IDS 2935: Data is Everywhere: Understanding the World Through the Lens of Quantitative Data
Quest 2

I. General Information

Class Meetings

- Fall 2022
- Day Period: Mondays Periods 5-6, Wednesday Period 5
- Location: Turlington 2305

Instructor

- Kristian Estevez
- Matherly Hall 328
- Office Hours: Mondays and Wednesdays, 2:30 – 4:00 p.m.
- Email: Kj719@ufl.edu
- Phone: 352-392-1077

Course Description

What is the Big Data Revolution and where will it lead us? This Quest 2 course will examine how far data can take us by exploring a variety of data sets from a variety of disciplines. We will examine large national and international datasets that transcend disciplinary boundaries and include economic, geographic, health, political, and sociological variables.

In Economics, which is my own discipline, data provides crucial information that allows agents (organizations, researchers, firms, etc.) to set benchmarks and goals as well as enable them to make informed decisions. This statement is also true across the behavioral sciences, business, and public policy-related disciplines. Data is also crucially important in all kinds of research as it allows for the identification of exciting and important research questions and projects and is then used to test theoretical predictions about the relationship between variables.

The purpose of this course is to equip students with the basic skills in how to locate data sets, compose descriptive statistics, and provide meaningful analysis of the data using tables and charts. The concepts learned in the course can apply to data from any field. All majors and minors complement this course well. We will be using Microsoft Excel as our spreadsheet program; previous knowledge of Excel is helpful but certainly not required or expected.

Quest and General Education Credit

- Quest 2

- Social and Behavioral Sciences (S)

  Social and behavioral science courses provide instruction in the history, key themes, principles, terminology, and underlying theory or methodologies used in the social and behavioral sciences. Students will learn to identify, describe and explain social institutions, structures or processes. These courses emphasize the effective application of accepted problem-solving techniques. Students will apply formal and informal qualitative or quantitative analysis to examine the processes and means by which individuals make personal and group decisions, as well as the evaluation of opinions, outcomes or human behavior. Students are expected to assess and analyze ethical perspectives in individual and societal decisions.

- International (N)

  International courses promote the development of students' global and intercultural awareness. Students examine the cultural, economic, geographic, historical, political, and/or social experiences and processes that characterize the contemporary world, and thereby comprehend the trends, challenges, and opportunities that affect communities around the world. Students analyze and reflect on the ways in which cultural, economic, political, and/or social systems and beliefs mediate their own and other people's understanding of an increasingly connected world.

  Data does not have boundaries and as such, the course will discuss examine international data in order to compare and contrast different countries as well as examining data sets from countries outside the United States. This is particularly important in the analysis of certain issues like economic development and growth, democracy and corruption indices, and health data from around the world. Roughly half the data sets analyzed in lectures will be data that is collected outside the U.S. or by international non-governmental organizations.

This course accomplishes the [Quest](#) and [General Education](#) objectives of the subject areas listed above. A minimum grade of C is required for Quest and General Education credit. Courses intended to satisfy Quest and General Education requirements cannot be taken S-U.

Required Readings and Works

Required Readings: David M. Levine, Mark L. Berenson and David Stephan, "Statistics for Managers Using Microsoft Excel", Prentice-Hall, Eight Edition, 2016.

*Additional readings may be added and posted on Canvas.

Materials and Supplies Fees: n/a

II. Graded Work

Description of Graded Work

	Description	Weight for Final Grade
Attendance	Daily attendance will be taken at the start of every lecture; grade based on percentage of lectures attended	10%
Participation	Active participation and discussions during class, asking informed questions during lectures and during presentations by classmates; students expected to actively participate by asking questions during lectures, being active in the group during in-class group assignments, and providing feedback during classmate's data project presentations; students should do one of the above at least once per week in order to get full credit for participation for the week	10%
In-Class Assignments	In-class group assignments where the group will be tasked with manipulating a database covered in class; grade based on percentage of in-class assignments completed where the assignments are graded on a pass/fail basis	20%
Quizzes	Bi-weekly short quizzes that will be multiple choice and test you on the knowledge of the most recently covered material	20%
Data Project Presentation	Individual presentation of a publicly available database; student will present a research question, identify data that can be used to answer the research question, present descriptive statistics, visualization of the data, and if possible, the results of a simple regression; students should show how the data reflects their experience and/or affects their lives; instructor and classmates will provide feedback	30%
Data Project Presentation Report	A short report documenting the process of finding and analyzing the data used for the course presentation (1,000 – 1,500 words)	10%

Grading Scale

For information on how UF assigns grade points, visit: https://catalog.ufl.edu/UGRD/academic-regulations/grades-grading-policies/. Grades will rounded to the nearest whole number:

A	93 – 100%		C	73 – 76%
A-	90 – 92%		C-	70 – 72%
B+	87 – 89%		D+	67 – 69%
B	83 – 86%		D	63 – 66%
B-	80 – 82%		D-	60 – 62%
C+	77 – 79%		E	<60

