

**COURSE: Psych. 310 Multivariate Statistics**

CRN 11301                      3 cr                      Fall 2017

**TIME/PLACE:** Tu, Th                      8:30-9:45                      AMH 204

**INSTRUCTOR:** Dr. Tom Hogan, Professor of Psychology  
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Office hours: M & W 10-11 AM, Tu 2:15-3:15 PM  
Other times by arrangement.

**REQUIRED MATERIALS:**

Text: Mertler, C. A., & Reinhart, R. V. (2017). *Advanced and multivariate statistical methods*. (6th ed.)

**TESTS, ASSIGNMENTS AND GRADING:**

There will be 5 tests emphasizing hands-on work with data sets in SPSS; some tests also include multiple-choice items. The attached course schedule shows dates for the tests.

The course also contains numerous assignments based material covered in class, handouts, and the textbook. These are graded acceptable/unacceptable. Each is due the class after it is assigned unless otherwise noted. “On time” submission of an assignment means submitted at the beginning of the class when it is due. If late, automatic half-point deduction. If marked “re-do”, automatic half-point deduction. No e-mail submission of these assignments will be accepted.

Weights for the final grade are:

Average of 5 test scores	75%
Homework assignments	25%

All grades appear in D2L, which also contains the percentage to letter grade conversion for the course.

**STUDENT LEARNING OUTCOMES**

According to the catalog, Psych. 310 provides an “introduction to commonly used multivariate statistical methods including partial correlation, multiple regression, and factor analysis. Emphasis on analysis of actual data sets with SPSS, comparing alternative solution methods and their interpretation.”

More specifically, for each of the techniques listed below, students will (a) describe the purpose and data array, (b) analyze a data array with SPSS, (c) explain important parts of the output, and (d) construct an application. The techniques include: bivariate correlation and regression, partial correlation, multiple regression, and factor analysis.

Assessment of student outcomes is documented by satisfactory completion of homework assignments for each topic and in-class tests including selected-response and constructed-response items.

## REFERENCES FOR UNIVERSITY POLICIES

**Academic Honesty** Go here:

<http://www.scranton.edu/academics/wml/acad-integ/index.shtml>

A student found cheating or engaging in another form of academic dishonesty will receive an F for the assignment; and the Dean's office will be notified.

**Students with Disabilities** Go here: <http://www.scranton.edu/disabilities>

**Writing Center Services** Go here:

<http://www.scranton.edu/academics/ctle/writing/index.shtml>

**Sexual Harassment and Sexual Misconduct Policy** Go here: [www.scranton.edu/diversity](http://www.scranton.edu/diversity).

Reporting options and resources are available at [www.scranton.edu/CARE](http://www.scranton.edu/CARE).

**Other University Policies** Go here:

<http://www.scranton.edu/studentlife/studentaffairs/student-conduct/university-policies.shtml>

and here: [http://www.scranton.edu/academics/provost/academic\\_policies.shtml](http://www.scranton.edu/academics/provost/academic_policies.shtml)

## REVISIONS AND ANNOUNCEMENTS:

The syllabus is subject to revision. Any revisions will be announced in class. Note also that you will sometimes receive e-mail announcements through Angel. Make sure you check your University e-mail account.

## ON BEING SUCCESSFUL: CLASS ATTENDANCE, PROCEDURES, STUDY

1. It is doubtful that you can do well in this course without regular attendance in class.
2. You are responsible for knowing all announcements made in class, including those related to any changes in the attached schedule.
3. Classes will begin and end promptly. Suitable attire and civil behavior are expected in class.
4. An introductory course in statistics is a real pre-requisite. If you haven't had a course in statistics you will not succeed in this course. If your knowledge of statistics is rusty, then do some review on your own - immediately.
5. Many of the homework assignments call for repeating on your own the analyses we complete in class. For some in-class analyses you will work in pairs/groups. Homework assignments must be completed individually.
6. While we work examples in class:
  - a. I suggest you work in pairs or small groups, although this is your choice.
  - b. It is important that you ask for repetition or clarification of steps as we move along. Don't be afraid to do so.
  - c. You will want to take notes on procedures as we move along because you will repeat many of the procedures for homework or on tests. I strongly suggest keeping a journal.

**Multivariate Course Schedule Fall 2017**

(7-31-2017)

<b>Date</b>	<b>Day</b>	<b>Ch</b>	<b>Test</b>	<b>Topic</b>	<b>Assignment</b>
22Aug	Tu	1		Intro, syllabus, start bivariate dist, cor	
24	Th	2		Bivariate cor, start regression	
29	Tu	2		Bivariate regression	
31	Th	3		Data screening: outliers, normality	
5 Sep	Tu	3		Data screening: transforms, recodes	
7	Th	3	1	Finish data screen.	
12	Tu	Handout		Partial and part correlation	
14	Th	Readings		Partial and part correlation	
19	Tu			Finish Partial and part correlation.	
21	Th	7	2	Multiple correlation & regression: Intro	
26	Tu	7		Multiple correlation & regression: Data	
28	Th	7		Multiple correlation & regression: SPSS	
3 Oct	Tu			Multiple R: Variations	
5	Th			Multiple R	
10	Tu	7		FALL BREAK	
12	Th	7		Multiple R	
17	Tu	7		Multiple R	
19	Th		3	Factor analysis	
24	Tu	9		Factor analysis	
26	Th	9		Factor analysis	
31	Tu	9		Factor analysis	
2 Nov	Th	9		Factor analysis	
7	Tu	9		Factor analysis	
9	Th	Handout	4	R: Intro	
14	Tu	Handout		R Commander	
16	Th	Handout		Other: ANCOVA & Cluster	
21	Tu		5	Other: CFA	
23	Th			THANKSGIVING	
28	Tu	Other chs		Other: LOGISTIC	
30	Th	Other chs		Other: Struct Eq Model	
6 Dec	Mon			FINALS START	