

SYLLABUS
Niagara University
College of Business Administration, Department of Economics & Finance

Course Information:

Semester: Summer 2017
Course Number and Section: 440 A1
Course Title: Applied Econometrics
Credit Hours: 3
Classroom: VINI 115
Meeting Times: MW 6-9:45pm

Instructor Information:

Name: Randy Cragun
Office Location: Bisgrove Hall 254H
Office Phone: 716-286-8196
Fax Number: 716-286-8296
Faculty E-Mail: rcragun@niagara.edu
This Course uses Canvas On-Line Software: Yes

Required Texts:

Mastering 'Metrics: The Path from Cause to Effect, Joshua D. Angrist & Jörn-Steffen Pischke, ISBN-10: 130527010X, ISBN-13: 9780691152844 (e-book options are also available and work very well: ISBN-13: 9781400852383).

What is a p-value anyway? 34 Stories to Help You Actually Understand Statistics, Andrew J. Vickers, 2010, Pearson, ISBN-13: 978-0321629302.

Other Required Materials:

You need to go to <https://www.ipums.org/> and sign up for accounts in both the IPUMS-USA and IPUMS-CPS sites. Do this as soon as possible so that you do not have to beg your classmates for data for homework assignments because your account has not yet been approved (which sometimes takes over a week, in my experience). If they reject your account request, please tell me immediately.

Go to <https://www.datacamp.com/courses/free-introduction-to-r> and complete the “Introduction to R” course. If you do not do this, you will have a great deal of trouble this semester, as I will not spend time teaching R in great detail. Do not just rush through it; pay attention to what you are doing and why it works the way it does.

Prerequisites:

There are no formal prerequisites for this course. However, every course builds on some knowledge. This course requires *knowledge of basic calculus and statistics*. If you do not know what covariance means, what a sampling distribution is, or how to find the derivative of a quadratic function, then this course will be difficult for you. You essentially need to be able to get an A on the undergraduate business stats II exam.

You must have *basic computing skills*. For instance, you will need to be able to find the path to a file (e.g. “/home/username/WeirdFiles/PleaseDoNotOpenThisFolder/data.R” or “C:/Users/username/WeirdFiles/PleaseDoNotOpenThisFolder/data.R”) on your computer or extract compressed files. If you cannot do this, ***look it up***. I am not very knowledgeable about Mac operating systems, so do not expect much help from me when you cannot find where you put your files. This course will also require you to be confident in *searching for answers online*. Learning R has high fixed costs, so I only know what I need to, and the answers to your questions may not always come most easily from me.

Course Description:

From the catalog:

The objective of this course is to prepare students for empirical work in economics. Specifically, topics covered will include basic data analysis, regression analysis, testing, and forecasting. Students are provided the opportunity to use economic data to test economic theories. We will utilize computer software in all facets of our approach. This is believed to be a more applied course. Ultimately knowing the limits of software packages and what theories mean for empirical analysis will be stressed.

From the instructor:

This course is about the biggest problem facing economists and the greatest expertise economists have to share with the world: causal inference with observational data. Our goal is to figure out how to still be good scientists in a world where not every question can be addressed with experiments. It is not a class on forecasting financial asset prices. It is not a class on how to push the right buttons to make a report. This is a science class.

Course Learning Outcomes:

Students will:

1. Be able to identify poor scientific and statistical reasoning in real-world examples
2. Be able to perform the practical steps of estimating econometric models
3. Know when various models and estimation methods would be appropriate and be able to build models to test a wide array of questions (see the outline of topics for the specific classes of models and estimation strategies)
4. Know the weaknesses of models and estimation methods
5. Be able to identify patterns in economic data
6. Be able to “clean” data sets and identify potential problems in data
7. Be able to communicate statistical analysis and results clearly

8. Be able to translate descriptions of methods from academic papers into reproducible steps
9. Know where to look for various kinds of data
10. Be able to identify what kinds of data would help answer a question
11. Understand the scientific method, experimental design, and the ways that econometricians attempt to mimic optimal experimental designs with observational data

Attendance Policy:

Attendance is mandatory. Missing more than two class periods will result in a reduction in your grade. Every class missed after the first two will reduce your grade by half of one letter grade (e.g. a low B would become a C, but a high B would become a C only after the fifth absence). Being significantly late or leaving early counts as half an absence (note what this does to the marginal benefit of coming late versus not coming—economics is everywhere). There may be student presentations on some days, and missing on those days will count as two absences.

