

# Psychology 3256 – Advanced Univariate Statistics - Winter 2024

## CALENDAR DESCRIPTION

PSYC 3256 E Advanced Univariate Statistics Univariate analysis of variance including factorial designs. Multiple regression. The design of complex psychological experiments. The gathering, scrutiny, and transformation of psychological data. Performance and interpretation of advanced computer analyses. Prerequisites: PSYC/STAT 2126E/2127E. (LEC 3, TUT 1) (3 cr)

## COURSE INFORMATION

Instructor: David R. Brodbeck, Ph.D.

E-Mail: [dave.brodbeck@algonau.ca](mailto:dave.brodbeck@algonau.ca)

Social networky things: dbrodbeck (xBox Live/PSN gametag). Dbrodbeck (twitter) facebook.com/dbrodbeck

Office Hours: TBA (DM or email is a great way to get me to answer questions, sort of virtual office hours).

Time and Location of Lectures: MW 8.30 am. We will meet on Zoom on the Wednesdays. Take the Mondays to watch the lecture video(s) for that week.

## TEXTBOOK

Howell, D. C. Statistical methods for psychology. Duxbury Press: Belmont, CA.

## COURSE OBJECTIVES

The Purpose of this course is to learn a variety of advanced statistical techniques, concentrating on Analysis of Variance and Multiple Regression. Not only will you learn how to carry out such analyses, but, you will also learn why they work. This will enable you to read probably 90 percent of the literature out there<sup>1</sup>.

## EVALUATION

You will be evaluated with in class tests (2), quizzes (6) and a final exam. There will also be four assignments where you will carry out some of the analyses we have done in class with SPSS or by hand or any other way you would like.

The tests will be released right after the live session on the Wednesday of the week. You will have until the Thursday at 11:59 pm to do them. They are, of course, open book. (They are when this course is face to face too. That's how I roll in stats).

The quizzes are shorter, and will be available for 24 hours. They will be released on the Tuesday of the week at 8:30 am. You will have 24 hr to complete them. Again, of course, they are open book. They will be able to be done in about 20 minutes.

The final exam will cover the whole course. It will be in the April exam period and will also

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<sup>1</sup> Of course, 90 percent of descriptive statistics are made up.

be online. It will be available for 24 hr.

Tests	Week 4		10%
	Week 8		15%
Final Exam.	in April exam period		35%
Quizzes	See Below	6 @ 3.33 =	20%
Assignments	TBA	4 @ 5 =	20%

## CLASS SCHEDULE

Class	Topic	Reading	
Week 1 January 8	Exploratory Data Analysis	Chapter 2	
Week 2 January 15	Hypothesis Testing/Sampling	Chapters 3,4	Quiz 1
Week 3 January 22	T Tests	Chapter 7	Quiz 2
Week 4 January 29	Power TEST 1	Ch. 8	
Week 5 February 5	Simple ANOVA	Ch. 11	
Week 6 February 12	Comparisons/Transformations	Ch. 12	Quiz 3
Week 7 February 26	Factorial ANOVA	Ch. 13	Quiz 4
Week 8 March 4	Repeated/Mixed ANOVA TEST 2	Ch. 14	
Week 9 March 11	Nested/Latin Squares/unequal cells	Ch. 14	Quiz 5
Week 10 March 18	Correlation and Simple Regression	Ch. 9,10	Quiz 6
Week 11 March 25	Multiple Regression	Ch 15	
Week 12 April 1	Review		

## ATTENDANCE

I'm not going to make you come to the Zoom live sessions, but, it would be great if you did.

Oh, and if you have kids, and you can't get childcare, or if you have to look after your little brother or sister some day or something, they are more than welcome to come to the live session. I mean it will likely bore the hell out of them, but they're welcome.

## ACADEMIC DISHONESTY

Please consult your course calendar for details, definitions and penalties. Look, don't cheat. I will catch you, and you don't want that. Just do your own darned work and everyone will be happy.

While the tests and quizzes are 'open book' you are not to use cheating sites and the use of such sites will be reported to the dean. Again, just do your own work.

Note, working on the assignments together is, frankly, expected. You don't have to, but there's nothing wrong with hopping on Skype or Zoom or (god forbid) google meet<sup>2</sup> and doing it together. Just be sure to hand in your own work.

## MISSED TESTS

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<sup>2</sup> Google Meet is a pig and should die in a fire

Please contact me ASAP so we can set something up. An acceptable excuse (e.g., illness) will likely result in a make up test. Workload is NOT an acceptable excuse (i.e., “But I have three papers due and a test next week.” My response to this is “Welcome to University!”)