

INTA 6003: EMPIRICAL METHODS

FALL 2016

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Office Hours: Monday 2pm-3pm, or by appointment

Class Location and Time: IAC G17, 6:05pm to 8:55pm

I. Introduction

This course will provide an introduction to the application of scientific methods to the study of international affairs, broadly construed. In it, you will learn the purposes of social science, and what distinguishes a scientific approach to social phenomena from other approaches. You will learn how to properly formulate research questions and will gain exposure to the most widely used social science methods used to answer these questions. Moreover, since social science research can be an important input into the policy design process, the primary aim of this course is to help you understand, interpret and critique a wide range of social science research relating to international affairs. You will also practice your written and oral communication skills, and in particular, will hone your skills in communicating social scientific research to wide variety of audiences. You will be graded on homeworks, quizzes, discussion, presentations, in-class exercises and short written assignments.

II. Brief Course Calendar

<i>Wednesday</i>		<i>MAJOR ASSIGNMENT DUE THIS WEEK*</i>
1	Aug 24: Introduction/What is Politics	
2	Aug 31: What is Science?	HW#1 (Research Question Exercise)
3	Sept 7: What is Methodology?	HW#2 (Literature Review)
4	Sept 14: Measurement +Descriptive Inf.	Quiz 1 + HW#3 (Spurious Correlation Exercise)
5	Sept 21: Basic Probability+Statistics	HW#4 (Non-Expert Summary)
6	Sept 28: Regression Analysis I	Quiz 2 +Article Selection Due Via Email at 12 noon
7	Oct 5: Data Visualization	
8	Oct 12: Regression Analysis II	Presentations
9	Oct 19 Logit/Probit	Quiz 3 +Presentations
10	Oct 26: Social Network Analysis	HW#5+Presentations
11	Nov 2: Qualitative Methods	Presentations
12	Nov 9: Data Analysis with STATA	Quiz 4 +Presentations
13	Nov 16: Geospatial Analysis	Presentations
14	Nov 23: NO CLASS	
15	Nov 30: Wrap-Up	Quiz 5 + Group Presentations

*Additional assignments may not appear on this list, but are described in the course schedule below. You will also complete assignments in class that will be included in your participation grade.

III. Required Course Materials

A) Keohane, King, and Verba 1994. *Designing Social Inquiry* (Princeton Univ. Press). Henceforth referred to as “KKV” in the syllabus below.

B) Michael S Lewis-Beck. 1980. *Applied Regression: An Introduction* (Sage Publications) booklet #22

C) Mohr, Lawrence. 1990. *Understanding Significance Testing* #73 (Sage Publications)

IV. Course Objectives

A major goal of this course is to train students on how to understand, critique, and synthesize the scholarly literature on international affairs, and to interpret and communicate this research to non-experts.

By the end of this course students should be able to:

- A. Understand what makes a claim scientific, as well as the philosophical foundations of science and its critiques.
- B. Understand how, why, and in what ways science and scientific approaches are (and are not) useful
- C. Recognize and formulate a proper social science research question
- D. Apply the logic of causation and causal inference in the course of understanding and critiquing social science research
- E. Apply concepts relating to measurement and operationalization in the course of understanding and critiquing social science research
- F. Understand the logic behind the major methods used to answer social science research questions
- G. Read and interpret basic regression tables, and read and interpret qualitative research

V. In-Class Conduct

- Students are responsible for all materials, discussions, comments, etc. covered in class and for any exercises assigned to be completed in class (i.e. don't miss class, it may affect your grade).
- Students who arrive late to, or leave early from, class should do so with minimum disturbance.
- Students who eat/drink during class are required to do so with minimum disturbance, and to thoroughly clean up afterwards.
- All cellphones and other telecommunications devices are to be switched off during class. If your use of such devices proves distracting to the classroom environment, you may be asked to leave the class.
- Students will treat each other and the professor with respect. Constructive questioning and criticism are welcome & encouraged. Personal attacks & insults are not. The rule of thumb here is that critical comments and questions should be maturely **phrased in a manner that encourages constructive and open debate**; they should not be phrased as insults, threats, or in a manner that shuts down conversation or debate.
- Students are expected to read and abide by the Georgia Tech Student Code of Conduct and the Academic Honor Code. All violations will be reported. See <http://www.catalog.gatech.edu/rules/22/> for an articulation of some basic expectations – that you can have of me, and that I have of you.

