

PSYC 5143: Statistics for Psychology II Spring 2024

Instructor: Bill Levine (email: whlevine@uark.edu)
Office: 211A Memorial Hall
Office hours: M 11-12, Th 4-5
Meeting times & place: MW 2:00pm-3:15pm in MEMH 252 (a sad, windowless room)
Class website: <https://whlevine.hosted.uark.edu/psyc5143/> & Blackboard

Teaching assistant: Marie Altgilbers Roweton (email: maltgilb@uark.edu)
Drill meeting time & location: Th 940-1030, 1100-1150 in MEMH 314

THINGS TO GET

Textbook and other materials: There is one *suggested* book: *Data Analysis: A Model Comparison Approach to Regression, ANOVA, and Beyond*, by Judd, McClelland, & Ryan (2017; 3rd edition). The 2nd edition is good, too. My drafty and in-process textbook draft is viewable [here](#); I am updating it too irregularly for you to rely on it. You should download and install on a computer that is yours the following software: R, RStudio, and G*Power. R and RStudio are installed on most computers in computer labs on campus (e.g., in the library and Union).

REQUIREMENTS

Problem Sets: Problem sets will be posted to the class website each Wednesday some time after class. Unless you hear otherwise from me, problem sets are due the following Monday (on Blackboard). Problem sets will be graded on a 0-to-10 scale; I will strive to grade these and provide feedback in a reasonable amount of time. Late policy: Problem sets submitted after class but before Tuesday at noon will be given half credit; those handed in later will be given no credit, but I will provide feedback.

Drills: There will be one drill assignment some weeks. These will be due by the following Wednesday and graded for completion (and to give feedback), but will not count toward your course grade.

Exams: There will be two non-cumulative exams. Both are take-home exams in that they will be given over the course of several days. For the exams, you may consult any source of information except for other people and old exam answer keys (which may be floating around). There will also be an optional cumulative final for any student with less than a B average. Students with an average of B or above will NOT be eligible to take the final.

GRADING POLICY

	<u>Without final</u>	<u>With final</u>
Problem Sets (includes drills)	25%	20%
Exam 1	35%	20%
Exam 2	40%	20%
Final	–	40%

Letter grades will be assigned as follows (the numbers represent percentages of total possible points; pluses and minuses are for Psychology Department purposes only):

A+	=	98+	B+	=	87-89
A	=	93-97	B	=	80-86
A-	=	90-92			

ACADEMIC INTEGRITY

- Academic dishonesty in any form will not be tolerated.
- With regard to problem sets, you are welcome to consult with one another. However, you must perform your own computations and computer analyses, and you must write answers in your own words.
- Exams must be completed fully independently.
- Please see <http://honesty.uark.edu/policy/index.php>

OPTIMISTIC SCHEDULE (SUBJECT TO CHANGE)

Date	Topic	Reading
January 17	course overview; interactions review	
January 22	nonlinear regression	JMR Ch 7
January 24	"	"
January 29	"	"
January 31	single categorical predictor models (independent-samples <i>t</i> -tests)	JMR Ch 8
February 5	single categorical predictor models (ANOVA; contrasts)	"
February 7	"	"
February 12	"	MacCallum et al. (2002)
February 14	"	JMR Ch 8 (cont.)
February 19	multiple categorical predictor models (factorial ANOVA)	JMR Ch 9
February 21	"	"
February 26	"	Rosnow & Rosenthal (1989)
February 28	"	JMR Ch 9 (cont.)
March 4	review/spillover/catch-up	
March 6	Exam 1 assigned, due March 11	
March 11	continuous and categorical predictor models (ANCOVA, mediation, etc.)	JMR Ch 10
March 13	"	"
March 18	SPRING BREAK	
March 20	SPRING BREAK	
March 25	"	Rucker et al. (2011)
March 27	"	Baron & Kenny (1986)
April 1	models with non-independent errors (repeated-measures designs; linear mixed models)	JMR Ch 12
April 3	"	"
April 8	"	Brauer & Curtin (2017)
April 10	"	JMR Ch 12 (cont.)
April 15	"	"
April 17	categorical outcomes (logistic regression)	JMR Ch 14
April 22	"	"
April 24	"	"
April 29	review/buffer	
May 1	review/spillover/catch-up (Exam 2 assigned, due May 8?)	

- Barron, R. M., & Kenny, D. A., (1986). The moderator-mediator distinction in social psychological research: Conceptual, strategic, and statistical considerations. *Journal of Personality and Social Psychology*, 51, 1173-1182.
- Brauer, M., & Curtin, J. J. (2017). Linear mixed-effects models and the analysis of nonindependent data: A unified framework to analyze categorical and continuous independent variables that vary within-subjects and/or within-items. *Psychological Methods*, 23, 389-411.
- Cohen, J., Cohen, P., West, S. G., & Aiken, L. S. (2003). *Applied multiple regression/correlation analysis for the behavioral sciences* (3rd edition). Hillsdale, NJ: Erlbaum.
- MacCallum, R. C., Zhang, S., Preacher, K. J., & Rucker, D. D. (2002). On the practice of dichotomization of quantitative variables. *Psychological Methods*, 7, 19-40.
- Rosnow, R. L., & Rosenthal, R. (1989). Definition and interpretation of interaction effects. *Psychological Bulletin*, 105, 143-146.
- Rucker, D. D., Preacher, K. J., Tormala, Z. L., & Petty, R. E. (2011). Mediation analysis in social psychology: Current practices and new recommendations. *Social and Personality Psychology Compass*, 5/6, 359-371.