Introduction to Statistics in Criminology and Criminal Justice

Meeting times Tuesdays and Thursdays, 9:30-10:45
MMH 1400

Instructor Prof. Greg Midgette
2220L LeFrak Hall
gem@umd.edu

Office hours Mondays and Wednesdays 10:00am-11:30am, and by appointment

Teaching assistants

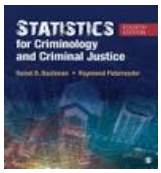
	Erin Tinney	Mat Luna
Sections	0102, 0103, 0106	0101, 0104, 0105
Email	etinney@terpmail.umd.edu	mluna1@terpmail.umd.edu
Office hours	Tuesdays, 1-3	Thursdays, 11-1
Office location	2163 LeFrak	2163 LeFrak

Course description This is an introduction to descriptive and inferential statistics. We will use criminal justice problems and questions to understand the basics of probability, estimation, confidence intervals, and statistical validity. You will learn and apply core concepts we need to study criminal justice, crime, its determinants, and its effects on our world. This course will prepare you to build upon those skills in subsequent statistics coursework.

Learning objectives After successfully completing this course you will be able to:

- Interpret statistical information given verbally, or by formulas, graphs, or tables, and draw inferences from them
- Recognize and use connections within statistical methods and between statistics and other disciplines
- Use statistical methods to inform decisions and solve problems

Textbook



Bachman RD, Paternoster R (2017). *Statistics for Criminology and Criminal Justice (4th Edition)*. SAGE, Thousand Oaks (CA). ISBN # 9781506326108

Calculator You should bring a calculator that can take a square (x^2) and square root ($\sqrt{x}$) to lecture, discussion section, and exams. **You may not use a cell phone, tablet, or laptop for any purpose during exams.**

ELMS-Canvas The course syllabus, problem sets, lecture supplements, and your grades will be available on elms.umd.edu for all students that are registered for the class. Log in with your UMD Directory ID (login ID) and password. You must access ELMS regularly for this course.

Campus policies

It is our shared responsibility to know and abide by the University of Maryland's policies that relate to all courses, which include topics like:

- Academic integrity
- Student and instructor conduct
- Accessibility and accommodations
- Attendance and excused absences
- Grades and appeals
- Copyright and intellectual property

Please visit go.umd.edu/ug-policy for the Office of Undergraduate Studies' full list of campus-wide policies and follow up with me if you have questions.

Grading

Your performance will be measured by a combination of short quizzes, take-home problem sets, two in-class exams, and a final exam:

- Short quizzes on the course's ELMS website after class. They will become available immediately after each lecture and due at 11:59 PM ET the night before the next class. These are meant to help reinforce course concepts while they're fresh in your mind. They also will help me assess whether some concepts need further attention. **These are worth *4* points in total.**
- 3 problem sets. These are open-book, open-note, and to be completed outside of class. You will have a week to complete each problem set. They are due at the beginning of class on the dates listed in the course schedule. You can work on these in groups, but must submit your own work individually. **These are worth 10 points each, so *30* points in total.**
- 2 in-class exams. These are to be completed in class and are closed book and notes. **These are worth 22 points each, so *44* points in total.**
- A final exam. This is to be completed on the scheduled date and time of the final exam, and is closed book and notes. **The final is worth *22* points.**

Note: You will be provided a list of equations at the beginning of the semester, and it will be available to you during exams. Your job will be to apply the equations, not memorize them.

Extra credit policy: I reserve the right to offer extra credit to students at my discretion. Extra credit assignments are aimed to spur deeper understanding of statistics. Specific details about these opportunities will be described in lecture and on the course website.

Final course grades will be assigned according to the scale below. I will round the percentage to the nearest whole number, rounding up at .5 (i.e. 86.4% will be a B and 86.5% will be a B+).

