

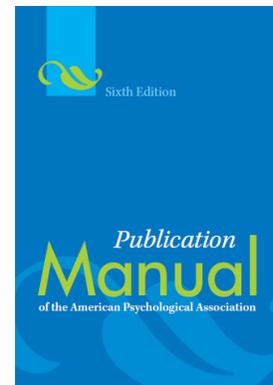
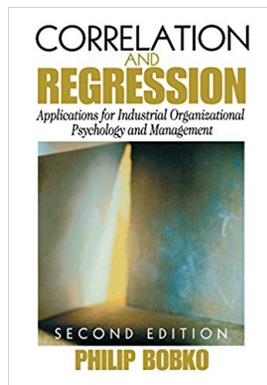
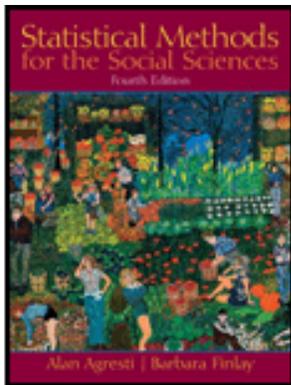
Class Information

- Lecture:** **Section A:** Mondays, Wednesdays, and Fridays 9 – 9:50 AM in Glatfelter Hall 402
Section B: Mondays, Wednesdays, and Fridays 10 – 10:50 AM in Glatfelter Hall 402
- Labs:** **Section LA1:** Tuesdays 7 – 8 PM in McCreary Hall 204
Section LA2: Tuesdays 8 – 9 PM in McCreary Hall 204
Section LB1: Thursdays 7 – 8 PM in Plank Gym 111
Section LB2: Thursdays 7 – 8 PM in Plank Gym 111
- Final exam:** **Section A:** Friday, May 10th 1:30 – 4:30 PM, likely in Glatfelter Hall 402
Section B: Monday, May 6th 8:30 – 11:30 AM, likely in Glatfelter Hall 402
- Email:** abrawley@gettysburg.edu
- Office and hours:** 412 Glatfelter Hall, times TBD (will be posted on Moodle)

Required Materials & Tools

Textbooks:

1. Agresti's *Statistical Methods for Social Sciences* (4th edition; not the newer 5th edition)
2. Bobko's *Correlation and Regression: Applications for Industrial Organizational Psychology and Management* (2nd ed.)
3. *Publication Manual of the American Psychological Association* (6th ed.)



Calculator: You will need a calculator with a square root function that is not your phone or computer.

Software: You will use SPSS for labs and your final project. SPSS is available on the lab computers across campus.

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 OMS, 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 OMS 235, 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 for OMS? Statistical analysis is how we answer many questions in OMS research, which is the basis of every other OMS class you've taken, are taking, and will take. Even if you aren't planning on a career as a researcher after you finish your OMS classes, all workplaces are now moving towards using data – and analyses of that data – to make well-informed decisions. (Plus, folks at Google have called statistician the [sexiest job of the 21st century](#). Heck yeah.)

Course Requirements

Assignment	#	Points Each	Total Points (% of Grade)
Practice			
Class participation	38	Approx. ½	20 (5%)
Lab assignments	10	3	30 (8%)
Problem sets	12	2.5	30 (8%)
Exams			
Quiz	1	20	20 (5%)
Midterm exams	2	60	120 (30%)
Cumulative final exam	1	140	140 (35%)
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%	0
			C-	70 – 72.4%	280			

Your 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 OMS major requires a C or better in OMS 235, this semester; each student may attempt OMS 235 only once.**

Class participation: On all non-exam class dates, participation will be graded. You must be in class to earn credit. In general, **full participation credit** will be awarded to students who come to class prepared, are consistently attentive, and make thoughtful contributions. **Reduced – or even “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 or distract classmates, or avoid participation altogether.

Lab assignments: Each lab will involve a graded lab assignment. These are designed to train you to use SPSS and APA style effectively, so that you are well prepared to do independent work on your final project (and beyond OMS 235).

Problem sets: Hard copies of 12 problem sets – to be posted on Moodle – will be due at the beginning of class on the days listed in the course schedule. Problem set grades will be effort based, so show the steps of your work wherever possible.

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. Bring a writing utensil and a non-phone, non-computer calculator.

Final project: In a final project, you'll conduct your own research study – including developing the questions, gathering and analyzing data, and presenting your findings. Details will be provided to you in class and on Moodle.

Important Policies & Information

Attendance: You're responsible for all material covered in the lectures, but I'm happy to answer Qs after you get the missed info from a classmate. 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). Unless you have prior approval, **you may only attend the section of class and lab that you're officially enrolled in.**

Late work policy: Late (or missed, or non-working electronic file) submissions will result in a grade of zero. If you need to miss class when a problem set is due, turn it in early as a hard copy or email me an electronic copy – as a placeholder for the hard copy – by the start of class time on the due date.

