Special Topics in Terrorism Studies: Quantitative Research Methods
BSST638T.0101
Spring 2018

University of Maryland, National Consortium for the Study of Terrorism and Responses to Terrorism (START)

Graduate Certificate in Terrorism Analysis

Wednesdays, 1800-2030 EST, Online

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Course Website: Available on CANVAS (ELMS)

Course overview: The purpose of this course is to introduce you to probability, statistics and data analysis, particularly with respect to how they are used in the study of terrorism. To that end, you will learn fundamental principles of probability and statistical inference, how to summarize data and make statistical inferences, and how to manipulate and analyze data in a statistical software package (Stata) that is widely used in the discipline. The class provides a foundation in quantitative analysis that will enable students to critically evaluate extant quantitative research and manipulate their own data. It will also prepare interested students for more advanced statistics training.

Learning objectives: As a result of completing this course, students will:
- Be able to read and critical evaluate extant quantitative research on terrorism;
- Develop basic facility analyzing data with statistical software (Stata);
- Be prepared to independently undertake empirical research projects;
- Be prepared to pursue more advanced course work as desired.

Required text/resources:
- Agresti, Alan, and Barabara Finlay. 2008. *Statistical Methods for the Social Sciences*, 4th ed. Upper Saddle River, NJ: Prentice Hall. [Abbreviated as AF on the class schedule, below; please be sure to use this exact edition.]
- Stata: You may obtain Stata from UMD's Office of Academic Computing Services at https://oacs.umd.edu/services/statistical-software-sas-spss-stattransfer-stata. The current release is Stata 15 and there are four different versions available: Stata/IC, Stata/SE,

Stata/MP 2-core and Stata/MP 4-core. For the purposes of this class, the most basic version, Stata/IC is recommended. However, any of the other versions will also work (assuming you have the requisite computing power on the laptop/desktop you will be using). While no longer available for download, the previous two releases (Stata 13 and 14), can also be used (with the exception of the "Small Stata" version). Whatever release and version you choose, please be sure to obtain the software for PC if you are a PC user and for Mac if you use a Mac. The Stata "Grad Plan" offers student-users the ability to purchase a perpetual license of Stata/IC for US$198.00. While a perpetual license is not required for this course, users that envision themselves continuing to use Stata after the semester is over may want to take advantage of this option, as an individual, perpetual license for Stata/IC typically costs US$1,195.00.

- All other assigned readings can be found on CANVAS (ELMS).

Additional resources:

Self-help resources:

- UCLA's Institute for Digital Research and Education (IDRE): Available at https://stats.idre.ucla.edu/#, IDRE provides extremely helpful worked examples, annotated outputs and step-by-step instructions for statistical analysis using a variety of software packages, including Stata. This is Dr. Koven's go to resource for Stata (as well as R and SPSS).
- Statalist: Available at https://www.statalist.org/, Statalist is an online forum where Stata users can post questions and receive software and methodological help from a community of Stata users. Often, your questions will have already been answered in previous posts.
- StackExchange: Available at https://stats.stackexchange.com/tags/stata, this is an online forum similar to the above. However, unlike Statalist, it is not unique to Stata. Therefore, please either navigate to this site using the above link, or be certain to search using the tag "stata".
- Resources for learning Stata: Available at https://www.stata.com/links/resources-for-learning-stata/, this is a hyperlinked and annotated list of self-help resources curated by Stata Corp.
- Acock, Alan C. 2016. *A Gentle Introduction to Stata,* 5th ed. College Station, TX: Stata Press: This, intelligently organized, printed guidebook is worth considering. However, most will find that the aforementioned free resources are sufficient.

Data repositories:

- Inter-university Consortium for Political and Social Research: https://www.icpsr.umich.edu/icpsrweb/ICPSR/;
- Harvard Dataverse: https://dataverse.harvard.edu/;
- START Data: http://start.umd.edu/data-and-tools/start-datasets.

Grades: Your course grades will be based on a series of four problem sets, a midterm exam and a final project.

Problem sets: You will be assigned four problem sets over the course of the semester. Each problem set is worth 10 percent of your grade. You may elect to work on each of these problem

sets independently or with a group of your classmates. However, each student must independently write up and submit his/her answers. S/he should note the names of the colleagues s/he collaborated with if applicable. Students must show their work to receive full credit (when problems are answered using Stata, students will need to append their .do files in order to appropriately document their processes). Students are expected to produce presentation quality tables and figures when using Stata. This is a good habit to get into, is easily accomplished using Stata and will be demonstrated during class on week 2. The class schedule (below) indicates the date that each problem set will be assigned, as well as when it is due. The assigned date is the day on/before which the problem set will be made available via CANVAS (ELMS). It is also the date that corresponds to the first class that will include a substantial amount of material relevant to the completion of the assignment. The due date is the day by which the completed assignment must be submitted to receive full credit. Problem sets are due, uploaded to CANVAS (ELMS) by 1700 EST on the indicated due date. Please note that this is one hour before class starts.

