PSY 2100-003 Statistical Methods **Spring 2014**
University Hall 5150F **4:10-5:25pm Tue/Thur**

Instructor
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Office Hours
Tue 2:00-3:30pm
Thurs 12:00-1:30pm
or by appointment

Course Information

Prerequisite:	C- or better in Math 1320 (or a higher math)
Required Texts:	*Statistics: Plain and Simple* (2010) (Jackson)
Calculator:	Required (no cell phone calculators)
Course website:	http://www.dl.utoledo.edu

Course Description

The purpose of this course is to provide an introduction to basic statistical methodology with an emphasis on their application to social science topics. We will cover topics including the clear summarization and interpretation of data, the utility of using a sample from a population, and the appropriate methodology to use when determining the effect of one variable on another. This course will not be an investigation of the proofs of underlying statistical theory, but will focus on how statistical procedures can be utilized as a powerful research tool.

By the end of this class, you should be able to:

1. summarize and organize data,
2. select and calculate an appropriate statistic to decide whether one variable reliably affects another variable, or whether such findings are driven by chance,
3. critically evaluate research findings in scientific journals and in the media,
4. navigate through the basics of a statistical software program (SPSS), and
5. possess a basic understanding of statistics that can be built upon in future classes.

Course Requirements

It is very important that you keep up with the work assigned in this course. I will not take attendance in this course but many of the discussions and activities in class will be helpful for your homework assignments and exams.

Participation

After every class a brief survey will be posted on BlackBoard. This should take less than five minutes of your time and is a quick assessment of your understanding of the class materials from that day. Each of these will be worth 2 points – one for completion (regardless of correct answers) and one for including the correct "keyword" presented at the end of each lecture.

Homework Assignments

Homework is essential for success in this course. The assignments will solidify your understanding of course material. There will be 10 homework assignments worth 10 points each. Assignments will be posted on the course website 1 week prior to the listed due date. Assignments must be handed in at the beginning of class on the listed due dates.

Exams

There will be 4 exams during the semester (note that "Exam 4" is the final exam). Each of the exams is worth 100 points and consists of a combination of multiple-choice, calculation, and essay-style questions. Each exam will cover information presented in class and on assigned readings *since* the previous exam. Therefore, none of the exams are comprehensive (although material that comes up later in the course will build on material learned earlier). You must bring a photo ID, pencil, and calculator to each exam.

Late Policy

Late work will not be tolerated. If you anticipate missing a homework assignment or an exam for a university-sanctioned excuse, you must contact me via email at least *one week prior* to the due date. If an illness or emergency prohibits you from completing a homework assignment or attending an exam, you must contact me via email *before the start of class*. Be prepared to make up your assignment or exam at the earliest possible date. If you do not follow these procedures exactly, you will not be permitted to make up the assignment or exam.

Grading Policy

You earn points in the class as follows:

Assignment	**Points Each**	**Possible Points**
25 Participation	2	50 points
10 Homework	10	100 points
4 Exams	100	400 points
Total		550 points

Letter Grades

A	93+%	> 509 points	C	73-76%	399-420
A-	90-92%	492-508	C-	70-72%	382-398
B+	87-89%	476-491	D+	67-69%	366-381
B	83-86%	454-475	D	63-66%	344-380
B-	80-82%	437-453	D-	60-62%	327-343
C+	77-79%	421-436	F	< 60%	<326

Class Policies

- No cell phones or other electronic devices (except calculator). Please turn them off.
- Arrive on time and do not leave early.
- The computers on your desks are to remain off unless we are working on an in-class exercise that requires the use of computers (e.g., SPSS).
- Do not talk in class unless it is part of an assignment (or asking the instructor questions).
- Be attentive in class.
- Ask questions.

University of Toledo Policy Pertaining to Academic Integrity

Academic dishonesty will not be tolerated. Among the aims of education are the acquisition of knowledge and development of the skills necessary for success in any profession. Activities inconsistent with these aims will not be permitted. Students are responsible for knowing what constitutes academic dishonesty. If students are uncertain about what constitutes plagiarism or cheating they should seek the instructor's advice. Examples of academic dishonesty include, but are not limited to:

- Plagiarizing or representing the words, ideas or information of another person as one's own and not offering proper documentation;

- Giving or receiving, prior to an examination, any unauthorized information concerning the content of that examination;
- Referring to or displaying any unauthorized materials inside or outside of the examination room during the course of an examination;
- Communicating during an examination in any manner with any unauthorized person concerning the examination or any part of it;
- Giving or receiving substantive aid during the course of an examination;
- Commencing an examination before the stipulated time or continuing to work on an examination after the announced conclusion of the examination period;
- Taking, converting, concealing, defacing, damaging or destroying any property related to the preparation or completion of assignments, research or examination;
- Submitting the same written work to fulfill the requirements for more than one course.

Students with Disabilities

Reasonable accommodations will be made for anyone with a disability that may require some modification of seating, testing, or other class requirements. Students must contact the Office of Accommodations (Rocket Hall 1820) for an evaluation and a form specifying what course accommodations are judged reasonable. Please contact the instructor after class or during office hours so that appropriate arrangements may be made.

