
**Quantitative Methods for Non-Experimental Research
Education 795
*Syllabus***

Professor

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Course Description

Building on the foundation developed in Educ 793, this course provides the opportunity for students to advance their quantitative reasoning skills for applied empirical research, focusing on a range of statistical techniques and analytical considerations but with a special emphasis on selected regression techniques.

Schedule

Class Meeting @ School of Education, Room 2229	Tuesdays 1:00pm–4:00pm
Lab with DeMonbrun @ School of Education, Room 2302	Thursdays 10:00am–12:00pm
Lab with Brown @ School of Education, Room 2302	Thursdays 1:00pm–3:00pm
Bahr’s Office Hours	by appointment
Brown’s Office Hours	Wednesdays 1:00pm–4:00pm
DeMonbrun’s Office Hours	Wednesdays 9:00am–12:00pm
Stage 1 of Final Paper Due	Tuesday, January 26
Assignment 1 Due	Tuesday, February 9
Stage 2 of Final Paper Due	Tuesday, February 16
Assignment 2 Due	Tuesday, February 23
Assignment 3 Due	Tuesday, March 8
Assignment 4 Due	Tuesday, March 22
Stage 3 of Final Paper Due	Tuesday, March 29
Assignment 5 Due	Tuesday, April 5
Assignment 6 Due	Tuesday, April 12
Last Class Meeting	Tuesday, April 12
Last Lab Meeting	Thursday, April 14
Stage 4 of Final Paper Due	Friday, April 15

Required Text

Agresti, A., & Finlay, B. (2009). *Statistical methods for the social sciences, 4th edition*. Upper Saddle River, New Jersey: Pearson. ISBN 9780130272959.

Recommended Text

Acock, A. C. (2014). *A gentle introduction to Stata, 4th edition*. College Station, Texas: Stata Press. ISBN 9781597181426.

Other Required Materials and Resources

- Daily access to your U-M email account and to *ctools.umich.edu*.
- One hand calculator
- One deck of standard playing cards
- One USB flash drive
- Dedicated AFS space¹ from the University of Michigan

Grading

The components of your course grade include:

Assignments (6 assignments @ 10 points each)	60 points
Occasional Unannounced Quizzes	5 points
Stage 1 of Final Paper: Initial Research Proposal	5 points
Stage 2 of Final Paper: Full Research Proposal	10 points
Stage 3 of Final Paper: Preliminary Research Findings	10 points
Stage 4 of Final Paper: Complete Research Paper	<u>10 points</u>
	<i>Total of 100 points</i>

Course grades will be determined by the total number of points achieved, as follows:

≥ 98.00 points	A+	80.00–81.99 points	B-	62.00–67.99 points	D
92.00–97.99 points	A	78.00–79.99 points	C+	60.00–61.99 points	D-
90.00–91.99 points	A-	72.00–77.99 points	C	< 60.00 points	F
88.00–89.99 points	B+	70.00–71.99 points	C-		
82.00–87.99 points	B	68.00–69.99 points	D+		

¹AFS stands for Andrew File System, about which extensive information may be found on Wikipedia. At the University of Michigan, it is known simply as AFS, pronounced “a-fis”. Members of the student and faculty communities at the University of Michigan may obtain AFS space at no cost via <http://mfile.umich.edu/>.

Seize this Learning Opportunity

This course will provide the opportunity to develop skills and knowledge that will be useful for your entire professional career, whether in your own research or in making sense of the research of others. In that regard, the principal determinant of how much you learn in this course is how much effort you put into the course: engaging with the readings and completing them on time, motivating yourself to exceed the minimum expectations of the assignments, participating actively and regularly in class and lab activities, meeting with your colleagues outside of class to discuss the work of the course, and the like. In other words, the potential of this course, while built upon the structure provided by the instructional team, ultimately is realized through your daily commitment and effort to learn all that can be learned. As a result, I encourage you to seize this learning opportunity by reading each assigned reading carefully and arriving to each class and lab meeting prepared to participate actively and respectfully, to ask questions, to discuss the salient issues that emerge from the readings, and to contribute your knowledge and experiences in addressing the course material. Further, I encourage you to seize the learning opportunities embodied in the assignments, committing yourself to achieving your best possible work in all respects. Finally, I encourage you to seize the opportunity represented in the feedback that you receive on your work in this course, recognizing that you will encounter few such opportunities in your career in which others invest so much effort in your development as a scholar.

Occasional Unannounced Quizzes

Brief, unannounced quizzes on the major concepts, themes, ideas, and terminology addressed in the reading occasionally will be administered in this course. In completing the quizzes, you will be allowed to use any notes that you have in hard copy (paper) format. Digital notes, textbooks, and other aids will not be allowed. A missed quiz will receive zero credit.