Midterm exam: The midterm exam will account for 30 percent of your grade. It will be open note and open book. However, students will be required to work independently, and must show their work to receive full credit. The exam questions will be made available via CANVAS (ELMS) at the start of class (1800) on the day indicated in the class schedule (below) and will be due, submitted via CANVAS (ELMS) by the end of that same class period (2030).

Final project: The final project will account for 30 percent of your grade. It will be due, submitted via CANVAS (ELMS) at the end of the final exam period (to be scheduled by the registrar). This project will require students to devise a research question related to the quantitative study of terrorism and find existing quantitative data necessary for exploring their question. Students not intimately familiar with START's data are encouraged to use this data for their final project, while those who are well-versed on START's data offerings are encouraged to explore data available from the Inter-university Consortium for Political and Social Research or Harvard's Dataverse (see additional resources above). Students will then use the data they have obtained to produce a brief, research report including descriptive statistics, appropriate visualizations, hypothesis testing and single and multiple regression analysis. Complete assignment details will be disseminated and discussed during the first class, and students are encouraged to work on the project throughout the semester as they acquire the necessary tools for the various assignment components. Please do not wait until the end of the semester to begin. The first problem set will also require students to identify the data source that they intent to use, as this will enable the instructors and/or teaching assistant to determine suitability and provide feedback if alternative data should be utilized instead.

Grades: Will be assigned following the University of Maryland standard grading scheme. Late midterm exams will not be accepted, as this would confer an unfair advantage. Late assignments (problem sets and final projects) will be docked one third of a letter grade for each 24hr period (or fraction thereof) that it is late.

Percentage	**Letter Grade**	**Qualitative Description**
97-100	A+	Achievement that is
93-96	A	outstanding relative to the
90-92	A-	

		level necessary to meet course requirements.
87-89 83-86 80-82	B+ B B-	Achievement that is significantly above the level necessary to meet course requirements.
77-79 73-76 70-72	C+ C C-	Achievement that is in keeping with the course requirements in every respect.
67-69 60-66	D+ D	Achievement that is worthy of credit even though it fails to meet fully the course requirements.
0-59	F	Work that was either completed but not worthy of credit, or incomplete

Communications: We will endeavor to answer all email correspondence within one business day, and to arrange Skype office hours within three business days. However, this may not always be possible (especially immediately before assignment due dates, when we anticipate a lot of demand). Please plan accordingly and begin assignments/studying with appropriate lead-time.

Attendance and make-ups: Please read the University's policy on attendance herehttp://www.umd.edu/catalog/index.cfm/show/content.section/c/27/ss/1584/s/1540. We will only consider exam and assignment make-ups under specific and compelling documented emergencies (serious illness, accident, family crises, etc.) or university-authorized absences. Students who will be absent due to religious holidays must notify the instructor, in writing, prior to the end of the second week of the semester. Please refer to the Online Policy on Religious Observance. Make-up exams may differ in format from the regular exam.

Academic integrity: The work done in this course is expected to be solely the effort of each individual student (except in the case of the problem sets, where collaboration is permissible provided that it is appropriately documented and each student submits his/her own answers). Cheating and plagiarism will not be tolerated. Any form of academic dishonesty will result in a zero for the course (regardless of prior class achievement) and will be reported to the Office of the Dean of Students. If you are unsure about what constitutes academic dishonesty, please refer to the Student Honor Council's "Code of Academic Integrity," available at: http://shc.umd.edu/SHC/AICodeAndCaseProcess.aspx.

Accommodations for students with disabilities: We will make every effort to accommodate students who are registered with the Disability Support Services (DSS) Office and who provide us with a University of Maryland DSS Accommodation form. We are not able to accommodate students who are not registered with DSS or who fail to provide the necessary documentation.

CANVAS (ELMS): Important communication regarding the class is conducted via Canvas. This includes posting of the syllabus (including any modifications), announcements and grades. Students are required to be proficient users of Canvas and to ensure that their emails are registered with Canvas and that they are receiving Canvas communication for this course. Lack of communication through Canvas is not an excuse for not being aware of important class information or changes to the syllabus that result in late/missed assignments.

Worked examples: Some of the lectures will include worked examples. In these cases, the example data will be posted to CANVAS (ELMS) by the start of class. Students will have the option of simply watching and taking notes during worked examples or following along using the provided data file(s). This decision is entirely at your discretion (some students have found it easier to just watch and take notes during class and then revisit the data on their own after class, others have felt it was preferable to follow along in real time).

