lecture Topics and Reading Assignments:

Topic One: Course Introduction

No Reading

Topic Two: Introduction to Social Choice Theory and More on Social Choice

Taylor and Pacelli, Chapters One and Seven

Social Choice Procedures Podcasts (Moffett-First; Weyhaupt-Second)

Tabarros, Alexander and Lee Spector 1999. "Would the Borda Count have Avoided the Civil War?" *Journal of Theoretical Politics* 11(2): 261-288.

Assignment One Podcast and Videos

Assignment One Due: February 19

Midterm Examination: March 5

March 10 & 12: No Class. Enjoy Spring Break!

Topic Three: Yes-No Voting

Assignment Two Due: April 2

Taylor and Pacelli, Chapter Two

Topic Four: Fairness and Apportionment

Taylor and Pacelli, Chapter Five

Assignment Two Due: April 23

Topic Five: Other Topics as Time Permits

Readings to be Announced

Final Examination: Monday, May 4, 1000-1140

Classroom Policies and Procedures:

Academic Misconduct: Students are responsible for knowing when and learning how to cite material using the *Chicago Manual of Style* for all assignments and the final examination. A student is expected to appropriately cite whenever s/he uses content or ideas that come from a source other than oneself. This expectation includes anything that comes from class notes, PowerPoint slides, or the course website, as these materials are the instructors' intellectual property. For more information, please refer to the Plagiarism Frequently Asked Questions handout at the end of this document.

The *Chicago Manual of Style* is the only accepted method of citing material in this course. Failure to abide by course or university policies with respect to academic integrity may constitute cheating and/or plagiarism.

We have zero tolerance for cheating and plagiarism and will deal with every instance to the maximum extent allowed by university policies and procedures. Normally, this means that someone who cheats and/or plagiarizes will fail the course and be reported to the Provost for additional disciplinary action.

Assignment Redo Policy: Students may redo their assignments, provided that they have submitted one to us in the first place. Otherwise, students are not allowed to redo an assignment.

If a student redoes an assignment that was originally submitted late, resubmitting the assignment does not eliminate the lateness penalties placed on the original assignment.

If a student decides to redo an assignment, s/he has one week from the day that we returned the assignment to the class to submit a *completed*, revised assignment *and* a memorandum. This memorandum must be written on a separate piece of paper than the redone assignment, must clearly state the revisions that have been made to the original assignment, and cannot be longer than one page.

If a student decides to redo an assignment, we will regrade the *entire* assignment, and assign a new score. Assuming that the assignment receives a higher grade, we will increase the grade on the assignment by ½ of the difference in points between what was earned on the original and revised assignments. If the assignment receives a lower or the same grade, then the original attempt stands. We do not accept late assignments when a student redoes them, nor do we accept redone assignments without the memorandum attached to the redone assignment.

Cellular Phones, Pagers and Similar Electronic Devices: Please turn these off before the start of this course as they distract us and your classmates. If one has an emergency that necessitates using one or more of these devices during class time, please talk to us before class starts. Finally, students are asked to refrain from using electronic devices to send text messages during class time as such conduct disrespects us and your classmates.

Collaborative Work: When completing your assignments, you are encouraged to work with your fellow classmates. If you collaborated with any student on an assignment, you need to tell us who you worked with at the top of the first page. Students are required to submit their own copy of the assignment that differs from the work of the rest of the group. Failure to abide by these requirements may constitute evidence of academic misconduct and will be handled accordingly.

E-Mail Expectations: Students are expected to regularly check their SIUE e-mail accounts, as important information about the course is disseminated in this fashion. If you e-mail your professors about the course, please send that e-mail to both of us, as this is likely to provide a better, more timely response to your concerns.

E-Mail Hours: We respond to student e-mails within 24 hours of the time and date that they were sent. If you do not receive a reply within this time frame, please follow-up with us.

E-Mail Limitations: We will not respond to any e-mails related to the contents of an exam on the same day as any test, nor do we provide an answer via e-mail to questions about expected grades in this course. Federal privacy laws and university policies do not allow us to e-mail any information about your grade in the class to you.

Leaving Early: If you must leave early for any reason, please notify us before class starts as doing so is much appreciated.

Sexual Harassment: We do not tolerate any such conduct as it is prohibited by law in addition to university policies and procedures. For more information, please see Southern Illinois University's Policy on Sexual Harassment (at <http://www.siu.edu/policies/2c5.shtml>).

Student Conduct: Pursuant to university policies and procedures, We reserve the right to remove from class, reduce the course grade, and/or assign an "F" for the course to any student who defies directions from the instructor and/or commits behaviors that manifest a lack of respect for others or their learning objectives during class. Examples of such behaviors include, but are not limited to, disrespectful, hostile, racist, disruptive, or demeaning behavior during class. For a more complete discussion of what constitutes such behavior, please refer to the Cougar Creed (at <http://www.siu.edu/parents/cougar-creed.shtml>), Student Conduct Code (at <http://www.siu.edu/policies/3c1.shtml>), and the Student Academic Code (at <http://www.siu.edu/policies/3c2.shtml>).

Students with Disabilities: Students who need special academic accommodations and have documented disabilities should make an appointment with one or both of us to discuss these accommodations. At this appointment, you need to display an identification card from Disability Support Services (DSS) that lists the accommodations that you need. If you need accommodations that are not listed on the DSS Identification Card, please contact one or both of us and the DSS office as soon as possible so that appropriate arrangements can be made.

User-Edited Websites: Students are not allowed to use any user-edited, mirror, information aggregating, or social networking websites as a source on any assignment or examination. Examples of such sources include, but are not limited to, Answers.com, Congresspedia, Diffen.com, Facebook, LinkedIn, and Wikipedia. Students are responsible for knowing whether an internet-based resource is prohibited under this policy, and are strongly encouraged to ask about any specific website that might fall under the auspices of this policy. Any student who uses such sources will receive a zero on that assignment and/or examination, if s/he cites the material in question.

Final Considerations

The schedule laid out in this document is tentative. Accordingly, we reserve the right to modify the syllabus and will post any changes on the course website. You are responsible for all of the information presented in this document, and anything discussed during class, on the course website, as well as, any podcasts or videos that are posted to the course website. If you have any questions or concerns about anything in this class, please see one or both of us as soon as possible. We can more easily resolve such matters sooner rather than later.

Agreement to Abide By Classroom Policies and Procedures

I, _____, agree to abide by the classroom policies and procedures as presented in the syllabus and the Plagiarism Frequently Asked Questions handout for Interdisciplinary Studies 301 for the Spring 2015 semester. I realize that my failure to abide by these rules could result in being removed from the course, a reduction in my course grade, an “F” for the course, or other appropriate penalties.

Signature

Date