

Psychology 295
Data Analysis and Psychological Research (3 credits)
Fall 2017

When: Tuesday & Thursday, 10:20pm – 11:40pm
Where: Psychology Building 118

Professor: Dr. Devin McAuley
Email: dmcauley@msu.edu
Office: Psychology 282B
Office Hours: Tuesday, 1:30pm – 2:30pm

TA: Stella Qian
Email: gianche5@msu.edu
Office: Psychology 282
Office Hours: Monday, 4:00 – 5:00pm; Friday, 9:30am – 10:30am

UA: Vanessa Marquez
Email: marque17@msu.edu
Office: TBD
Office hours: Monday, 11:00am – 12:00pm

UA: Kaleigh McKinney
Email: mckin188@msu.edu
Office: TBD
Office hours: Wednesday, 11:00am – 12:00pm

UA: Sarah Raider
Email: raidersa@msu.edu
Office: TBD
Office Hours: Thursday, 12:00pm – 1:00pm

UA: Ethel Xu
Email: xuyue6@msu.edu
Office: TBD
Office Hours: Monday, 6:30 – 7:30pm.

Required Textbook

Gravetter, F. J., Wallnau, L. B., & Forzano, L.B. (2014, 2018). *Essentials of Statistics for the Behavioral Sciences (9th Ed.)*. Wadsworth, Cengage Learning (softcover).

Course Description: This course provides an introduction to the principles of measurement and quantitative data analysis, including measures of typicality, individual differences, correlational methods, and tests of significance. Upon successfully completing this course, you will have (a) a good understanding of descriptive statistics, (b) a basic understanding of probability theory, and (c) a basic level understanding of the

principles of research design and inferential statistics. You should be able to summarize data, do simple statistical tests, better understand statistical aspects of news and research reports, and be prepared for more advanced courses. In addition, you should better understand some of the errors that people usually make in reasoning about uncertainty and be in a position to avoid them.

General Expectations: You are expected to attend each lecture, actively participate in class discussions and exercises, and ask questions when you don't understand something. You are expected to read course related emails, visit the course site on D2L to access the course syllabus, homework assignments and other course materials. You are required to bring your textbook and a calculator to all classes for in class exercises.

Exams: There will be 3 exams covering the course material (2 midterm exams and the final). The two midterm exams are worth 100 points each, with exams spaced roughly 1 month apart (the exam schedule is shown below). The final exam will be worth 125 points. The material in this course is by nature cumulative, and so in that sense exams will be cumulative. You can anticipate, however, that each exam will tend to focus on the material most recently covered in class and in the assigned readings and homework. Exams can not be rescheduled, except in very rare circumstances with a documented serious illness or family emergency. You will need a basic calculator for the exams.

Homework: Homework will be assigned on Tuesday and due on the following Tuesday (the homework schedule with due dates is included below). **All homework assignments are posted on the course site for D2L.** You are responsible for knowing what the assignment is and when it is due. **No late homework will be accepted.** A late homework is defined as a homework assignment turned in after the start of the class in which the assignment is due. **There will be absolutely no exceptions to this rule.** Each homework assignment is worth 15 points toward your final grade. Your homework grade will consist of two parts. First, you will receive 10 points for demonstrating in your written work that you completed each problem (make sure to show all work and write legibly). Second, one problem or problem cluster will be randomly selected for grading; the graded problem will be worth 5 points. **All homework assignments will be from the 9th edition of the Gravetter & Wallnau textbook, so please make sure that you have the correct edition of the book.**

Research Participation: Because the content of this class is strongly tied to research in psychology, you are required to complete 5 hours of research experience credit by participating in psychology experiments being conducted here at MSU. Each hour of research experience credit is worth 5 points toward your final grade (25 points total). I will be notified at the end of the semester via the experimental sign-up computer system how many credits you earned.

Instructions for research participation are included in a separate document. **Participating in these experiments is completely voluntary.** Consequently, if you decide not to participate in experiments for research participation credit then you can complete an alternate assignment to earn an equivalent set of extra credit points. Please contact the TA to learn more about this alternate extra credit option.

Cell Phone and Laptop Policy: No use of cell phones is permitted during the lecture and all cell phone ringers must be turned off (without exception). Laptop use for note taking is not recommended for a statistics class due to the nature of the material. Any use of laptops must be for note taking only and must receive pre-approval from the instructor. If you violate the cell phone and laptop policy, you will be asked to leave the class.

