

MICHIGAN STATE UNIVERSITY
PSY295 Data Analysis in Psychological Research, Section 001
Fall 2020
Online Asynchronous

Professor: Dr. Chu-Hsiang (Daisy) Chang

Office: Psychology Building 308 Phone: 517-355-2171 Email: cchang@msu.edu
Office Hours: Tuesday/Thursday 10-11am EST or by appointment
Office hour Zoom meeting ID: 969 0351 5878; Passcode: 531029

Teaching Assistants

Lauren Raycraft
Email: raycraf4@msu.edu
Office hours: Monday 7-9pm EST
Office hour Zoom Meeting ID: 978 0309 7903
Passcode: 499324

Kaylie Williams
Email: will3145@msu.edu
Office hours: Wednesday 10am – noon EST
Office hour Zoom Meeting ID: 982 8096 1173
Passcode: 533605

Required Materials

- Aron, A., Aron, E. N., & Coups, E. J. (2006). *Statistics for psychology* (6th ed.). Upper Saddle River, NJ: Prentice Hall. (Please make sure that you have the correct edition, as homework problems are selected from this book. A copy of the book is available on library reserve).
- Calculator: You will need your calculator when you watch the lecture so that you can try the problems yourself, for homework assignments, and for the tests and final exam. You will ***not*** need your calculator during the quizzes. Simple calculators would be sufficient, assuming they have a square and square root function. Cell phones or PDAs with a calculator function are not sufficient.

Course Description

This course is designed as an introduction to basic concepts and procedures used in descriptive and inferential statistics, especially as applied to the behavioral sciences. Descriptive statistics such as central tendency, measures of dispersion, and standardized scores will be covered. Inferential statistics such as z- and t-tests, ANOVA, correlation, regression, and chi-square will be discussed. Finally, links between various statistical analyses and particular research questions pertaining to various branches of psychology will be made.

Course Objectives

By the end of this course, students should be able to:

- Explain basic concepts of statistic;
- Summarize numeric data by computing descriptive statistics and by creating tables and graphs;
- Differentiate between different inferential statistics and understand their applications to the psychological research;
- Compute various inferential statistics;
- Test hypothesis and interpret research findings; and
- Apply the correct statistical analysis when provided with a specific research question.

Time Zones

All times and due dates listed in this syllabus are for Eastern Time. We will start the semester with Eastern Daylight Time, and then switch to Eastern Standard Time after November 1st. If you are taking this course in a different time zone, you will want to be aware of this and change your time zone to EST so that you don't miss any due dates/times.

Honors Option

An honors option is not offered for this course.

Course Website: D2L

This offering of PSY 295 will be held entirely online through the Desire 2 Learn (D2L) course management system (<https://d2l.msu.edu/>). All lectures, homework assignments, quizzes, tests, and final exam will be administered online on D2L. Due to the online nature of this class, you will need to have a high-quality computer with consistent access to a high-speed internet connection. **You need to have access to high-speed internet when all of the course assignments are due.** If your internet connection is down when you need to turn in a homework assignment or take a quiz, it is your responsibility to get access to the internet ASAP! **In the case of missing deadlines because of internet connectivity problems, I will not give extensions on quizzes and homework assignments.** Access to a printer is also strongly recommended.

Please follow these suggestions to prevent problems during your participation in this course:

1. Use a recommended browser, like Chrome or Firefox.
2. Clear your cache and cookies before starting a quiz, homework assignment, or test/exam.
3. Have D2L open only to the quiz/homework/test/exam browser. If you have the course open in a second browser then you may have guest status in the exam browser and be logged in with your NETID in the other. Your quiz could end up with blank sections even after you enter data or it can skip questions.

Technical Assistance

If you need technical assistance at any time during the course or to report a problem, you can:

- Visit the Distance Learning Services Support Site at <https://lib.msu.edu/dls/>
- Visit the Desire2Learn Help Site at <http://help.d2l.msu.edu/>
- Or call Distance Learning Services (D2L Help Line) at (800) 500-1554 or (517) 355-2345
- If you experience other technological issues, including D2L outside of business hours EST, call the MSU Help Line at (844) 678-6200 or (517) 432-6200. Help is available 24 hours / 7 days a week! The help line can also help troubleshoot issues with your computer. **Time differences will not be an acceptable excuse for not reporting problems to the help line; they are available 24/7 throughout the course.**

Many professors and instructors have found the Help Line very useful. It is my recommendation to take advantage of the Help Line or MSU Help Line before emailing me with any questions or concerns about D2L or other technical issues.

Course Requirements

This course is composed of 13 homework assignments and 6 quizzes. Each homework assignment is worth 10 points, and you will have the opportunity to drop two of the lowest homework assignment grades. Each quiz is worth 65 points.