III. Annotated Weekly Schedule

Week	Topics, Homework, and Assignments
Week 1	• **Topic:** Introduction to Data Analysis and Intro to Using Excel
Week 2	• **Topic:** Using Excel to Merge Databases and Visualize Data
Week 3	• **Topic:** Using Excel to Produce Plots, Descriptive Statistics, and Simple Linear Regressions **Quiz 1**
Week 4	• **Topic:** Macroeconomic Data: Using and Understanding the National Income and Product Accounts and other Data from the Bureau of Economic Analysis; International GDP Data from Our World in Data and Penn World Tables • **Textbook:** Ch. 1 – Defining and Collecting Data pp. 12-26

Week 5	• **Topic:** Macroeconomic Data: Using and Understanding Consumer Price Index, Non-Farm Payroll, and other Data from the Bureau of Labor Statistics; International Price and Employment Data from the World Bank and IMF • **Textbook:** Ch. 2 – Organizing and Visualizing Variables pp. 32-56 **Quiz 2**
Week 6	• **Topic:** International Trade: Trade Data using World Bank's World Integrated Trade Solutions (WITS) Database • **Textbook:** Ch. 2 – Organizing and Visualizing Variables pp. 59-74
Week 7	• **Topic:** Global Health: Health Data from the OECD and WHO • **Textbook:** Ch. 3 – Numerical Descriptive Measures pp. 95-117
Week 8	• **Topic:** Climate Change: Data from the World Bank's Climate Change Knowledge Portal and Our World in Data • **Textbook:** Ch. 3 – Numerical Descriptive Measures pp. 119-131 **Quiz 3**
Week 9	• **Topic:** Demographic Data: Using and Understanding Demographic Data from the U.S. Census and United Nation's Demographic Country Yearbooks • **Textbook:** Ch. 4 – Basic Probability pp. 141-161
Week 10	• **Topic:** Demographic Data: Using and Understanding Data from the American Community Survey • **Textbook:** Ch. 5 and 6 – Discrete and Normal Distributions pp. 166-177, pp. 189-209
Week 11	• **Topic:** Time Series Data: Using FRED to Analyze Growth, Consumption, and Investment Data; IMF Data Looking at International Growth and their Determinants • **Textbook:** Ch. 8 – Confidence Interval Estimation pp. 237-254 **Quiz 4**
Week 12	• **Topic:** Panel Health Data: Medical Expenditure Panel Survey • **Textbook:** Ch. 13 – Simple Linear Regression pp. 427-443
Week 13	• **Topic:** Panel Income Data: Using and Understanding Data from the Panel Study of Income Dynamics • **Textbook:** Ch. 16 – Time-Series Forecasting pp. 553-584 **Quiz 5**
Week 14	• **Topic:** Political Data: Using and Understanding International Corruption and Democracy Data from the Polity Database and ADA Political Leaning • **Textbook:** Ch. 17 – Getting Ready to Analyze Data in the Future pp. 598-603

Week 15	• **Topic:** Data Project Presentations
Week 16	• **Topic:** Data Project Presentations • **Data Project Presentation Reports Due on Final Lecture Day**

IV. Student Learning Outcomes (SLOs)

At the end of this course, students will be expected to have achieved the Quest and General Education learning outcomes as follows:

- **Content***: Students demonstrate competence in the terminology, concepts, theories and methodologies used within the discipline(s)*. Students will learn how to find, download, and interpret a variety of data sets and be able to summarize the data using charts and graphs. Students will take quizzes throughout the semester (every 2-3 weeks) on the terminology and concepts gained from lectures. Students will also apply the knowledge gained from lectures in their data project presentation and reports at the end of the semester (Quest 2, Social and Behavioral Sciences).

- **Critical Thinking**: *Students carefully and logically analyze information from multiple perspectives and develop reasoned solutions to problems within the discipline(s).* Students will learn to find, analyze, and evaluate data sets and apply the knowledge learned in a data project presentation and report. Students choose their own topics and critically evaluate real-world data to gain insights into a myriad of social issues and pressing problems. (Quest 2, Social and Behavioral Sciences).

- **Communication**: *Students communicate knowledge, ideas and reasoning clearly and effectively in written and oral forms appropriate to the discipline(s).* Students will have to effectively communicate their results from their data project in an oral presentation that will be accompanied with slides. Students will also submit a written report of their presentation at the end of the course which should be detailed and incorporate the feedback received during their presentation from the instructor and classmates. The data project presentations will take place in the final few weeks of the course and the data project reports will be due on the final lecture day of the semester. Finally, students must actively participate during in-class discussions. (Quest 2, Social and Behavioral Sciences).

