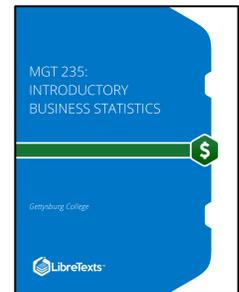


### Class Information

- Lecture:** **Section B:** Mondays, Wednesdays, & Fridays 9 – 9:50 AM in Breidenbaugh 311  
**Section C:** Mondays, Wednesdays, & Fridays 10 – 10:50 AM in Breidenbaugh 311
- Email:** [abrawley@gettysburg.edu](mailto:abrawley@gettysburg.edu)
- Drop-in hours:** Mondays 11 AM – 1 PM and Thursdays 2 – 4 PM in my office (GLAT 405)
- Labs:** **Section LB1:** Thursdays 7 – 8 PM in Plank Gym 111  
**Section LB2:** Thursdays 8 – 9 PM in Plank Gym 111  
**Section LC1:** Tuesdays 7 – 8 PM in Plank Gym 111  
**Section LC2:** Tuesdays 8 – 9 PM in Plank Gym 111
- Final exam:** **Section B:** Friday, Dec 17 1:30 – 4:30 PM in Breidenbaugh 311  
**Section C:** Monday, Dec 13 8:30 – 11:30 AM in Breidenbaugh 311

### Required Materials & Tools

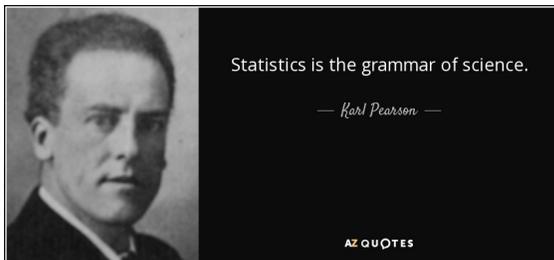
- 1. Textbook:** *Introductory Business Statistics* – Gettysburg College 2<sup>nd</sup> edition
  - Free as a PDF on our Moodle site
  - For a printed copy of the full book: See instructions on Moodle
- 2. Calculator:** You will need a calculator with a square root function.
- 3. SPSS software:** You have access to SPSS on any campus lab computer. You'll use SPSS 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 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: *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 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)
<b>Practice</b>			
Class participation	20	1	20 (5%)
Lab assignments	10	3	30 (8%)
Problem sets	10	3	30 (8%)
<b>Exams</b>			
Quiz	1	20	20 (5%)
Midterm exams	2	80	160 (40%)
Cumulative final exam	1	100	100 (25%)
<b>Final Project</b>			
Final research project	1	40	40 (10%)

Total possible points: 400

Grade	%	Min.	Points
B	82.5 – 87.4%	330	D+
B-	80 – 82.4%	320	D
C+	77.5 – 79.9%	310	D-
<b>C</b>	<b>72.5 – 77.4%</b>	<b>290*</b>	F
C-	70 – 72.4%	280	0
A	92.5%+	370	
A-	90 – 92.4%	360	
B+	87.5 – 89.9%	350	

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 major requires a C or better in MGT 235; each student may attempt MGT 235 only once.**

**Class participation:** Being fully engaged in class will be critical to your growing statistical skill base. To incentivize your active involvement, then, 20 times in class meetings 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. You must be in class to earn participation credit.

**Labs:** These labs are designed to train you to use software to conduct statistical analyses and APA style to report your findings – which will be important for your final project in this course as well as work in other Management courses. Each lab involves a graded lab assignment and is led by Peer Learning Associates (PLAs).

**Problem sets:** To ensure that you get individual practice with the statistical concepts we learn, electronic copies of 10 problem sets – with detailed instructions 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 is generally fine, but (a) all work you turn in must be your own, and (b) be sure you're able to independently solve the problems.

**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. Note that the final exam in MGT 235 is cumulative. Please also see the last page of this syllabus 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**

**Late work and attendance general policy:** Late (or missed, or non-working electronic file) submissions generally result in a grade of zero – this includes participation grades and exams when you are absent; and labs or problem sets that are not submitted on time. For planned absences when work is due, turn the work in early, instead of upon your return to class.

**Oh no! I need to miss class! Besides being really sad about missing our awesome class, what should I do?** First, check with a classmate for notes and any other info you miss, and I'll be happy to answer any questions you have after you've got that info. If there's a homework due, see the above "Late work policy" section on what to do. If there's an exam, we need to plan ahead or ASAP in emergencies – contact me ahead of time or ASAP after, with documentation of why you need to miss the exam, to make a plan.

**Oh no! I need to miss lab! Besides being really sad about missing our very fun lab, what should I do?** Contact me ahead of time or ASAP after in emergencies, with documentation of why you need to miss lab, to make a plan.