VI. Policy on Absences

Absences for medical or personal emergencies will be excused upon verification by the Office of the Dean of Student Life. Absences due to participation in Institute activities including school athletics will be excused upon verification by the registrar. Absences due to military service will be handled on a case-by-case basis and subject to verification. Absence due to a religious observance will be excused provided you inform the professor of the upcoming absence, in writing, within the first two weeks of class. In the event of an unexcused absence, you will NOT be granted any special accommodations including but not limited to a make-up quiz or an opportunity to make up work for in-class exercises. Thus, if you miss class due to an unexcused absence, you are likely to suffer a grade penalty due to your inability to write a quiz, your inability to participate in an in-class exercise or class discussion. You will also be responsible for any material, assignments, or announcements covered in class that you miss as a result of an unexcused absence.

VII. Course Website and Communication

- Several important documents including the most updated version of the syllabus, lecture slides shown in class and readings that are not available through the library or in the required texts will be posted on the course's T-square page. Please check this page regularly.
- The course's T-square page will also be used to post information regarding class schedules, assignments and grades, and feedback on individual assignments may also occasionally be provided through T-square. Students are responsible for staying up-to-date on those communications.
- Personal or confidential communications from the professor to you, and vice versa, will be done by emailing the address that you have registered on T-square. **Therefore, you are required to make sure that the email associated with your T-square account is functioning**, to check it daily, and to alert the professor if you are not receiving emails on it. It will be your responsibility to provide a functioning email address if this one fails to operate properly.
- You are also welcome to communicate the professor by email. To ensure that your email is not accidentally overlooked, please include your course number (i.e. INTA 6003) in the "Subject" line of your emails. Please note that the professor may not respond to emails in the evenings or over the weekend or University holiday periods, so please keep this in mind when anticipating response times.
- Unless specifically instructed, assignments are always to be submitted in hard copy form only; electronic submissions can serve as backup & confirmation.

VIII. Policy on Late Assignments and Missed Quizzes

Late assignments are strongly discouraged and will incur penalties except in the event of a verified illness or emergency (documentation will be requested from the Office of Student Life). Any major scheduling conflicts – including those that arise due to participation in “approved Institute activities” - should be discussed with the professor *at least two weeks before the assignment due date*. The penalty for a late assignment will be a deduction of 2% of the assignment mark for a paper handed in on the due date but after the time specified and an additional 2% for each subsequent day that the paper is not turned in. A missed seminar presentation – either group or individual - will receive zero points except in the case of an “excused absence” due to an illness or emergency (See Section VI for the definitions of what constitutes an excused absence). Thus, it is crucial to prepare in advance for the seminar presentation and accord it the highest priority in your schedule for the given week. A missed quiz will also receive zero points unless in the event of an excused absence on the day the quiz is given (See Section VI above for the policy on what constitutes an “excused absence”).

IX. Plagiarism Policy¹

Academic dishonesty in the form of cheating or plagiarism will not be tolerated. In brief, plagiarism is defined, for the purposes of this class, as: copying, borrowing, or appropriating another person's work **and** presenting it as your own in a paper or oral presentation, deliberately or by accident. Acts of plagiarism will be reported in accordance with the Honor Code. In order to avoid being charged with plagiarism, if you use the words, ideas, phrasing, charts, graphs, or data of another person or from published material, then you must either: 1) use quotation marks around the words **and** cite the source, or 2) paraphrase or summarize acceptably using your own words **and** cite the source. The plagiarism policy is not restricted to books, but also applies to video & audio content, websites, blogs, wiki's, and podcasts. Plagiarism includes putting your name on a group project to which you have minimally contributed. For information on Georgia Tech's Academic Honor Code, please visit <http://www.catalog.gatech.edu/policies/honor-code/> or <http://www.catalog.gatech.edu/rules/18/>. Any student suspected of cheating or plagiarizing on a quiz, exam, or assignment will be reported to the Office of Student Integrity, who will investigate the incident and identify the appropriate penalty for violations.

X. Collaboration and Group Work

In general, unless otherwise specified, homeworks are to be submitted, and will be graded, on an individual basis. Although you are welcome to consult with other students regarding your homework, you must write up the homework on your own based on your own understanding of the concepts. You should not blindly copy the work of another student, nor should you permit another student to copy your work.

That said, although *homeworks* are to be submitted on an individual basis, you will also be completing a number of *in-class exercises* that will be submitted as a group. You will also be required to do a group presentation on the last day of class. For group exercises, you are expected to engage fully in your group's discussions and to be an active contributor to all group's assignments. Please note that **plagiarism includes putting your name on a group project to which you have minimally contributed**. If you have any doubts regarding whether an assignment should be completed individually or as a group, please clarify this with the professor.

XI. Grades

Your grade will be determined by: how well you *communicate* to me that you *understand* the *fundamental* definitions, concepts, and applications of empirical research methods *as presented in the lectures and readings*.

Your personal (dis)agreement with the definitions, concepts, applications, and methods presented in this class does not affect your grade. You do however need to show that you understand these fundamentals as they are currently accepted by the community of top researchers in positivist social science.

