

# FYC 6932: Applied Data Analysis in FYCS

Section #0589

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## Course Description

This course is designed to introduce FYCS students to basic quantitative data analysis techniques that can be applied to public management and policy problems, program evaluation, and critical social science research questions. The course will emphasize proper pairing of analysis techniques to data types; application and interpretation of statistical analysis; use of data analysis in decision-making; and implementation of data analysis using computer software.

## Course Objectives

Upon successful completion of this course, students should be able to:

1. Propose questions for analysis that are pertinent to contemporary public policy and the broader study of social issues.
2. Formulate a step-by-step approach for analyzing these research questions.
3. Identify the most appropriate methodological techniques for analyzing research questions and available data.
4. Conduct basic data analyses using the methodologies covered in the course.
5. Properly interpret the results of these analyses.

## Course Materials

- Berman, Evan M. and XiaoHu Wang (2018). *Essential Statistics for Public Managers and Policy Analysts*, 4<sup>th</sup> Edition. Los Angeles, CA: SAGE | CQ Press.
- Klass, Gary M. (2012). *Just Plain Data Analysis*. Lanham, MD: Rowman & Littlefield Publishers, Inc.
- (recommended) Aldrich, James O. and James B. Cunningham (2016). *Using IBM® SPSS® Statistics: An Interactive Hands-On Approach*, 2<sup>nd</sup> Edition. Los Angeles, CA: SAGE. (or a similar SPSS guide)
- (recommended) Berman, Evan M. and XiaoHu Wang (2018). *Exercising Essential Statistics*, 4<sup>th</sup> Edition. Los Angeles, CA: SAGE | CQ Press.
- Handouts and other written materials will be provided by the instructor and will be available in Canvas.
- A flash drive to store your work from the computer lab.

## Course Requirements & Grading

- **Weekly Assignments:** You will be expected to complete a series of weekly homework assignments that test your knowledge of the skills learned in class. These projects, taken together, will account for 30% of your final grade.
- **Mid-term Exam:** This take-home exam will account for 15% of your final grade. The mid-term will be distributed at the end of class on February 22 and will be due at the start of class on **March 1**.
- **Final Exam:** This take-home exam will account for 15% of your final grade. The final exam will be distributed at the end of class on April 12 and will be due at the start of class on **April 19**.
- **Final Research Paper:** You will be expected to complete a research paper that uses the data analysis skills acquired during the semester. This project should address a social science research question,

## FYC 6932: Applied Data Analysis in FYCS

policy issue, or community issue of your choice, utilizing either primary or secondary data. The final research paper accounts for 40% of your final grade, including a preliminary paper proposal and final presentation. The proposal is due by **March 15**, the presentation is on **April 19**, and the paper is due by **April 28 at noon**.

Information on current UF grading policies for assigning grade points can be found on the [UF web page](#).

### Readings & Attendance

You are responsible for completing all assigned readings before class, as this will facilitate your understanding of lectures, participation in discussion, and may be essential to taking part in data lab instruction. Class attendance is extremely important, and it is essential that you keep up with weekly homework assignments and readings. This is not a typical seminar – each week’s material builds on the previous week, and each week’s class time will include lecture, discussion, and work in the computer lab. In addition, you’ll need to spend time honing your skills with computer software for data analysis. If you need to miss class for some reason, please contact the instructor.

Students with disabilities requesting accommodations should first register with the Disability Resource Center (352-392-8565, [www.dso.ufl.edu/drc/](http://www.dso.ufl.edu/drc/)) by providing appropriate documentation. Once registered, students will receive an accommodation letter which must be presented to the instructor when requesting accommodations. Students with disabilities should follow this procedure as early as possible in the semester.