You must bring a nameplate to class every day and have it in front of you. This is a requirement for your attendance grade.

You will be required to participate in class discussions. See the grading policies for details.

Grading Policies and Procedures:

Your grade will be based mainly on problem sets. There will be a group presentation of a peer-reviewed academic paper. You will also be required to teach the class about one of the topics we cover during the semester. The following table illustrates the distribution of percents of your grade that would be assigned to each item.

Problem sets and presentation	In-class contributions and reading
90%	10%

You can expect that 80% on an assignment or project represents the minimum for an A, 70% is approximately the minimum for a B, and 50% is approximately the minimum for a C. Pluses and minuses will be assigned on a case-by-case basis. Although it is possible for every student to earn an A, it is unlikely. Typically most students earn a B in the class. A grades are not given for effort or attendance; they signify *exceptional* competence with the material. By definition most people are not exceptional. Even if you are used to getting A grades in every class, that does not mean that you will earn an A in this class.

Problem sets:

Most of the work will come from the texts. No late work will be accepted. **You must bring a copy of your homework to class** in addition to turning it in online.

Group presentation of extant research:

You should form groups of no more than 2 members. You will select a refereed journal article to present in class. I will provide a list of acceptable articles, but you may also find one and check with me if it is acceptable. You will need to get approval for your article choice even if it is from

the list so that every group is presenting a different article. Thus you should try to choose early to get the one you want. You should plan on at least 10 minutes of material discussing their research design, research question, data utilized, summarizing and presenting the results. You can have a maximum of 40 minutes (including set-up, break-down, and questions). The group should be prepared to field questions from the audience. I will give an example presentation during the semester. The presentation is worth the same as one problem set.

In-class contributions:

It is essential in this course that you can use the ideas we cover. In most cases we will use class time to review ideas *that you have already learned through your reading assignments*. If you do not do your reading assignments, you will be lost or simply get a bad grade. You should always keep track of the main ideas from the reading, write them down, and bring those notes to class. You will turn in one copy of the main points before class and keep another with you during class to aid in discussion. If you do not understand the reading, look at it again. If you still do not understand, look at it again. If you still do not understand after that, come to class and ask questions. To contribute in class, you need to know more than just the main points, however, so do not just skim the first line of each paragraph or copy some “main points” box at the end of the chapter. With statistics, you need to be able to explain when you would do something, exactly what you would do, why, and what sort of problems there could be. I will put an example summary on Canvas.

Course schedule:

- Experimental design, sampling distributions, and basic statistics
- Regression as an automatic matchmaker
- Graphing skills
- Getting the residuals and standard errors right
- Difference-in-differences
- Instrumental variables estimation
- Regression discontinuity designs

Stuff students ignore:

Assessment Measures:

<u>Requirement</u>	<u>Weight</u>	<u>Course</u>	<u>CBA</u>	<u>Department</u>
Research presentation	11.25	1, 3-8, 10-11	1, 3	2-6
Problem Sets	78.75	1-7, 9-11	1-3	1,3-6
In-class contributions	10	1-7, 9-11	1-3	All

University Mission Statement:

Niagara University educates its students and enriches their lives through programs in the liberal arts and through career preparation, informed by the Catholic and Vincentian traditions.

College of Business Mission Statement:

Guided by Catholic and Vincentian traditions, we prepare current and future business professionals to learn, serve, and lead with integrity and live an exemplary life.

