Course Number: PSYC 2030

Course Name: Methods and Statistics

1.0 Calendar Description

This course introduces students to the basic statistical methods commonly used in social science research. By the end of the course, students will have a solid understanding of the assumptions and procedures for conducting parametric and nonparametric univariate tests including z-Tests, t-Tests, Correlation, Simple Linear Regression, Chi Square, and ANOVA. Students will learn to interpret the results derived from these analyses, and critically evaluate conclusions drawn from analyses within the body of psychological literature. Students will learn to conduct these analyses using both a standard calculator and the statistical package R.

(3.0 credits) 2 3-hour lectures per week

2.0 Course Information

Instructor:	Carrie A. Leonard						
Office:	C885						
Phone:	403-329-2408						
Email:	carrie.leonard@uleth.ca						
Office Hours:							
	Tuesday	Time: 13:00-15:00					
Time and Location of Lectures:							
	Monday	Time: 18:00-20:50	Room: B650				
	Wednesday	Time: 18:00-20:50	Room: B650				

3.0 Textbook

(Required Text: Gravetter & Wallnau, 2011) Gravetter, F. J., & Wallnau, L. B. (2011). *Essentials of statistics for the behavioral sciences*. Belmont,

Calif.: Wadsworth, Cengage Learning.

Note: Study tools directly associated with this text are available at:

http://login.nelsonbrain.com/course/MTPNNBBP3S0S

4.0 Software

In this course we will use R statistical package. Please download R (it is free), and then R studio (also free). Bringing your laptop (with R and R studio installed) to classwill enable you to 'learn as we go'.

R is available at: http://www.r-project.org/ R studio is available at: http://www.rstudio.com/products/rstudio/download/

NOTE: You must download R first, then R studio

5.0 Evaluation

There are five components to the evaluation in the course:

I. Weekly Quizzes $(10 \times 2\% = 20\% \text{ of overall grade})$

The weekly quizzes will require theoretical understanding and the ability to conduct analyses using the R statistical package. Quizzes will open at the close of lecture, and remain open until lecture begins the following week. Each quiz can be completed a maximum of three times. You are not required to complete all three quiz attempts. The highest grade from the quiz attempts undertaken will be included in your course overall grade.

II. Calculation Assignments (2 x 12.5% = 25% of overall grade)

Two assignments that will require the hand calculation of various statistical techniques. These assignments are designed to ensure your understanding of the process of statistical techniques covered in class.

III. Article Results Interpretation Assignment (1 x 5% = 5% of overall grade)

The article results interpretation assignment is designed to encourage critical thinking about experimental results. You will be provided with a brief article, from which the conclusions will have been removed. Your assignment will be to review the article a write an appropriate conclusion section based on the information provided. Adherence to APA style will be taken into account in your grade.

IV. Midterm Exam (1 x 20% = 20% of overall grade)

The midterm exam will include theoretical, calculation, and computation questions. This will be a take home exam and you will have 24 hours to submit your exam results.

V. Final Exam $(1 \times 30\% = 30\% \text{ of overall grade})$

The final exam will be during the Final Examination period. It will be a comprehensive examination and will follow the same format as the midterm exam. You will have 48 hours to complete and submit your results.

BONUS: Extra Credit for Research Participation

Students have an opportunity to add up to 5% bonus points ("study credits") to their overall grade in this course by participating in active research of Psychology Department faculty members. This participation allows you to gain personal experience in psychology research projects, provides an opportunity to witness what goes on in the psychology labs, and introduces you to senior undergraduate and graduate students conducting their own research projects. Available studies will be listed and described on the Sona System at: http://psychleth.sona-systems.com.