<i>Dates</i>	<i>Topic*</i>	<i>Reading</i>
<u>Week 1</u> Aug 28 – Sept 1	Introduction to statistics	GWF, Ch1
<u>Week 2</u> Sept 4 – Sept 8	Introduction to statistics/frequency distributions	GWF, Ch1&2
<u>Week 3</u> Sept 11 – Sept 15	Central tendency and variability	GWF, Ch3/4
<u>Week 4</u> Sept 18 – Sept 22	Z-scores	GWF, Ch5
<u>Week 5</u> Sept 25 – Sept 29	Probability and the normal distribution	GWF, Ch6
<u>Week 6</u> Oct 2 – Oct 6	Exam #1 , Distribution of sample means	GWF, Ch7
<u>Week 7</u> Oct 9 – Oct 13	Introduction to hypothesis testing	GWF, Ch8
<u>Week 8</u> Oct 16 – Oct 20	Introduction to the t statistic	GWF, Ch9
<u>Week 9</u> Oct 23 – Oct 27	The t test for two related samples	GWF, Ch11
<u>Week 10</u> Oct 30 – Nov 3	The t test for two independent samples	GWF, Ch10
<u>Week 11</u> Nov 6 – Nov 10	Exam#2 , Analysis of variance	GWF, Ch12
<u>Week 12</u> Nov 13 – Nov 17	Analysis of variance	GWF, Ch12/13
<u>Week 13</u> Nov 20 – Nov 24	Analysis of variance	GWF, Ch13
<u>Week 14</u> Nov 27 – Dec 1	Correlation and regression	GWF, Ch14
<u>Week 15</u> Dec 4 – Dec 8	The chi-square statistic	GWF, Ch15

* Subject to change depending on the pace of the course

<u>Numerical Grade</u>	<u>Percentage</u>	<u>Points</u>
4.0	≥90	≥450
3.5	85 – 90	425 – 450
3.0	80 – 85	400 – 425
2.5	75 – 80	375 – 400
2.0	70 – 75	350 – 375
1.5	65 – 70	325 – 350
1.0	60 – 65	300 – 325
0.0	0 – 60	0 – 300

Assessment

Homework	150 points (10 @ 15 points each)
Exam #1	100 points
Exam #2	100 points
Final Exam	125 points
Research Participation	25 points (5 hours @ 5 points each)

Exam schedule

Exam #1	T, October 3 rd
Exam #2	T, November 7 th
Final Exam	R, December 14th, 10:00am – 12:00pm

<u>Homework</u>	<u>Assigned</u>	<u>Due</u>
HW #1	T, Sept 5	T, Sept 12
HW #2	T, Sept 12	T, Sept 19
HW #3	T, Sept 19	T, Sept 26
HW #4	T, Oct 10	T, Oct 17
HW #5	T, Oct 17	T, Oct 24
HW #6	T, Oct 24	T, Oct 31
HW #7	T, Nov 7	T, Nov 14
HW #8	T, Nov 14	T, Nov 21
HW #9	T, Nov 21	T, Nov 28
HW #10	T, Nov 28	T, Dec 5

Course Rules

1.) Academic Honesty: Article 2.3.3 of the Academic Freedom Report states that "The student shares with the faculty the responsibility for maintaining the integrity of scholarship, grades, and professional standards." In addition, the **Department of Psychology** adheres to the policies on academic honesty as specified in General Student Regulations 1.0, *Protection of Scholarship and Grades*; the all-University Policy on *Integrity of Scholarship and Grades*; and Ordinance 17.00, Examinations. (See *Spartan Life: Student Handbook and Resource Guide* and/or the MSU Web site: www.msu.edu.)

Therefore, unless authorized by your instructor, you are expected to complete all course assignments, including homework and exams, without assistance from any source. You are expected to develop original work for this course; therefore, you may not submit course work you completed for another course to satisfy the requirements for this course. Also, you are not authorized to use the www.allmsu.com Web site to complete any course work in (**PSY-295**). Students who violate MSU academic integrity rules may receive a penalty grade, including a failing grade on the assignment or in the course. Contact your instructor if you are unsure about the appropriateness of your course work. (See also <http://www.msu.edu/unit/ombud/dishonestyFAQ.html>)

2.) Accommodations for Students with Disabilities: Students with disabilities should contact the Resource Center for Persons with Disabilities to establish reasonable accommodations. For an appointment with a disability specialist, call 353-9642 (voice), 355-1293 (TTY), or visit MyProfile.rcpd.msu.edu.

3.) Drops and Adds: The last day to add this course is the end of the first week of classes. The last day to drop this course with a refund and no grade reported is (**9/25/2017**). The last day to drop this course with no refund and no grade reported is (**10/18/2017**). You should immediately make a copy of your amended schedule to verify you have added or dropped this course.

4.) Commercialized Lecture Notes: Commercialization of lecture notes and university-provided course materials is not permitted in this course.

5.) Class Attendance: Students are expected to attend every class session. Examinations are based on materials covered in class and in the book. However, not every element covered in class is also covered in the book. Some elements covered in the book are covered in different form in class. Students whose names do not appear on the official class list for this course may not attend this class. Students who fail to attend the first four class sessions or class by the fifth day of the semester, whichever occurs first, may be dropped from the course.

6.) Disruptive Behavior: Article 2.3.5 of the *Academic Freedom Report* (AFR) for students at Michigan State University states: "The student's behavior in the classroom shall be conducive to the teaching and learning process for all concerned." Article 2.3.10 of the AFR states that "The student has a right to scholarly relationships with faculty

based on mutual trust and civility." General Student Regulation 5.02 states: "No student shall . . . interfere with the functions and services of the University (for example, but not limited to, classes . . .) such that the function or service is obstructed or disrupted. Students whose conduct adversely affects the learning environment in this classroom may be subject to disciplinary action through the Student Faculty Judiciary process.