

Statistics for Info Science INST 314

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University of Maryland
Data Science, iSchool
Shady Grove

INST 314 Statistics for Data Science *Fall 2018*

Course Syllabus

Professor	Melissa Lizmi
Office	online Skype prof.lizmi
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COURSE DESCRIPTION

Advances in hardware and software technologies have led to a rapid increase in the amount of data collected, with no end in sight. Decision making in the coming decades will depend, to an ever greater extent, on extracting meaning and knowledge from all that data. In this class we focus on one branch of statistics, inferential statistics, to help us reason about data. By gathering datasets, formulating proper statistical analyses and executing these analyses, information professionals play a significant role in bridging the gap between raw data and decision making.

This course will introduce basic concepts in data analytics including study design, measure construction, data exploration, hypothesis testing, and statistical analysis. The course also provides an overview of commonly used data manipulation and analytic tools. Through homework assignments, projects, and in-class activities, you will practice working with these techniques and develop statistical reasoning skills.

OUTCOMES

- Select and evaluate various types of data to use in decision making;
- Use prescriptive and descriptive analyses to reach defensible, data-driven conclusions;
- Select and apply appropriate statistical methods;
- Use MS Excel and R for basic data manipulation and analysis;
- Critically evaluate data analyses and develop strategies for making better decisions.

TEXTBOOKS

- Radziwill, Nicole M. 2016, [Statistics \(The Easy Way\) with R](#), ISBN 978-0692339428. Note that you can email the author, [Nicole Radziwill](#), with a picture of yourself and the book and she will send you an e-copy.

SOFTWARE (PURCHASE NOT REQUIRED)

- **Microsoft Excel or Open Office Calc** - Excel is available for Macintosh through the university's TERPware website (<https://terpware.umd.edu>). Open Office Calc is a free software spreadsheet application available online (<https://www.openoffice.org/product/calc.html>).
- **R Studio**; R studio is a free IDE (integrated development environment) for the programming language R (<http://web.cs.ucla.edu/~gulzar/rstudio/>). R (without the IDE) is freely available online (<https://www.r-project.org/>).

COMPUTER LAB USAGE/PRIVILEGES

GRADING

A=100-90% B= 89-80% C=79-70% D=69-60% F=60%-below

Course grades will be based upon

- two exams,
- one final project
- and several homework assignments.

The relative weights of these assignments are

	% of Course Grade	Approximate Date
Homework	25	Varies
Exam 1	25	Week 6
Exam 2	25	Week 12
Final Project	25	Week 16

TEXTBOOK POLICIES

Q: Do I have to get the book? A: Yes!

Q: When should I get the book? A: Now.

Q: Can I share the book with my roommate/dog? A: Sure, just don't complain if your friend is hogging the book and/or you haven't been able to get in touch with them by cell phone. It's YOUR responsibility to do the readings, and you will probably want to bring the book to class. It's light.

Q: Where do I get the book? A: Here <http://amzn.to/2gcpvPE>

ATTENDANCE POLICY AND FINAL EXAM

The way to succeed in this class is to come to class and participate during every class session. If you need additional help beyond regular class sessions, just ask. However, you need to show up for the regular class sessions first.

Q: What do I do if I have to miss a class? A: The materials we go through will be on our Google Drive folder and accessible through our Facebook group. Feel free to post messages to your classmates on the Facebook groups to get into discussions about what we did, how to catch up, and/or if anyone is interested in working with you to catch up.

Q: What if I miss a class where we do an important and graded activity like the M&Ms exercise? A: Then you'll have to ask your classmates what we did, buy your own M&Ms, and do the exercise on your own so that you can catch up. In short, it's a lot easier to just come to class.

*Q: Should I tell you if I am going to miss a class? A: It's not necessary to notify me, but it's your responsibility to leverage our *online resources and your classmates* to figure out what went on during the session, if you must miss it. Please don't come to me and say "I missed class on Tuesday. What did we do?" My job is to tell you that stuff during class.*

Incompletes - I do not give incompletes. Failure to complete your final project or present your project during Final Exam Week will result in a zero for your project, making it very unlikely that you'll pass this class. Please plan ahead and start working on your semester projects early.

LATE & MAKE-UP POLICIES

Homework Instructions

- All assignments must be submitted by **noon on the due date listed** in the Due Date column of our schedule (generally one week following the week's assignment). Homework assignments submitted after such time will receive **10% off for the first week late and no credit for more than one week late.**
- All homework assignments must be submitted on your shared Google Drive with view access via a link in order to receive credit.

MAKE-UP EXAMS

I do not allow make-up exams. If you miss an exam, you will take a comprehensive final at the end of the semester and it will count for the missed exam. The only exception to this is when a student notifies me one week prior to the exam, provides a valid reason with extenuating circumstances, and agrees to take the exam earlier than the scheduled time.

FINAL PROJECT

You must attend the final project presentation class and present your final project in order to receive credit.

COLLEGE POLICIES

<http://ugst.umd.edu/courserelatedpolicies.html>. Topics that are addressed in these various policies include academic integrity, student and instructor conduct, accessibility and accommodations, attendance and excused absences, grades and appeals, copyright and intellectual property.

OFFICE HOURS

Please visit me during office hours. This is your opportunity to ask questions about the material covered, internships and job opportunities. If you are having trouble in the course please talk to me as soon as possible. If you do poorly or lower than you expected on the first exam, it is imperative that you come to office hours so that we can figure out the problem early.

ACADEMIC DISHONESTY

Cheating in any form (copying, falsifying signatures, plagiarism, etc.) will not be tolerated. It will result in a referral to the Office of Student Conduct irrespective of scope and circumstances, as required by university rules and regulations. There are severe consequences of academic misconduct, some of which are permanent and reflected on the student's transcript. If you have any questions regarding the University's policies on scholastic dishonesty, please see <http://osc.umd.edu/OSC/Default.aspx>.

It is very important that you complete your own assignments, and do not share files (excluding raw data), partial work or final work.

UNIVERSITY OF MARYLAND CODE OF ACADEMIC INTEGRITY

The University of Maryland, College Park has a nationally recognized Code of Academic Integrity, administered by the Student Honor Council. This Code sets standards for academic integrity at Maryland for all undergraduate and graduate students. As a student you are responsible for upholding these standards for this course. It is very important for you to be aware of the consequences of cheating, fabrication, facilitation, and plagiarism. For more information on the Code of Academic Integrity or the Student Honor Council, please visit <http://shc.umd.edu/SHC/Default.aspx>.

ACCOMMODATIONS

Please come and see me as soon as possible if you think you might need any special accommodations for disabilities. In addition, please contact the Disability Support Services (301-314-7682 or <http://www.counseling.umd.edu/DSS/>). Disability Support Services will work with us to help create appropriate academic accommodations for any qualified students with disabilities. If you experience psychological distress during the course of the semester you can get professional help at the Counseling Center (301-314-7651 or <http://www.counseling.umd.edu/>).

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