ED PSY 624 Educational Statistical Methods I

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Course objectives: This course will introduce students to basic statistical terminology and data analysis techniques. The objective of the course is to enable students to appropriately use and interpret basic statistical information. The focus will be on common statistical methods that students may encounter in conducting their own research, reading or writing research articles, and evaluating daily "real-world" information reported by various sources.

COURSE WEB PAGE: This course has a **D2L site** associated with it that students should check on a regular basis. The site can be accessed at http://d2l.uwm.edu/ and will contain the weekly class notes, assignments, announcements, links, and resources. Please **print the notes** and bring them to class so you can follow along with the lectures. You can find instructions for using D2L at http://uwmltc.org/?p=870.

TEXTBOOK: Statistics for the Behavioral Sciences, 9th Edition, by F. J. Gravetter and L. B. Wallnau (Published by Cengage, 2013). ***Bring the textbook to class!***

COMPUTING: A basic calculator will be necessary for homework and exam problems as well as in-class exercises. Students will be required to use **statistical software** (SPSS) for some homework problems and for the graduate project. Some resources for SPSS are available on the D2L site and an introductory session on SPSS will be offered at the end of the second class. The software is available at all campus computer labs.

COURSE STRUCTURE AND STUDENT EVALUATION:

Homework: Students are encouraged to do the problems in the back of each chapter (the odd numbered problems have solutions in the back of the book). The homework assignments, each consisting of a set of problems, will be due at the beginning of class on a **weekly basis**. Problems will be posted on the course web site each week. Students are strongly encouraged to allow enough time for the assignments (rather than leave them until the last minute) and seek help if needed. **Each problem** will be graded on a three-point scale to indicate the level of accuracy and understanding reflected in the answer:

Points	Evaluation of answer
3	Complete, correct and clear.
2	Some mistakes and/or misconceptions, somewhat unclear or incomplete.
1	Serious mistakes and/or misconceptions, very unclear or incomplete.
0	Not done or barely attempted.

You need to make sure that you are clearly communicating your understanding in your answers (see separate document with homework guidelines). Homework grades and comments are designed to provide you with feedback on your level of understanding and communication, but if you find the feedback insufficient it is your responsibility to make sure you understand what you did wrong. *Do not put off getting help if you don't know how to do a problem or do not understand the feedback you received!*

Late homework assignments will NOT be accepted. It is your responsibility to turn your homework in on the due date (even if you are absent)! Questions related to the grading and submission of homework assignments should be directed to the TA.

A note on working with others: The goal of homework is to make sure you are learning and understanding the material, so it would defeat the purpose if you get the right answer but don't really understand why. Therefore, while you are allowed to discuss the concepts on homework assignments, it is recommended that you **not** work on the assignments with others. In addition, **the work you hand it must be your own**, and it is considered academic misconduct to submit anyone else's work (or words) as your own.

Exams: There will be one midterm exam and a final exam. Exams will be closed book and may include material covered in lectures, assigned readings, class handouts, and homework assignments. You will be allowed to bring one sheet of notes to the exams. The final exam will take place during **finals week**.

Project: Students taking this class for **graduate credit** will be required to complete an extra assignment/project that will be due late in the semester (specific details will be announced several weeks before it is due). It will be worth 5% of the total grade for the course.

There will be NO extra credit option in this course.

The weights assigned to each of the three components will be:
Homework   30% → **For graduate students the project is 5% and homework assignments are 25%.**
Mid-term exam   30%
Final exam   40%

Using these weights (the homework assignments will be weighted by the number of points each assignment is worth), final scores (out of 100) will be computed and converted to letter grades as follows:

A	A-	B+	B	B-	C+	C	C-	D+	D	D-	F
90-100	85-89	80-84	75-79	70-74	67-69	63-66	60-62	57-59	53-56	50-52	below 50

TIME INVESTMENT: This will vary by student and by week, but my expectation is that students will spend (in addition to time attending lectures) about 3 times the in-class time on readings and assignments, for a total of about 150 hours. Please click here for a more detailed breakdown. This is an estimated workload and students will be assessed on their performance, not on the time put into the course

UNIVERSITY POLICIES: Policies regarding student accommodations, academic misconduct, assignment of a grade of "incomplete", and so on, are available at http://www4.uwm.edu/secu/SyllabusLinks.pdf. **Students should review these policies at the start of the course**.

TENTATIVE SCHEDULE

Week	Date	Topic	Reading
1	Jan. 26	Introduction	Chapter 1 and Appendix A
2	Feb. 2	Displaying data: frequency distributions; Introduction to SPSS	Chapter 2; SPSS handout
3	Feb. 9	Describing data: central tendency, variability	Chapters 3, 4
4	Feb. 16	Standardized values, z-scores	Chapter 5
5	Feb. 23	Probability	Chapter 6
6	Mar. 1	Sampling distributions	Chapter 7
7	Mar. 8	**Midterm exam**	
8	Mar. 15	*Spring break*	
9	Mar. 22	Hypothesis testing	Chapter 8
10	Mar. 29	One-sample hypothesis testing	Chapters 9 & 11
11	Apr. 5	Two-samples hypothesis testing	Chapter 10
12	Apr. 12	Confidence intervals	Chapters 9-11
13	Apr. 19	One-factor analysis of variance	Chapter 12
14	Apr. 26	Relationships in data: correlation, simple regression	Chapter 15, Chapter 16 (sections 1 & 2)
15	May 3	Relationships in data, continued: simple regression *Graduate project due*	Chapter 16 (sections 1 & 2)
16	May 10	Chi-squared test; Review	Chapter 17

Final Exam: Tuesday **May 17 at 4:30 PM**