Homework Assignments

Statistics are not really understood until they have been applied. For this reason, I have assigned homework assignments to be completed and submitted by the due dates. Each homework assignment is open on Monday of the week it is due, and is due on Friday by 5pm. There is no back-tracking for homework assignments, meaning after you answer a question, you will not be able to return and change your answers later. There are no make-ups for homework assignments; instead, your two lowest homework assignment grades will be dropped. You will be able to review incorrect homework responses after you have submitted your homework. **No late homework assignment will not be accepted unless a valid excuse is presented.**

Quizzes

Quizzes will be given according to the dates listed in the schedule below to cover the corresponding materials. Quizzes will include both conceptual questions, as well as calculation problems. Each quiz is open for 24 hours – starting from the 5pm on Monday when the quiz is due, and is open until 5pm on Tuesday when it is due. You have 90 minutes to complete each quiz. There is no back-tracking for quiz questions, meaning after you answer a question, you will not be able to return and change your answers later. Each quiz will worth 55-75 points, for a total of 390 points (78% of your final grade).

Course Requirements and Grading

- Homework questions 110 points
- Quizzes 390 points

Final Grades will be determined as follows:

Grade	Total points	Percentage
A (4.0)	450 and above	90% and above
B+ (3.5)	425 - 449	85 - 89%
B (3.0)	400 - 424	80 - 84%
C+ (2.5)	375 - 399	75 - 79%
C (2.0)	350 - 374	70 - 74%
D+ (1.5)	325 - 349	65 - 69%
D (1.0)	300 - 324	60 - 64%
F (0.0)	Below 300	59% and below

Extra Credit

Students will have opportunities to earn up to **25 extra credit points**. There are three sources for the extra credit points.

1. First, you can earn extra credit through the SONA/HPR system by participating in research. You can sign up and create an SONA/HPR account by following the instruction posted on D2L under course materials. Please note that participation in research is completely voluntary. **Each hour of SONA/HPR hour will be worth 2 course credit points. The last day to participate in the SONA/HPR research is Friday, December 11th.**
2. Next, you can complete the discussion board for extra credit. You can find more information about how to earn extra credits through posting on the board and responding to others' posting.
3. Finally, you may complete extra credit assignments throughout the course to earn extra credit. These opportunities will be announced throughout the semester.

Make-up Policy

All assignments and quizzes must be completed when scheduled. Unless *prior permission* has been obtained, **NO** late or makeup assignments or tests will be accepted or given. Permission may be granted for those who contact the instructor *prior* to the scheduled date, and provide her with valid documentation related to the absence either before or after the absence.

Religious Holiday

The official university policy is as follows:

It has always been the policy of the University to permit students and faculty to observe those holidays set aside by their chosen religious faith.

The faculty and staff should be sensitive to the observance of these holidays so that students who absent themselves from classes on these days are not seriously disadvantaged. It is the responsibility of those students who wish to be absent to make arrangements in advance with their instructors. It is also the responsibility of those faculty who wish to be absent to make arrangements in advance with their chairpersons, who shall assume the responsibility for covering their classes.

As Michigan State University has become increasingly multicultural, the incidence of conflicts between mandatory academic requirements and religious observances has increased. In the absence of a simple and dignified way to determine the validity of individual claims, the claim of a religious conflict should be accepted at face value. Be aware that some degrees of observance may have a more extensive period of observance. Instructors may expect a reasonable limit to the number of requests by any one student. Some instructors attempt to cover all reasons for student absences from required academic events such as quizzes or exams with a blanket policy, e.g., allowing the student to drop one grade or two quizzes without penalty. If this is meant to extend to religious observances, the instructor should state this clearly at the beginning of the term. If instructors require make-up exams, they retain the right to determine the content of the exams and the conditions of administration, giving due consideration to equitable treatment.

Misconduct

Cheating, plagiarism, or other forms of academic dishonesty will result in failure of the course.

The official university policy is as follows:

The principles of truth and honesty are fundamental to the educational process and the academic integrity of the University; therefore, no student shall:

1. *claim or submit the academic work of another as one's own.*
2. *procure, provide, accept or use any materials containing questions or answers to any examination or assignment without proper authorization.*

3. *complete or attempt to complete any assignment or examination for another individual without proper authorization.*
4. *allow any examination or assignment to be completed for oneself, in part or in total, by another without proper authorization.*
5. *alter, tamper with, appropriate, destroy or otherwise interfere with the research, resources, or other academic work of another person.*
6. *fabricate or falsify data or results.*

Incomplete Policy

The official university policy is as follows:

The I-Incomplete may be given only when: the student (a) has completed at least 6/7 of the term of instruction, but is unable to complete the class work and/or take the final examination because of illness or other compelling reason; and (b) has done satisfactory work in the course; and (c) in the instructor's judgment can complete the required work without repeating the course.