Your understanding of the course material will be communicated to me via the following:

15% Class Participation+ In-Class Exercises
30% Homeworks (Five Total)
35% Quizzes (Five Total)
10% Individual presentation
10% Final Group Presentation

Note that, for individual assignments (homeworks, quizzes, etc), grading in this course is related directly to a student's demonstrated mastery of the material as opposed to her performance relative to her peers. Please note that, in determining an assignment's grade, consideration is given for elegance of presentation, creativity, imagination, and originality *only* where these have been appropriately be called for, and where mastery of the fundamentals has already been demonstrated. Thus, your key task in most assignments will be simply to communicate to the professor as clearly as possible your mastery of the key concepts and information covered in class and in the readings. Information about grading schemes and rubrics associated with individual assignments and quizzes will be provided on an ongoing basis.

Your final grade will be assigned as a letter grade according to the following scale:

A	90-100%
B	80-89%
C	70-79%
D	60-69%
F	0-59%

XII. Grade Change Policy

Legitimate requests for grade changes are welcome. However, you should resist the temptation to file a frivolous request just hoping to "get lucky". Simple computational or clerical errors should be brought to the professor's attention immediately. Otherwise:

A) Requests for grade changes must:

- i) be submitted in writing, both electronically and in hard-copy, and
- ii) be submitted within 14 days of receiving the graded assignment, and
- iii) be no longer than 600 words and no shorter than 150 words.

B) Requests for grade changes should:

- i) identify what was required in the assignment, and
- ii) describe *precisely* how these requirements were fulfilled at a level above the received grade, and
- iii) address any relevant comments written by the professor on the graded assignment (if applicable) and explain why they do not apply.

Approach a grade change request as if arguing a legal case: you should have strong and convincing arguments and evidence to support your request. Be aware that appeals to the practices of other professors generally do not constitute good argument or evidence. Note also that grade changes requests can result in re-grades both up or down (or left unchanged). That is, if the greater scrutiny demanded by a grade change request reveals your assignment to deserve a lower grade than previously awarded, then the lower grade may be assigned.

INTA-6003 Fall 2016 Course Schedule

August 24th: Introduction & What is Politics? (Week #1)

Assignments for next week:

- 1) HW#1: Email Research Question Homework by **12pm Tues Aug 30** (Put the text directly into the body of the email)

Readings for next week:

- 1) KKV, Chapter 1

Also, skim the following for information on highly ranked journals and presses and get a sense of the basis for these rankings.

- 1) McLean, Iain et. al. 2009. Comparative Journal Ratings: Survey Report. *Political Studies Review* 7(1):18-38
- 2) Garand, James C. and Michael W. Giles. 2011. Ranking Scholarly Publishers in Political Science: An Alternative Approach. *PS-Political Science & Politics* 44(2): 375-383.

Optional

Orr, H. Allen. 2005. "Devolution: Why Intelligent Design Isn't" *The New Yorker* (May 30) [note: in this reading try to stay focused on figuring out what ID posits: its theory and its critique of evolution; try to ignore the politics or controversy surrounding ID for now]

August 30th: What is Science? (Week #2)

Assignments for next week:

- 1) HW#2: *Literature Review*: Use Web of Science and/or other expert databases together with the rankings readings to identify five high quality research articles that relate to the research question that you developed in HW#1. Following the guidelines provided in lecture, write a two page literature review using these five articles. **Due September 7th at the start of class in hard copy AND via email.**

Readings for next week:

- 1) KKV Chapter 3

September 7th: What is Methodology? (Week #3)

- ❖ HW#2 due at start of class

Assignments for next week:

- 1) Study for QUIZ I [Politics, Science, Methodology]
- 2) HW#3: Exercise on Spurious Correlation (Due September 14th at the start of class).

Readings for next time:

- 1) KKV Chapter 2
- 2) Neuman and Robson: Basics of Social Research, Chapter 6 (Upto Page 25) and Chapter 7 (Skip over NonProbability Sample). [Available on T-Square.]

September 14th: Measurement and Descriptive Inference (Week #4)

- ❖ HW#3 due at start of class.
- ❖ QUIZ I [Politics, Science, Methodology]

Assignments for next time:

- 1) HW#4: Select a Research Article and Turn into a Two Page Non-Expert Summary.