**Academic honesty and The Honor Code:** The Honor Code is taken seriously in 235 in order to uphold our department's standard for training evidence-based management students. 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 and IEAPs:** 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?

MGT 235, Statistical Methods, Fall 2021  
 Dr. Brawley Newlin, Gettysburg College

Course Schedule

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

Date	Class Topic (Corresponding Chapters)	Due Dates	Date	Lab
M 8/30 W 9/1 F 9/3	Data, statistics, and method basics (Chapter 1) " " " "	<b>F 9/3: Set 1</b>	<b>T 8/31 or R 9/2</b>	<b>No lab</b>
M 9/6 W 9/8 F 9/10*	Sampling & measurement; descriptives (Ch. 2) " " " "	<b>F 9/10: Set 2</b>	T 9/7 or R 9/9	1. Math
M 9/13 W 9/15 F 9/17	Probability (Ch. 3 and 4) " " " "	<b>F 9/17: Set 3</b>	T 9/14 or R 9/16	2. Excel, part I
M 9/20 <b>W 9/22</b> F 9/24	Sampling distributions (Ch. 5) <b>Quiz (Basics – descriptives)</b> " "		T 9/21 or R 9/23	3. Excel, part II
M 9/27 W 9/29 F 10/1 M 10/4	" " Inferential statistics, part I (Ch. 6) " " " "	<b>F 10/1: Set 4</b>	T 9/28 or R 9/30 T 10/5 or R 10/7	4. SPSS 5. Probability
<b>W 10/6</b> F 10/8	<b>Exam 1 (Basics – probability)</b> Inferential statistics, part II (Ch. 7)			
<b>M 10/11</b> W 10/13 F 10/15	<b>No class meeting (Reading days)</b> " " " "	<b>F 10/15: Set 5</b>	<b>T 10/12 or R 10/14</b>	<b>No lab</b>
M 10/18 W 10/20 F 10/22 M 10/25	" " Independent samples (Ch. 8.1 – 8.4) " " " "	<b>F 10/22: Set 6</b>	T 10/17 or R 10/19	6. Inference
<b>W 10/27</b> F 10/29	<b>Exam 2 (Sampling distributions – inferential stats)</b> Dependent samples (Ch. 8.5)		<b>T 10/26 or R 10/28</b>	<b>No lab</b>
M 11/1 W 11/3 F 11/5	" " " " " "	<b>M 11/1: Proposal</b> <b>F 11/5: Set 7</b>	T 11/2 or R 11/4	7. NHST
M 11/8 W 11/10 F 11/12**	One-way ANOVA (Ch. 9) " " " "	<b>F 11/12: Set 8</b>	T 11/9 or R 11/11	8. Independent $t$
M 11/15 W 11/17 F 11/19 M 10/25	Correlation (Ch. 10.1 – 10.3) " " " " " "	<b>F 11/19: Set 9</b>	T 11/16 or R 11/18	9. Dependent $t$
<b>W 11/24</b> <b>F 11/26</b>	<b>No class meeting (Thanksgiving break)</b> <b>No class meeting (Thanksgiving break)</b>		<b>T 11/23 or R 11/25</b>	<b>No lab</b>
M 11/29 W 12/1 F 12/3 M 12/6	Regression (Ch. 10.4 – 10.6) " " " " " "	<b>F 12/3: Set 10</b>	T 11/30 or R 12/2	10. ANOVA + $r$
<b>W 12/8</b> <b>F 12/10</b>	<b>Final project presentations due at start of class</b> <b>Final project presentations, continued</b>	<b>W 12/8: Project</b>	<b>T 12/7 or R 12/9</b>	<b>No lab</b>

\* Friday 9/10: Last day to drop/add courses.

\*\* Friday 11/12: Last day to withdraw with a final grade of "W" (instead of A-F grade).

### How to Do Well in This Course

In short, (1) put in regular effort and attention in and outside of class, and (2) practice and study in a way that mirrors the format and requirements of the exams.

#### Before and during class

- Be engaged in class. Pay attention, think about what you're learning, ask questions, ask for clarification or extra examples on a concept that is unclear, 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 that (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. 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, all before the exams.
- Bring questions – the ones you have while reviewing your notes and working on problem sets – to our next class meeting, to office hours, or email me with them.
- Asking questions ASAP is better, as later topics in this class will build on your understanding of earlier ones.

#### Preparing for exams

- Start prepping early for exams. Reviewing your notes ASAP after every class is the best way to automatically do this – you're studying already!
- 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 (or peer, or me) to guide your problem-solving steps.
  - ...get used to working with timing and time constraints in mind.