Provided these conditions are met, the instructor electing to give an I-Incomplete files an Agreement for Completion of (I) Incomplete at the time course grades are due. This agreement specifies what the student must do, and when, to remove the I-Incomplete. The department or school office gives a copy to the student, and retains a copy for at least one year.

Accommodations for Students with Disabilities

Michigan State University is committed to providing equal opportunity for participation in all programs, services and activities. Requests for accommodations by persons with disabilities may be made by contacting the Resource Center for Persons with Disabilities at 517-884-RCPD or on the web at rcpd.msu.edu. Once your eligibility for an accommodation has been determined, you will be issued a Verified Individual Services Accommodation ("VISA") form. Please present this form to me at the start of the term and/or two weeks prior to the accommodation date (test, project, etc.). Requests received without sufficient lead time will not be honored.

If you require testing accommodations, you must contact me and present your VISA at least two weeks before the quiz date. Alternative arrangement can be made to administer the quiz following the accommodations requested.

Course Schedule (Subject to Change)

Week/Date	Topic	Readings	Homework Questions Due
1: Sep 2 nd – Sep 4 th	Introduction; Displaying data	Chapter 1	
2: Sep 7 th – Sep 11 th	Displaying data Central tendency and variability	Chapter 1 Chapter 2	<ul style="list-style-type: none"> • HW 1 (CH 1&2) due on 5pm Sep 11th
3: Sep 14 th – Sep 18 th	Key ingredients for inferential statistics	Chapter 3	<ul style="list-style-type: none"> • HW 2 (CH3) due on 5pm Sep 18th
4: Sep 21 st – Sep 25 th	Introduction to hypothesis testing	Chapter 4	<ul style="list-style-type: none"> • HW 3 (CH 4) due on 5pm Sep 25th
5: Sep 28 th – Oct 2 nd	Hypothesis tests with means Effect Size and power	Chapter 5 Chapter 6	<ul style="list-style-type: none"> • Quiz 1 (CH 1 - 4 and notes) due on 5pm Sep 29th • HW 4 (CH 5) due on 5pm Oct 2nd
6: Oct 5 th – Oct 9 th	Effect Size and power	Chapter 6	<ul style="list-style-type: none"> • HW 5 (CH 6) due on 5pm Oct 9th
7: Oct 12 th – Oct 16 th	t-tests: Single sample and dependent means	Chapter 7	<ul style="list-style-type: none"> • Quiz 2 (CH 5 - 6 and notes) due on 5pm Oct 13th • HW 6 (CH 7) due on 5pm Oct 16th
8: Oct 19 th – Oct 23 rd	t-tests: Independent Means	Chapter 8	<ul style="list-style-type: none"> • HW 7 (CH 8) due on 5pm Oct 23rd
9: Oct 26 th – Oct 30 th	Introduction to ANOVA	Chapter 9	<ul style="list-style-type: none"> • Quiz 3 (CH 7 - 8 and notes) due on 5pm Oct 27th • HW 8 (CH 9) due on 5pm Oct 30th
10: Nov 2 nd – Nov 6 th	Factorial ANOVA	Chapter 10	<ul style="list-style-type: none"> • HW 9 (CH 10) due on 5pm Nov 6th
11: Nov 9 th – Nov 13 th	Correlation	Chapter 11	<ul style="list-style-type: none"> • Quiz 4 (CH 9 - 10 and notes) due on 5pm Nov 10th • HW 10 (CH 11) due on 5pm Nov 13th

12: Nov 16 th – Nov 20 th	Prediction	Chapter 12	<ul style="list-style-type: none"> • HW 11 (CH 12) due on 5pm Nov 20th
13: Nov 23 rd – Nov 27 th	Thanksgiving – recoup/catch up		
14: Nov 30 th – Dec 4 th	Chi-Square tests	Chapter 13	<ul style="list-style-type: none"> • Quiz 5 (CH 11 – 12 and notes) due on 5pm Dec 1st • HW 12 (CH 13) due on 5pm Dec 4th
15: Dec 7 th – Dec 11 th	Non-parametric tests	Chapter 14	<ul style="list-style-type: none"> • HW 13 (CH 14) due on 5pm Dec 11th
15: Dec 14 th – Dec 18 th	Final Exam week		<ul style="list-style-type: none"> • Quiz 6 (CH 13 -14 and notes) due on 5pm Tuesday Dec 15th

* The instructor reserves the right to change the content of this syllabus.