- **Connection**: *Students connect course content with meaningful critical reflection on their intellectual, personal, and professional development at UF and beyond.* The data project, which includes an in-class presentation and a written report, should be based on a societal issue or pressing problem to which the student has a personal connection. Students will work on this project throughout the semester and receive ongoing feedback from the instructor before their presentation (Quest 2).

V. Quest Learning Experiences

1. Details of Experiential Learning Component

Students will conduct a data collection exercise (data project noted above where students will have to do a presentation and report) where they identify a societal issue or pressing social problem, locate a related data set, thoroughly analyze the data using charts and graphs. Students will leave the course with a substantial written report that they can confidently discuss on applications and in interviews.

The topic that students select should reveal some connection to the student's life, and this exercise should help their understanding of the variables in this data set. Roughly 20% of the class time is dedicated to this project, and it will ultimately make up 40% of the course grade.

2. Details of Self-Reflection Component

The course requires students to self-reflect and think about how the use of data has affected them and/or how some life experience has been affected by data. They will also see how data is used to understand society and make important decisions. They will have to then collect this data, analyze it, present it to the class, and ultimately write a report using the feedback from the instructor and classmates.

VI. Required Policies

Attendance Policy

Requirements for class attendance and make-up exams, assignments, and other work in this course are consistent with university policies that can be found at:
https://catalog.ufl.edu/ugrad/current/regulations/info/attendance.aspx

Students Requiring Accommodation

Students with disabilities who experience learning barriers and would like to request academic accommodations should connect with the disability Resource Center by visiting https://disability.ufl.edu/students/get-started/. It is important for students to share their accommodation letter with their instructor and discuss their access needs, as early as possible in the semester.

UF Evaluations Process

Students are expected to provide professional and respectful feedback on the quality of instruction in this course by completing course evaluations online via GatorEvals. Guidance on how to give feedback in a professional and respectful manner is available at https://gatorevals.aa.ufl.edu/students/. Students

will be notified when the evaluation period opens, and can complete evaluations through the email they receive from GatorEvals, in their Canvas course menu under GatorEvals, or via https://ufl.bluera.com/ufl/. Summaries of course evaluation results are available to students at https://gatorevals.aa.ufl.edu/public-results/.

University Honesty Policy

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 (https://www.dso.ufl.edu/sccr/process/student-conduct-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 or TAs in this class.

Counseling and Wellness Center

Contact information for the Counseling and Wellness Center: http://www.counseling.ufl.edu/cwc/Default.aspx , 392-1575; and the University Police Department: 392-1111 or 9-1-1 for emergencies.

The Writing Studio

The writing studio is committed to helping University of Florida students meet their academic and professional goals by becoming better writers. Visit the writing studio online at http://writing.ufl.edu/writing-studio/ or in 2215 Turlington Hall for one-on-one consultations and workshops.

In-Class Recordings

Students are allowed to record video or audio of class lectures. However, the purposes for which these recordings may be used are strictly controlled. The only allowable purposes are (1) for personal educational use, (2) in connection with a complaint to the university, or (3) as evidence in, or in preparation for, a criminal or civil proceeding. All other purposes are prohibited. Specifically, students may not publish recorded lectures without the written consent of the instructor.

A "class lecture" is an educational presentation intended to inform or teach enrolled students about a particular subject, including any instructor-led discussions that form part of the presentation, and delivered by any instructor hired or appointed by the University, or by a guest instructor, as part of a University of Florida course. A class lecture does not include lab sessions, student presentations, clinical presentations such as patient history, academic exercises involving solely student participation, assessments (quizzes, tests, exams), field trips, private conversations between students in the class or between a student and the faculty or lecturer during a class session.

Publication without permission of the instructor is prohibited. To "publish" means to share, transmit, circulate, distribute, or provide access to a recording, regardless of format or medium, to another person (or persons), including but not limited to another student within the same class section. Additionally, a recording, or transcript of a recording, is considered published if it is posted on or uploaded to, in whole or in part, any media platform, including but not limited to social media, book, magazine, newspaper, leaflet, or third party note/tutoring services. A student who publishes a recording without written consent may be subject to a civil cause of action instituted by a person injured by the publication and/or discipline under UF Regulation 4.040 Student Honor Code and Student Conduct Code.

COVID-19

In response to COVID-19, the following recommendations are in place to maintain your learning environment, to enhance the safety of our in-classroom interactions, and to further the health and safety of ourselves, our neighbors, and our loved ones.

·   If you are not vaccinated, get vaccinated. Vaccines are readily available and have been demonstrated to be safe and effective against the COVID-19 virus. Visit one.uf for screening / testing and vaccination opportunities.

·   If you are sick, stay home. Please call your primary care provider if you are ill and need immediate care or the UF Student Health Care Center at 352-392-1161 to be evaluated.

·   Course materials will be provided to you with an excused absence, and you will be given a reasonable amount of time to make up work.