The contact information for the Office of Accommodations is as follows:
Campus Address: Rocket Hall 1820, Mail Stop #342
Phone Number: 419.530.4981
Web: http://www.utoledo.edu/utlc/accessibility/

How to Succeed in this Course

Many students dread the statistics requirement of the psychology major. Some may reflect on the anxiety that accompanied math courses while others simply find it unnecessary for the profession they are aiming for. My goal is to demonstrate that statistical methodology is not only necessary and useful for future study in the social sciences, but the process of learning this new language does not have to be stressful. I will do my best to present the information in an easy to understand manner so that you can get the most out of this course.

Here are some general strategies to consider when going through the course:

Attend Class

Attending class is critical for success in this course. In fact, research has shown that one of the best predictors of grades in courses is class attendance, and even the brightest students gain more insight by attending classes regularly. This is especially important in a class like statistics, as it is helpful to consume information multiple times and different formats (e.g., reading, lectures). Moreover, there will be some course material presented in class that does not appear in the book; thus, you will need to attend to get all the information covered on exams.

Read, Study, and Take Notes Actively

Research shows that many individuals read and write passively, that is, without thinking about the meaning of what they are covering. In reading and studying textbook-type material, everyone (professors included) must read actively and as a result somewhat slowly. Research shows that learning is much more effective if new information is related to old information. Passively writing down what is on the overhead screen or what is discussed in class without thinking about it will not help you learn or understand the material.

Study the Summaries and Section Headings Before and While You Read

Summaries and headings help you mentally organize what you read. The authors did not just throw a

bunch of information together randomly; they present an organized framework of ideas and information. You should seek to understand their organization. Research shows that information is learned best when it is part of an organized mental framework.

Alter Your Expectations for Studying
Research consistently shows that students greatly underestimate the effort and time it takes to do a quality job of learning the new and complex material that is part of most courses. Academic experts generally agree that for a typical three-credit semester-long course, spending at least 6 hours per week outside of class working on learning is the norm for reasonable achievement.

Do the Homework Assignments
In order to facilitate your mastery of basic statistics, I have included homework assignments (in addition to the 4 exams). The purpose of the assignments is two-fold: 1) they allow you more opportunities to earn points in the course, and 2) they will give you critical practice for building your understanding of the material for exams and facilitate your use/retention of the information.

Keep up with Class Material and Ask Questions
There is a large amount of information to learn in this course, and most of the new material builds upon previously-learned material. Therefore, if you fall behind in the readings or don't understand a key concept, this will severely hurt your progress in the course. So keep up with the readings and ask questions when things are unclear!

Tentative Course Schedule
(Subject to change based on in-class announcements)

Week	Date	Topic	Reading	Assignment
1	Jan 7	Introduction: Science and Statistics	Module 1	
	Jan 9	Variables and Measurement	Module 2	
2	Jan 14	Data Organization	Module 3	
	Jan 16	Data Organization		Assignment 1 due
3	Jan 21	Measures of Central Tendency	Module 4	
	Jan 23	Measures of Variation	Module 5	Assignment 2 due
4	Jan 28	Measures of Variation		
	Jan 30	Standardized (Z) Scores	Module 6	Assignment 3 due
5	Feb 4	Standardized (Z) Scores		
	Feb 6	**Exam # 1 (Modules 1-6)**		
6	Feb 11	Sampling & Distributions	Module 7	
	Feb 13	NO CLASS - CONFERENCE		
7	Feb 18	Sampling & Distributions		Assignment 4 due
	Feb 20	Hypothesis Testing Basics	Module 8	
8	Feb 25	Single-sample z-tests	Module 9	Assignment 5 due
	Feb 27	t-statistic and Single-sample t-tests	Module 10	
9	Mar 4	SPRING BREAK		
	Mar 6	SPRING BREAK		
10	Mar 11	t-statistic and Single-sample t-tests		
	Mar 13	Independent Groups t-tests	Module 11	Assignment 6 due
11	Mar 18	Correlated Groups t-tests	Module 12	
	Mar 20	**Exam # 2 (Modules 7-12)**		
12	Mar 25	Analysis of Variance (ANOVA)	Modules 13-14	
	Mar 27	Analysis of Variance (ANOVA)		
13	Apr 1	RM and Two-Factor ANOVA	Modules 15-17	Assignment 7 due
	Apr 3	RM and Two-Factor ANOVA		Assignment 8 due
14	Apr 8	**Exam # 3 (Modules 13-17)**		
	Apr 10	Correlation	Modules 18-19	
15	Apr 15	Correlation & Regression	Module 20	
	Apr 17	Chi-square	Module 21	Assignment 9 due
16	Apr 22	Chi-square		
	Apr 24	Choosing the Right Statistic		Assignment 10 due

FINALS WEEK: Exam #4 (Modules 18-21); Thursday, May 1, 5:00-7:00pm