Class schedule: This syllabus is designed as a tentative calendar for how the class will be structured. We will strive to adapt the course based on students' interest and learning needs. It is therefore very likely that throughout the semester the class schedule will be revised at the discretion of the instructors. We may spend more/less time on a particular topic. Any changes will be communicated during class or via e-mail/CANVAS (ELMS). It is your responsibility to attend class and check your email and CANVAS (ELMS) regularly.

Date	**Topics**	**Readings**	**Assignments**
Week 1, 24 JAN 2018	Course introduction and overview		Install Stata assigned* Final project assigned
Week 2, 31 JAN 2018	Introduction to Stata	N/A	**Install Stata due***
Week 3, 07 FEB 2018	Research design, the lingua franca of social science, etc.	AF: Chs. 1, 2 and 10 Freedman, David A. 1991. "Statistical Models and Shoe Leather," *Sociological Methodology* 21 (291-313).	Problem set 1 assigned
Week 4, 14 FEB 2018	Descriptive statistics and graphs	AF: Ch. 3 Wade, Sara Jackson, and Dan Reiter. 2007. "Does Democracy Matter? Regime Type and Suicide Terrorism," *Journal of*	

		Conflict Resolution 51, no. 2 (329-348) [read 329 through the end of the table on 336; skim 344-5]. LaFree, Gary, and Laura Dugan. 2007. "Introducing the Global Terrorism Database," *Terrorism and Political Violence* 19, no. 2 (181-204).	
Week 5, 21 FEB 2018	Probability distributions	AF: Ch. 4	**Problem set 1 due** Problem set 2 assigned
Week 6, 28 FEB 2018	Sampling distributions and confidence intervals	AF: Ch. 5	
Week 7, 07 MAR 2018	Hypothesis tests	AF: Ch. 6 Gerber, Alan and Neil Malhotra. 2008. "Do Statistical Reporting Standards Affect What is Published? Publication Bias in Two Leading Political Science Journals," *Quarterly Journal of Political Science* 3, no. 3 (313-326).	**Problem set 2 due**
Week 8, 14 MAR 2018	Midterm exam		Midterm exam assigned **Midterm exam due**
Week 9, 21 MAR 2018	Spring Break, No Class		
Week 10, 28 MAR 2018	Comparing groups via hypothesis tests	AF: Ch. 7 Tyner, Evan. 2016. "Do Territorial Control and the Loss of Territory Determine the Use of Indiscriminate Violence by Incumbent Actors? An Examination of the Syrian Civil War in Aleppo over 45 Weeks." *Journal of*	

		Terrorism Research 7, no. 1 (52-66).	
Week 11, 04 APR 2018	Correlation and bivariate regression	AF: Ch. 9 Piazza, James A. 2008. "Incubators of Terror: Do Failed and Failing States Promote Transnational Terrorism?" *International Studies Quarterly* 52 (469-488) [read 469-77 and skim 483-4].	Problem set 3 assigned
Week 12, 11 APR 2018	Analysis of nominal and ordered categorical data	AF: Ch. 8 Conrad, Justin, and Kevin Greene. 2015. "Competition, Differentiation, and the Severity of Terrorist Attacks," *The Journal of Politics* 77, no. 2 (546-561).**	
Week 13, 18 APR 2018	Multiple regression I	AF: Ch. 11 Sonmez, Sevil F., and Alan R. Graefe. 1998. "Influence of Terrorism Risk on Foreign Tourism Decisions," *Annals of Tourism Research* 25, no. 1 (112-44).	**Problem set 3 due** Problem set 4 assigned
Week 14, 25 APR 2018	Multiple regression II	AF: Ch. 13 Piazza, James A. 2006. "Rooted in Poverty?: Terrorism, Poor Economic Development, and Social Cleavages," *Terrorism and Political Violence* 18, no. 1 (159-177).	

Week 15, 02 MAY 2018	Course review, final project questions and resources for further study	Young, Joseph K. 2016. "Measuring Terrorism," *Terrorism and Political Violence* (1-23).	**Problem set 4 due**
Week 16, 09 MAY 2018	No class, Instructors and TA available for final project questions/one-on-one meetings		
Final Exam Date (TBD by Registrar)	Final project due		**Final project due**

* This assignment is not for credit, but will be necessary if you intend on following along in Stata during class on week 2 and subsequently. It will similarly be necessary for you to complete many of the graded assignments.

** This article uses ordered logistic regression, which is beyond the scope of this course. Please do not worry too much about understanding this modeling strategy. Instead, pay close attention to the operationalization of the dependent variable.