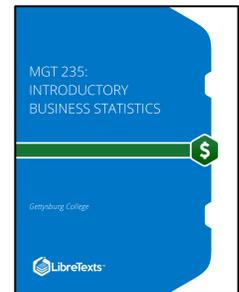


Class Information

- Lecture:** **Section B:** Mondays*, Wednesdays, & Fridays 9 – 9:50 AM virtual (Zoom, see Moodle)
Section C: Mondays*, Wednesdays, & Fridays 10 – 10:50 AM virtual (Zoom)
***Beginning in Week 2 (Aug 24), Monday class sessions will be remote and asynchronous.**
- Labs:** **Section LB1:** Thursdays 7 – 8 PM, virtual
Section LB2: Thursdays 8 – 9 PM, virtual
Section LC1: Tuesdays 7 – 8 PM, virtual
Section LC2: Tuesdays 8 – 9 PM, virtual
- Final exam:** **Section B:** Sunday, December 13th, 8:30 – 11:30 AM, virtual
Section C: Friday, December 11th, 8:30 – 11:30 AM, virtual
- Email:** abrawley@gettysburg.edu
- Drop-in hours:** Mondays 9 – 11 AM and Thursdays 2 – 4 PM via Zoom (see Moodle)

Required Materials & Tools

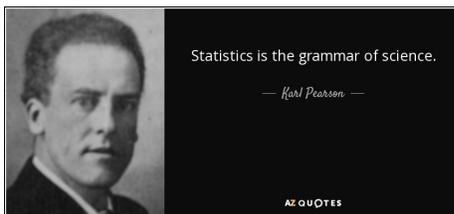
- 1. Textbook:** *Introductory Business Statistics* – Gettysburg College edition
 - Free as a PDF on our Moodle site
 - To order a printed copy through the bookstore for approximately \$2.00 (exact price may vary slightly): Please follow the instructions on Moodle [by Friday 8/21](#)
- 2. Calculator:** You will need a calculator with a square root function.
- 3. Software:** You'll have virtual access to SPSS, which you'll use for labs and your final project.
- 4. Course communication:** Check Moodle and your College email regularly.



Course Goals

This class and lab will provide you with training to understand and use statistics in management, including how to best collect and manage quantitative data, describe and analyze that data, and interpret results to make conclusions about people in organizations. Specifically, after completing this course, you will:

- Understand the logic of hypothesis testing in research
- Understand the "big four" statistical models in social science: t -tests, analyses of variance, correlation, and regression
- Be able to choose among these analyses to best solve a problem or answer a question
- Be able to conduct these analyses, both by hand and using computer software
- Be able to interpret statistical findings, both for research and non-research audiences
- Be able to create and understand graphs that illustrate statistical findings
- Be well-prepared to use your statistical knowledge to address real questions in organizations



Why is statistics required? As the legendary statistician Karl Pearson explains, this is the "language" you need to know (including: being able to do, understand, and communicate it) in order to be an evidence-based management scholar, and to be a solid critical thinker in life in general. Statistical analysis is how we answer many questions in management, and it forms the basis of solid, evidence-based decision-making in organizations.

Course Requirements

Assignment	#	Points Each	Total Points (% of Grade)
Practice			
Class participation	20	1	20 (5%)
Lab assignments	10	3	30 (8%)
Problem sets	10	3	30 (8%)
Exams			
Quiz	1	20	20 (5%)
Midterm exams	2	80	160 (40%)
Cumulative final exam	1	100	100 (25%)
Final Project			
Final research project	1	40	40 (10%)

Total possible points: 400

Grade	%	Min. Points						
			B	82.5 – 87.4%	330	D+	67.5 – 69.9%	270
A	92.5%+	370	B-	80 – 82.4%	320	D	62.5 – 67.4%	250
A-	90 – 92.4%	360	C+	77.5 – 79.9%	310	D-	60 – 62.4%	240
B+	87.5 – 89.9%	350	C	72.5 – 77.4%	290*	F	0 – 59.9%	
			C-	70 – 72.4%	280		0	

Grades will be posted regularly on Moodle. Address any concerns early, and concerns about specific grades should be addressed within a week of being posted on Moodle. ***The BOM/OMS major requires a C or better in MGT/OMS 235; each student may attempt MGT/OMS 235 only once.**

Class participation: As you'll see below in the advice for doing well in this course, being fully engaged in class is critical to your growing statistical skill base. To incentivize your active involvement, then, approximately 20 times throughout the semester – unannounced ahead of time – participation will be graded in varying ways (e.g., exercises, activities, quizzes). You'll be informed about how participation will be graded each time, and credit will be awarded on the basis of effort. These participation grades may occur in both our live in-class sessions and as part of the Monday asynchronous sessions.