College of Business Learning Outcomes:

- ☒ Students will demonstrate effective presentation skills.
- ☒ Students will demonstrate effective writing skills.
- ☒ Students will demonstrate analytical skills.
- ☒ Students will develop valuable employment skills through internships, and community service.

Departmental Mission Statement:

Guided by the College of Business Administration mission, the undergraduate program creates and disseminates knowledge, fosters rich learning experiences, empowers student achievement, and inspires professional engagement in the global society.

Student Learning Outcomes

1. Graduates will have effective written communication skills
2. Graduates will have effective oral communication skills
3. Graduates will be able to evaluate and understand ethical issues in business decisions
4. Graduates will demonstrate the ability to analyze information and apply critical thinking skills
5. Graduates will be proficient in using the appropriate technology and information resources for their field
6. Graduates will demonstrate knowledge of the field in their concentration or major

Inclusivity, Diversity & Support for Students at Niagara University:

Niagara University supports a learning environment that fosters inclusiveness where diversity is respected and valued. It is expected that students in this class will respect differences and develop an understanding of how other people's perspectives, behaviors, and worldviews may be different from their own.

Students are always encouraged to meet with faculty as early as possible in the semester to discuss their needs or concerns. Students may also seek additional assistance from a variety of resources available on campus such as academic support, counseling services, disability services, etc. For more information on these resources, please visit <http://mynu.niagara.edu/services>

College of Business Citation Guidelines and Plagiarism Reminder

Niagara University business students are asked to use the APA citation style. We recommend the Cornell University guide which can be accessed at:

<http://www.library.cornell.edu/resrch/citmanage/apa>

We encourage you to use the “specific parts of a source” format found in the Cornell guide which includes author, year and page number in parentheses, i.e. (Smith, 2005, p. 42).

At the end of the Cornell APA style guide are formats for web sites, blogs, etc.

Please note that the APA style also requires a bibliography “Reference list” at the end of the paper in addition to internal parenthetical references.

Academic Integrity Reminder: These are the most common plagiarism problems seen at Niagara University among students referred to the Academic Integrity Board. *Please strive to maintain the highest academic standards.*

- Submitting a paper or portion of a paper written by another student—in your own class, another class, or another school.
- Submitting a paper which has large blocks of non-cited text copied directly from written or on-line sources.

University Statement on Academic Integrity:

Academic honesty – being honest and truthful in academic settings, especially in the communication and presentation of ideas – is required to experience and fulfill the mission of Niagara University. Academic dishonesty – being untruthful, deceptive, or dishonest in academic settings in any way – subverts the university mission, harms faculty and students, damages the reputation of the university, and diminishes public confidence in higher education.

All members of the university community share the responsibility for creating conditions that support academic integrity. Students must abstain from any violations of academic integrity and set examples for each other by assuming full responsibility for their academic and personal development, including informing themselves about and following the university's academic integrity policy.

Violations of academic integrity include but are not limited to the following categories: cheating; plagiarism; fabrication; falsification or sabotage of research data; destruction or misuse of the university's academic resources, alteration or falsification of academic records; academic misconduct; complicity; and copyright violation. This policy applies to all courses, program requirements, and learning contexts in which academic credit is offered, including experiential and service-learning courses, study abroad programs, internships, student teaching and the like. Please refer to the undergraduate catalogue for Niagara University's policy on academic integrity or access the policy online, www.niagara.edu/academicintegrity.

Additional note from the instructor:

I take academic integrity seriously. Every semester I have multiple students violate these standards, and they almost always are students who simply do not know how to produce their own ideas and give credit to others for theirs. It is your responsibility know academic ethical standards. For instance, rewording an article from *The Economist* (putting it “in your own words”) without attribution is still plagiarism. If you have learned it is okay to communicate information from others without attribution as long as you “put it in your own words”, then you need to relearn academic integrity expectations. This is plagiarism. Do not copy things from Wikipedia and then change a few words. *You will get a score of zero on that assignment and might fail the course!*