UF students are bound by The Honor Pledge which states, “We, the members of the University of Florida community, pledge to hold ourselves and our peers to the highest standards of honor and integrity by abiding by the Honor Code.” On all work submitted for credit by students at the University of Florida, the following pledge is either required or implied: “On my honor, I have neither given nor received unauthorized aid in doing this assignment.” The [Honor Code](#) specifies a number of behaviors that are in violation of this code and the possible sanctions. Furthermore, you are obligated to report any condition that facilitates academic misconduct to appropriate personnel. If you have any questions or concerns, please consult with the instructor.

### Research Paper

This project provides students with an opportunity to go through the research process from start to finish, applying the analysis techniques learned in class to a substantive social science research question, policy, or community problem. You’ll begin with a research question, formulate hypotheses, find or gather data, conduct statistical analyses, present and interpret the results, and provide recommendations based on your findings.

In completing the research paper, students will:

- Identify a significant research question related to a social, policy, or community issue;
- Choose an appropriate dataset which includes needed variables (or collect primary data relevant to the issue, for all required variables);
- Conduct appropriate analyses based on the data and variables chosen to properly address the research question using techniques from the course;

## FYC 6932: Applied Data Analysis in FYCS

- The final paper should include a literature review, description of methodology and variables, statistical analysis, interpreted results, and conclusions with recommendations based on the findings;
- To insure that you remain on track, a paper proposal including your research question, proposed dependent and independent variables, and dataset choice is due by **March 15**. However, I'd recommend you begin this process as soon as possible for the best possible outcome.

### IBM® SPSS Statistics

This course will use SPSS Statistics 24 for data analysis, which is available on all computers in the Weil computer classroom, as well as the CALS computer room (3086 McCarty B). To use SPSS at home, you may purchase the software from the HUB for \$35 for install on your personal computer (recommended), or access SPSS Statistics 24 using UFApps ([info.apps.ufl.edu](http://info.apps.ufl.edu)).

### Course Outline

Date	Topic	Readings	Due
1/11/18	Course overview, Intro to SPSS, Intro to Research Design	Berman: Chapter 1 Klass: Preface	
1/18/18	Measurement & Research Design	Berman: Chapters 2-3 Klass: Chapters 2, 8, 9	
1/25/18	Analysis Software, Finding Data	Berman: Chapter 5	Assignment #1
2/01/18	Descriptive Statistics – Frequencies	Berman: Chapter 7 (117-122)	Assignment #2
2/08/18	Descriptive Statistics – Central Tendency, Dispersion	Berman: Chapter 6, Chapter 7 (123-124, 126-128, 129-131)	Assignment #3
2/15/18	Inferential Statistics	Berman: Chapter 7 (124-128); Intro to Section IV (163-165) See Canvas	Assignment #4
2/22/18	Hypothesis Testing, Estimating Population Proportions	Berman: Chapter 10, Box 7.2 (127)	Assignment #5
<b>Mid-term Exam Distributed at end of Class</b>			
3/01/18	Testing Differences Between Groups – Difference of Means, t-tests	Berman: Chapter 12	<b>Mid-term Due</b>
3/08/18	<b>Spring Break – No Class</b>		

## FYC 6932: Applied Data Analysis in FYCS

Date	Topic	Readings	Due
3/15/18	Contingency Tables	Berman: Chapters 8, 10, 11	<b>Paper Proposal</b> Assignment #6
3/22/18	Control Tables (Controlling for a 3 <sup>rd</sup> Variable)	See Canvas	Assignment #7
3/29/18	ANOVA	Berman: Chapter 13	Assignment #8
4/05/18	Index & Scale Variables Simple Regression / Correlations	Berman: Chapter 14	Assignment #9
4/12/18	Multiple Regression (OLS)	Berman: Chapter 15	Assignment #10
<b><i>Final Exam Distributed at end of Class</i></b>			
4/19/18	Final Paper Presentations		<b>Final Exam Due</b>
4/28/18	<b><i>Final Research Papers Due by noon</i></b>		

\* This schedule is subject to change with proper advance notice to students