Generally, **full participation credit** will be awarded to students who are consistently attentive and make thoughtful contributions (this includes asking questions whenever helpful!). **Reduced – including "0" – participation credit** will be awarded to students who miss class (or an important activity during class – e.g., by arriving late or leaving early), are distracted, distract classmates, or avoid engaging altogether.

Labs (all virtual): Labs are designed to train you to use software to conduct statistical analyses and APA style to report statistical analyses, so that you are well prepared to do independent work on your final project in this course, as well as the work in other Management courses. Each lab will involve a graded lab assignment, and will be led by Peer Learning Associates (PLAs).

This semester, lab classrooms are closed for safety reasons, so all labs will be conducted virtually. There will be no in-person work for labs.

Problem sets: Electronic copies of 10 problem sets – to be posted on Moodle – will be due at the beginning of class on most Fridays throughout the semester (see course schedule). You'll submit these by uploading them on Moodle, but the document can be any type of file (for example, a scan, photo, or video of your handwritten work). Working with classmates on problem sets in a general sense is fine, but (a) all work you turn in must be your own, and (b) be sure you're able to independently solve the problems. Detailed instructions are on Moodle.

Exams: Exams will be based on the textbooks, lectures, in-class activities, and problem sets. Exam questions generally include multiple choice, short answer, and calculations. You will need a non-phone, non-computer calculator to use during the exams. Please also read below for more info on how to best prepare for exams.

Final project: You'll conduct your own research study – including developing questions, gathering and analyzing data, and presenting your findings – on a topic of your choosing. Details will be provided in class and on Moodle.

Policies & Procedures

COVID-19 considerations: We are living in interesting times. I will work with you to accommodate whatever we might encounter this semester, but to best do that, please keep me updated if something is going on. This includes your physical health as well as the many other circumstances that could be impacted right now (e.g., financial, family, mental health). Know that I won't require private health or other personal details – I'll just need to know how you'll be affected in our class.

To keep us all healthy, we'll stick to the following principles, which are also part of the College's Student Health Agreement.

- When attending class in-person, please plan to sanitize your area at the start of class, wear a face covering, and maintain adequate social distance.
- If you feel you are or think you could be sick, please do **not** attend class in person. You will have the option to complete any class session/s virtually (live/synchronously); I will post in-class notes on Moodle; and I'll gladly answer questions you might have. It's also a great idea to have a course buddy with whom you can share additional notes.

General attendance policy: For planned (or emergency) absences in which there is work to possibly be made up, email me with documentation prior to the absence (or ASAP). Generally, you may only attend the section of class and lab that you're officially enrolled in, but I make limited exceptions to this on an as-needed basis – contact me with info/documentation for this option.

Late work policy: Late (or missed, or non-working electronic file) submissions generally result in a grade of zero. For planned absences when work is due, turn the work in early, instead of upon your return to class.

Academic honesty: The Honor Code is taken seriously in 235 in order to uphold our department's reputation for training quality statisticians. If you violate the Honor Code, penalties as determined by the Honor Commission may include failure of the assignment, exam, or entire course.

Requesting accommodations: For learning or testing accommodations, contact Academic Advising to develop an Individual Education Accommodation Plan (IEAP). Then we'll use your IEAP as a guide to establish how accommodations will be implemented. To ensure that we have time to make appropriate plans, provide me with your IEAP at least two weeks prior to the first event (e.g., an exam) for which you request an accommodation.

In case you aren't excited and motivated yet...: If any single section of this class earns an 85.0% (or higher) average over the whole semester, I will get a tattoo of my favorite statistical equation. Will your section be the one to achieve permanent fame?

Course Schedule – Updated Sept 9

Further changes to this schedule will be communicated to you in class and on Moodle.