Electronic devices policy: This class is challenging and moves fast – there is not time to waste being distracted. I suggest taking the "lazy" approach to keeping yourself focused: make it easy on yourself to stay focused. You might do this by silencing your phone and zipping it up in a bag out of reach, and by using site-blocking browser add-ons or shutting off your laptop's wifi (or taking notes entirely by hand, instead of on a computer).

Academic honesty: The Honor Code is taken seriously in OMS 235 in order to uphold our department's reputation for training quality statisticians. If you violate the Honor Code, penalties 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.

For accommodations relating to religious observances, complete the online Request for Religious Observance Accommodation Form, available at <http://www.gburg.us/about/offices/president/hr/forms/religious-observance.dot>.

Using office hours effectively: Office hours and appointments are extremely popular in OMS 235, and I enjoy working with growing statisticians one-on-one. However, to be sure that everyone in class can benefit from similar time, I will expect you to come prepared to use our meeting time effectively – bring specific questions, problems, or topics to discuss, or work as far as you can on a given problem (e.g., up until the point where you are confused) before we meet.

In case you aren't excited and motivated yet...: Statistics is actually quite beautiful. Last semester, I introduced a standing challenge to my OMS 235 classes: if either 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. You are the second and third cohorts to attempt this challenge – will you be the ones to achieve this everlasting fame?

Fellow Statisticians

Course Schedule

Any changes to this schedule will be communicated to you in class. A&F = Agresti & Finlay text. B = Bobko text.

Date	Class Topic (Readings)	Due Dates	Date	Lab
M 1/21	Data, statistics, and method basics (A&F 1 & 2)		T 1/22 or R 1/24	No lab
W 1/23	" "			
F 1/25	" "	F 1/25: Set 1		
M 1/28	Sampling & measurement; descriptive statistics (A&F 2 & 3)		T 1/29 or R 1/31	1. Math
W 1/30	" "	W 1/30: Set 2		
F 2/1*	" "			
M 2/4	Probability (A&F 4)		T 2/5 or R 2/7	2. Excel, part I
W 2/6	" "	M 2/4: Set 3		
F 2/8	" "	F 2/8: Set 4		
M 2/11	Probability distributions (A&F 4)		T 2/12 or R 2/14	3. Excel, part II
W 2/13	Quiz			
F 2/15	" "			
M 2/18	" "		T 2/19 or R 2/21	4. SPSS
W 2/20	Inferential statistics, part I (A&F 5 – omit 5.5)	M 2/18: Set 5		
F 2/22	" "	F 2/22: Set 6		
M 2/25	" "		T 2/26 or R 2/28	No lab
W 2/27	Exam 1			
F 3/1	Inferential statistics, part II (A&F 6.1 – 6.5)			
M 3/4	" "		T 3/5 or R 3/7	5. Probability
W 3/6	" "	W 3/6: Set 7		
F 3/8	" "			
M 3/11	Spring break - no class meeting		T 3/12 or R 3/14	No lab
W 3/13				
F 3/15				
M 3/18	" "		T 3/19 or R 3/21	6. Inference
W 3/20	Independent samples (A&F 7.1 – 7.3)	M 3/18: Set 8		
F 3/22	" "	F 3/22: Set 9		
M 3/25	" "		T 3/26 or R 3/28	No lab
W 3/27	Exam 2			
F 3/29	Dependent samples (A&F 7.4 – 7.5, 7.8)			
M 4/1	" "		T 4/2 or R 4/4	7. NHST
W 4/3	" "	M 4/1: Proposal W 4/3: Set 10		
F 4/5**	No class meeting			
M 4/8	One-way ANOVA (A&F 12.1 – 12.2)		T 4/9 or R 4/11	8. Independent t
W 4/10	" "	W 4/10: Set 11		
F 4/12	" "			
M 4/15	Correlation (B 1 & 2 p. 12 – 24, 27 – 42)		T 4/16 or R 4/18	9. Dependent t
W 4/17	" "			
F 4/19	" "			
M 4/22	Regression (B 6 p. 118 – 146, 151 – 157)		T 4/23 or R 4/25	10. ANOVA + r
W 4/24	" "	M 4/22: Draft		
F 4/26	" "			
M 4/29	" "		T 4/30 or R 5/2	No lab
W 5/1	Final project presentations due 9 AM	M 4/29: Set 12 W 5/1: Pres.		
F 5/3	Final project presentations, continued			

*Last day to drop/add

**Last day to withdraw with a "W"