Final Grade Cutoffs									
+	97%	+	87%	+	77%	+	67%		
A	94%	B	84%	C	74%	D	64%	F	<60%
-	90%	-	80%	-	70%	-	60%		

Late assignments

Exams must be taken as scheduled except in cases of academic accommodation in accordance with UMD policies for excused absences and ADS (see campus Attendance, Absences, or Missed Assignments policy for more information: go.umd.edu/ug-policy). In case of an excused absence, you must arrange with your teaching assistant to make up the missed exam. The in-class and final exams are considered Major Scheduled Grading Events, and therefore the university medical excuse policy, which allows one student-signed honor statement attesting to illness, does ***not*** apply to them.

Late assignments are subject to grade penalties. Short quizzes and problem sets received after the deadline will receive 50% of their scored grade (for example, an on-time assignment receiving an 80% will receive 40% if late).

Disability support

We will make every effort to accommodate students who are registered with the Accessibility and Disability Service (ADS) Office and who provide a University of Maryland ADS Accommodation form that covers the Spring 2019 semester. This form must be presented to me no later than February 7, 2019. ADS students who wish to take their exams at the ADS Center need to provide me with the link to the testing form for each exam, and I must receive this no later than 1 week prior to each exam. Except in rare unusual circumstances, I expect all students to take the exam at the same time as the rest of the class.

Course evaluation

Your feedback about this course and my teaching is very important to me. Completing a course evaluation is also part of what it means to be a member of the UMD academic community. Midway through the semester, you will have an opportunity to provide anonymous feedback, and at the end of the semester I very much would like you to fill out the online course evaluation. Near the end of the semester, CourseEvalUM will be open for you to complete your course evaluation. You can then go directly to the website at: (https://www.courseevalum.umd.edu/) to complete your evaluation.

Discussion sections

Graduate TAs will lead discussion sections to facilitate your understanding of the material. These will allow you to ask questions and clarify material taught during lecture and contained in the homework assignments and exams. You are expected to go to your registered discussion section. If the occasional need to attend a

different section arises, you may attend another discussion section at the discretion of the teaching assistant leading the alternate section.

Class conduct

Students and instructors (i.e., the TAs and me) are expected to treat each other with respect. You are expected to adhere to the Code of Student Conduct.
(see: president.umd.edu/administration/policies/section-v-student-affairs/v-100b).

A few specific guidelines for this class:

- No headphones worn during class
- No cell phone use during class. Phones and other electronics that can make disruptive noise should be set to "silent," "do not disturb," or just turned off. Inappropriate use of cell phones may mean that you are asked to leave for the remainder of the lecture.
- Please do not take audio or video recordings of class sessions without my express consent and the consent of your classmates.
- Laptops and tablets are prohibited only on exam days; you can use them during class if you want. ***However…***

Pro tips

There is compelling research that writing out your notes by hand leads to better retention and deeper understanding of information than typing them out (see, e.g., www.scientificamerican.com/article/a-learning-secret-don-t-take-notes-with-a-laptop/). In this class in particular, you'll be writing out mathematical formulae, and you will be required to show the steps that yielded your answers in graded assignments. I strongly suggest that you not use laptops or tablets during class.

Statistics can be intimidating at first, but the more you practice, the more sense it will make. I've arranged the course to try to keep you on top of the material; cramming won't be a good strategy for this class. So, do not wait to seek out help if you find yourself struggling or falling behind. Most importantly, ***we are here for you if you need help.***

Athletes

Official athletic schedules must be submitted to me. Practices do not count as an excused absence; in cases of an excused absence (i.e. a game), students are expected to arrange with me make-up exams/assignments at least one week prior to scheduled due dates. It is the responsibility of the athlete to reconcile their athletic schedule with the course schedule and to notify me of potential conflicts so that we can make a plan. Athletes who miss exams/assignments due to games or other commitments, yet never submitted an official athletic schedule, and never spoke with me, will receive a grade of zero for the relevant assignment.

Inclement Weather

On occasion, classes may be cancelled due to inclement weather. If the university is closed on the day a graded item is scheduled the graded assignment will be rescheduled for the next class meeting in which the university is open.

E-mail

Please include "CCJS200" in the subject line of all emails regarding this course. I will generally respond rather quickly to your emails, but there may be times when I am unable to do so. I ask that you save substantive questions for class or office hours.