Readings for next time

- 1) Neuman and Robson: Basics of Social Research, Chapter 11 (upto page 253, end before Section on Statistical Control) [Available on T-Square]
- 2) Picconi, Romano and Olson: *Business Statistics*, Chapters 4 and 5 [Available on T-Square]
- 3) Mohr, Lawrence. 1990. *Understanding Significance Testing* #73 (Sage Publications)

September 21st: Introduction to Basic Probability and Statistics

- HW#4 due at start of class

Assignments for next week:

- 1) Study for QUIZ 2 [Probability, Statistics, Measurement and Descriptive Inference]
- 2) Use Web of Science to find a regression article for presentation in class (email to me by 12 NOON on Sep 28th; presentations start Oct 12)

Readings for next week:

- 1) Taylor, Mark Zachary. 2010. "Regression Analysis" in *21st Century Political Science: A Reference Handbook* edited by John Ishiyama and Marijke Breuning, pp. 478-489 [Available on T-Square]
- 2) Lewis-Beck, Michael S. 1980. *Applied Regression: An Introduction* #22 (Sage Publications)

September 28th: Introduction to Regression Analysis I

- QUIZ 2 [Probability, Statistics, Measurement and Descriptive Inference]

Readings for next week:

Schwabish, Jonathan A. 2014. An Economist's Guide to Visualizing Data. *Journal of Economic Perspectives* 28(1): 209–234

October 5th: Data Visualization (Guest Lecture by Professor Zak Taylor)

Assignments for next time:

- 1) Prepare a 10 min professional oral briefing on a research article of your choice (make sure you have gotten approval from the professor in advance on your choice of article). You will be assigned to present **during class on one of the following dates: Oct 12, Oct 19, Oct 26, Nov 2, Nov 9, Nov 16.**

Readings for next week:

1) Brambor, Thomas, William Roberts Clark and Matt Golder. 2006. "Understanding Interaction Models: Improving Empirical Analyses." *Political Analysis* 14.1 (2006): 63-82.

2) Thad Dunning. 2010. [Design-Based Inference: Beyond the Pitfalls of Regression Analysis?](#) In David Collier and Henry Brady, eds., *Rethinking Social Inquiry: Diverse Tools, Shared Standards*. Lanham, MD: Rowman & Littlefield, 2nd edition.

Available at:

http://www.thaddunning.com/wp-content/uploads/2010/05/Dunning_Rethinking-Social-Inquiry.pdf

October 12th: Introduction to Regression Analysis II

- Student Presentations

Assignments for next time:

- 1) Study for QUIZ 3 (Regression Analysis I and II)

Readings for next week:

1) Whitehead, John. 20xx. An Introduction to Logistic Regression: Nuts and Bolts <.pdf>

2) Whitehead, John. 20xx. An Introduction to Logistic Regression <.ppt>

3) Peng, Lee, & Ingersoll. 2002. An Introduction to Logistic Regression Analysis and Reporting. *Journal of Educational Research* 96(1):3-14

4) Peng & So. 2002. Logistic Regression Analysis and Reporting: A Primer. *Understanding Statistics* 1(1):31-70. Available at: <http://www.indiana.edu/~jopeng51/teaching-logistic.pdf>

October 19: Introduction to Logit/Probit Analysis

- QUIZ 3 (Regression Analysis I and II)
- Student Presentations

Assignments for next time:

- 1) HW#5: Revise Interpretation Assignment (Work Individually) and submit in hard copy.

Readings for next week:

TBD

October 26th: Social Network Analysis (Guest Lecture by Professor Jenna Jordan)

- HW#5 due at start of class today
- Student Presentations

Readings for next week:

- 1) Alexander L. Georgia and Andrew Bennett. 2005. Case Studies and Theory Development in the Social Sciences. Cambridge, MA: MIT Press., Chapters 1 and 10. [Available on T-Square]
- 2) Mahoney, James and Gary Goertz. 2006. "A Tale of Two Cultures: Contrasting Quantitative and Qualitative Research" *Political Analysis* 14:227-249

November 2nd: Qualitative Methods (Guest Lecture by Professor Rachel Whitlark)

- Student Presentations

Assignment for next week:

- 1) Study for Quiz 4 (Logit/Probit and Qualitative Methods)

Readings for next week:

- 1) Start watching Stata tutorial movies: <http://statistics.ats.ucla.edu/stat/stata/notes/default.htm>

November 9th: STATA Data Analysis (Guest Lecture by Vince Pedicino)

- ❖ QUIZ 4 (Logit/Probit + Qualitative Methods)

Assignments for next week

- 1) Check out the STATA learning modules at: <http://www.ats.ucla.edu/stat/stata/>
- 2) Start working on Group Presentation, **done in class November 30**

Readings for next week

TBD

November 16th: Geospatial Analysis (Guest Lecture by Professor Peter Brecke)

- Student Presentations

November 23rd: [NO CLASS]

Assignments for next week

- 1) Study for QUIZ 5 (Cumulative)

Readings for next week:

- 1) William J. Sutherland, David Spiegelhalter and Mark A. Burgman. 2013. Twenty Tips for Interpreting Scientific Claims. *Nature* 503:335-337

November 30th: Review, Conclusion, Presentations

- QUIZ 5 (Cumulative)
- Group presentations in class