Assignments

Six assignments will be made available to you in this course. Each assignment will provide you the opportunity to develop a working knowledge of the statistical techniques and interpretive logic that are discussed in class and lab, and to practice communicating the results of these techniques in writing.

Final Paper

The culmination of this course is a final paper on a topic of your choice that is relevant to education research, policy, and/or practice. This paper will take the form of an empirical research manuscript of standard length, organization, and format for a scholarly journal. The final paper will be completed in four stages, each of which will be graded with respect to creativity, insightfulness, accuracy, clarity, professionalism, adherence to the formatting requirements, grammar, punctuation, and compliance with widely accepted standards for college-level writing. You may work on the final paper alone or in a team of not more than two; the requirements of the assignment remain the same in either case.

Selected Course Policies (a guide, not an exhaustive list)

Attendance

Class and lab attendance is a necessary cause, though not a sufficient cause, of participation in the course, and participation is expected and required.

Assigned Reading

The assigned readings are a fundamental part of this course. The lecture and lab will not serve as a complete substitute for these readings, and, hence, you will not gain all that there is to acquire from this course without completing these readings. In addition, the design and expectations of the assignments and final paper presume that you have read and understood the readings and will be graded accordingly.

Late Assignments and Papers

Except in the most extreme and unusual of situations, late assignments and papers will not be accepted and will receive zero credit. Situations that are sufficiently extreme and unusual to warrant the acceptance of a late assignment or paper may include cataclysmic destruction of the planet by an asteroid, abduction for a prolonged period of time by beings of extraterrestrial origin and hostile intention, widespread outbreak of zombies, or other extraordinary circumstances that would make for a good action flick with Jennifer Lawrence or Brad Pitt as the lead actor. Extenuating conditions of similar magnitude will be considered on a case-by-case basis.

Electronic Communication

The instructional team assumes that you have read any electronic communication that is sent to you within 24 hours of it being sent. You may assume the same about electronic communication that you send to a member of the instructional team. However, you should anticipate that it might be as long as 48 hours before you receive a response to your electronic communication during the course of the workweek. Response times may be as long as 72 hours on the weekends.

Recording of Lectures, Labs, and Other Class Activities

Audio and/or video recording of class activities is prohibited, except as a pre-arranged accommodation for students with disabilities. Under all other circumstances, you are prohibited from using recording equipment, including cellular phones, to make recordings of lectures, labs, or other class-related activities.

Citations and References

The APA citation format must be employed in all documents submitted in this course because it is ubiquitous (and, in many cases, required) in education research publications.

Plagiarism

Plagiarism — the intentional or unintentional use of the ideas or words of another person or organization without citing the source appropriately — is among the most stigmatizing of academic offenses. Plagiarism will not be tolerated in this course and will result in a failing grade on the associated assignment and a report to the appropriate institutional authorities. Please see <http://www.lib.umich.edu/shapiro-undergraduate-library/understanding-plagiarism-and-academic-integrity> for more information about plagiarism.

Retention of Documents

Paper copies of graded documents that you submit in this course that are not returned to you will be retained until December 31, 2016, and then discarded.

Guidelines for Class and Lab Discussions

This classroom is inclusive of a wide range of backgrounds, experiences, perspectives, and beliefs. I am committed to ensuring that differing viewpoints are welcomed and valued here, and that everyone who wants to speak to a particular issue has the opportunity to do so in an environment of mutual respect. I ask you to join me in that commitment and to strive to uphold the goal of healthy discussion and debate without challenging any individual's right to speak. Further, I ask that you listen carefully to others, especially when you disagree, and assume that each person in this classroom is speaking in good faith and with good intentions. If you ever feel that a discussion did not meet these guidelines, or otherwise has left you with negative feelings about the classroom environment, please speak with me about it.

Accommodations for Students with Disabilities

If you think that you need accommodation for a disability, please speak with me as early as possible. Some aspects of this course may be modified to facilitate your participation and progress. As soon as you make me aware of your needs, we can work together with the Office of Services for Students with Disabilities (SSD) to help us determine appropriate academic accommodations. SSD (734-763-3000; www.ssd.umich.edu) typically recommends accommodations through a Verified Individualized Services and Accommodations (VISA) form. Any information that you provide is confidential.

Students' Rights and Responsibilities

Membership in the academic community that is the University of Michigan affords you a number of important rights, as well as a number of important responsibilities. Please see <http://www.oscr.umich.edu/statement/> for information about these rights and responsibilities.