Date	Class Topic (Corresponding Chapters)	Due Dates	Date	Lab
M 8/17	Data, statistics, and method basics (Chapter 1)		T 8/18	No lab
W 8/19	" "		or	
F 8/21	" "	F 8/21: Set 1	R 8/20	
M 8/24	Sampling & measurement; descriptives (Ch. 2 – omit 2.5)		T 8/25	1. Math
W 8/26	" "		or	
F 8/28*	" "	F 8/28: Set 2	R 8/27	
M 8/31	Probability (Ch. 3 and 4 – omit 3.5)		T 9/1	2. Excel, part I
W 9/2	" "		or	
F 9/4	" "	F 9/4: Set 3	R 9/3	
M 9/14	Sampling distributions (Ch. 5 – omit 5.4)		T 9/15	3. Excel, part II
W 9/16	Quiz (Basics – descriptives)		or	
F 9/18	" "		R 9/17	
M 9/21	" "		T 9/22	4. SPSS
W 9/23	Inferential statistics, part I (Ch. 6 – omit 6.4)		or	
F 9/25	" "	F 9/25: Set 4	R 9/24	
M 9/28	" "			No lab
W 9/30	Exam 1 (Basics – probability)			
F 10/2	Inferential statistics, part II (Ch. 7)			
M 10/5	" "		T 10/6	5. Probability
W 10/7	" "		or	
F 10/9	" "	F 10/9: Set 5	R 10/8	
M 10/12	" "		T 10/13	6. Inference
W 10/14	Independent samples (Ch. 8.1 – 8.4)		or	
F 10/16	" "	F 10/16: Set 6	R 10/15	
M 10/19	" "			No lab
W 10/21	Exam 2 (Sampling distributions – inferential statistics)			
F 10/23	Dependent samples (Ch. 8.6)			
M 10/26	" "	M 10/26: Proposal	T 10/27	7. NHST
W 10/28	" "		or	
F 10/30*	" "	F 10/30: Set 7	R 10/29	
M 11/2	One-way ANOVA (Ch. 9)		T 11/3**	8. Independent t
W 11/4	" "		or	
F 11/6	" "	F 11/6: Set 8	R 11/5	
M 11/9	Correlation (Ch. 10.1 – 10.3)		T 11/10	9. Dependent t
W 11/11	" "		or	
F 11/13	" "	F 11/13: Set 9	R 11/12	
M 11/16	Regression (Ch. 10.4, 10.6)		T 11/17	10. ANOVA + r
W 11/18	" "		or R	
F 11/20	" "	F 11/20: Set 10	11/19	
Thanksgiving break – no class meeting				No lab
M 11/30	" "			No lab
W 12/2	Final project presentations due at beginning of class	W 12/2: Project		
F 12/4	Final project presentations, continued			

* 8/28: Last day to drop/add courses, 10/30: Last day to withdraw with a final grade of "W" (instead of A-F grade).

** 11/3: US Presidential election day – be sure to plan ahead! To register to vote, check if you're registered to vote, find your polling place, get a mail-in ballot, and more, you can visit vote.org.

How to Do Well in This Course

Before and during class

- Be engaged in class. Pay attention, think about what you're learning, ask questions, laugh at my statistics jokes, etc.
- To ensure you can be engaged during class, bring the slides with you. We will be adding extra notes, solving problems, and thinking through things during class, so you'll need to focus on those (rather than needing to re-write what you can bring with you) while we are in class.

After and outside of class

- Review (ideally, rewrite) your notes ASAP after class. This helps solidify what you learned and identify any questions you might have.
- Take problem sets seriously, and bring questions to class or office hours. Yes, many of the solutions are already available in the text, and you can work with classmates on these. But problem sets are your chance to practice independently (and they are purposely designed to give you a sense of the types of questions to be comfortable with for exams), possibly make mistakes (without penalty!), and learn from those errors.
- Come talk with me any time you have questions, and the sooner the better, as later topics build on your understanding of earlier ones.

Preparing for exams

- Start prepping early for exams.
- Be sure to cover everything when prepping for exams. This includes both content (that is, prepare by using class notes, problem sets, and the extra practice problems that'll be posted on Moodle) and format (be ready to both solve problems, and to explain or interpret a problem, solution, or concept).
- Study actively and in ways that mimics what it will be like during the exam. For example...
 - ...flash cards can be a good tactic, because you're practicing recall and not just recognition.
 - ...practice working through problems without an example solution to guide your problem solving steps.
 - ...get used to working with timing and time constraints in mind.