Finding Help

Seek help as soon as you find yourself struggling with the material. Don't wait. I hope you will come talk to me or your section TA so that we can help you find the right approach to success in this course, and I encourage you to visit tutoring.umd.edu to learn more about the wide range of campus resources available to you (math tutoring should cover anything we do in this class).

Finally, if you just need someone to talk to, visit counseling.umd.edu.

Self-identification

The University of Maryland recognizes the importance of a diverse student
body, and we are committed to fostering equitable classroom environments. I invite you, if you wish, to tell us how you want to be referred to both in terms of your name and your pronouns (e.g., he/him, she/her, they/them). The pronouns someone indicates are not necessarily indicative of their gender identity. Visit trans.umd.edu to learn more.

Additionally, how you identify in terms of your gender, race, class, sexuality, religion, and dis/ability, among all aspects of your identity, is your choice whether to disclose (e.g., should it come up in classroom conversation about our experiences and perspectives) and should be self-identified, not presumed or imposed. I will do my best to address and refer to all students accordingly, and I ask you to do the same for all of your fellow Terps.

Course Schedule

Class	Date		Topic	Assignment	
1	Tuesday	Jan 29	Introduction: Sampling & Key Statistical Terms	Chapter 1	
2	Thursday	Jan 31	Types of Data and Levels of Measurement	Chapter 2	
3	Tuesday	Feb 05	Data Distributions and Simple Descriptions of Data	Chapter 3	
4	Thursday	Feb 07	Graphical Presentations of Data	Chapter 3	
5	Tuesday	Feb 12	Measures of Central Tendency 1	Chapter 4	Homework 1 Due
6	Thursday	Feb 14	Measures of Central Tendency 2	Chapter 4	
7	Tuesday	Feb 19	Measures of Dispersion 1	Chapter 5	
8	Thursday	Feb 21	Measures of Dispersion 2	Chapter 5	
9	Tuesday	Feb 23	FIRST EXAM		
10	Thursday	Feb 28	Probability Theory & Hypothesis Testing 1	Chapter 6	
11	Tuesday	Mar 05	Probability Theory & Hypothesis Testing 2	Chapter 6	
12	Thursday	Mar 07	Point Estimation and Confidence Intervals 1	Chapter 7	
13	Tuesday	Mar 12	Point Estimation and Confidence Intervals 2	Chapter 7	
14	Thursday	Mar 14	One Population Mean and Proportion Tests 1	Chapter 8	Homework 2 Due
			SPRING BREAK (3/17-3/24)		
15	Tuesday	Mar 26	One Population Mean and Proportion Tests 2	Chapter 8	
16	Thursday	Mar 28	Hypothesis Tests with Categorical Data 1	Chapter 9	
17	Tuesday	Apr 02	Hypothesis Tests with Categorical Data 2	Chapter 9	
18	Thursday	Apr 04	Two Population Hypothesis Tests 1	Chapter 10	
19	Tuesday	Apr 09	Two Population Hypothesis Tests 2	Chapter 10	
20	Thursday	Apr 11	SECOND EXAM		
21	Tuesday	Apr 16	Analysis of Variance 1	Chapter 11	
22	Thursday	Apr 18	Analysis of Variance 2	Chapter 11	
23	Tuesday	Apr 23	Correlation	Chapter 12	
24	Thursday	Apr 25	Ordinary Least Squares Regression 1	Chapter 12	
25	Tuesday	Apr 30	Ordinary Least Squares Regression 2	Chapter 12	
26	Thursday	May 02	Intro to Multivariate Regression 1	Chapter 13	Homework 3 Due
27	Tuesday	May 07	Intro to Multivariate Regression 2	Chapter 13	

28	Thursday	May 09	Intro to Logit Models 1	Chapter 14
29	Tuesday	May 14	Exam Review	
	TBA		FINAL EXAM	

(Caulkins, Kilmer, Reuter, & Midgette, 2015; MacCoun & Reuter, 2011)