Your username will be sent to your U of L email account by the departmental Administrative Assistant after add/drop just prior to May 11. Calls for volunteers to assist in these projects will be made throughout the semester, you will need to sign up using the sona system. Each project usually requires one hour or less of your time, but this will depend on the individual research project. In recognition of your time and the fact that you are learning about the discipline of psychology beyond what you acquire in the classroom setting, an extra credit of 1% to 2% per study in which you participate will be added to your course grade. Note that there is no guarantee that all students who wish to participate will be able to achieve the maximum extra credit. As these are bonus points, students who choose not to participate

are not disadvantaged. Because research studies start at various points throughout the semester, additional projects that were not originally listed may show up, so be sure to check the system periodically. The last date to participate in research studies is June 19, 2015. If you experience problems with the Sona System, or have questions about participating in research projects, please contact Leanne Wehlage-Ellis at wehlage@uleth.ca.

Note: if you have completed a study or survey in prior semesters you may not sign up for those particular ones. You may not do a study or survey twice or sign up for the same study/survey if you are in multiple classes in a particular semester. If there is duplication you will be deducted credits and your accounts made inactive.

Final Grades – Percentage Equivalents:

At the end of the course you will be assigned a letter grade based on the table below:

Grade	Percent	Grade	Percent	Grade	Percent
A+	90-100%	В	73-77%	C-	60-63%
А	85-90%	B-	70-73%	D+	55-60%
A-	80-85%	C+	67-70%	D	50-55%
B+	77-80%	С	63-67%	F	0 - 49%

6.0 Schedule

See final page.

7.0 General Policies

Withdrawal Date

June, 17, 2015 is the last date to withdraw from this course with a "W' grade. **Note: it is the responsibility of the student to withdraw.** If you do not meet the requirements of the course and you are not officially withdrawn you will receive an "F".

Missed Exams and Assignments

Missed/Late Assignments/Term Papers

Unexcused missed work will receive a grade of zero.

Unexcused late term work varies by assessment type

- Late quizzes receive a grade of zero
- Late computation assignments lose 10% per day (subtraction)
- Late article interpretation assignments lose 5% per day (subtraction)
- Late exams (midterm and final) will not be accepted

Midterm & Final Exam – Under no circumstances will final exams be "deferred" to a date prior to the scheduled date of the exam.

Some acceptable reasons for missing a scheduled exam include:

- Personal illness, injury, or bereavement
- Religious observances

Note: A note from the appropriate authority is required for a makeup test to be scheduled.

Academic Regulations

Refer to the University of Lethbridge Academic Calendar

Procedure for Appeals and Grievances can also be found in the University of Lethbridge Academic Calendar.

Academic Integrity Statement

Academic misconduct will not be tolerated. See the University of Lethbridge Academic Calendar *Discipline Policy* for a discussion of violations and possible consequences (especially part 4, 5, and 9). It is the responsibility of the student to be familiar with the Discipline Policy.

The University of Lethbridge Academic Calendar provides the following definition of plagiarism: "No student shall represent the words, ideas, images, or data of another person as his or her own. This regulation will affect any academic assignment or other component of any course or program of study, whether the plagiarized material constitutes a part of the entirety of the submitted work."

All work submitted for credit in this course must be produced solely by the individual - this means collaborative efforts are not allowed. A claim that "you didn't know it was wrong" will not be accepted as an excuse.

8.0 Accommodations for Students with a Disability

Reasonable accommodations will be made for students who have a documented disability. If you have been diagnosed with a disability, please utilize the support available to you through the University. Please contact the Accommodated Learning Centre/Counselling Services to set up an appointment (Phone: 403-329-2766; http://www.uleth.ca/ross/accommodated-learning-centre). After registering with the Accommodated Learning Center, your instructor will be notified of any accommodations that you require.

Students are responsible for requesting accommodations from the instructor **at least two weeks** in advance of the evaluation date. The instructor and student are then jointly responsible for arranging the resources needed for the evaluation process.

9.0 Distribution of Course Information

Moodle. Login with your own user name and password to check the course moodle site regularly (moodle.uleth.ca). Information will be made available in Moodle throughout the semester, including the lecture syllabus (which states dates for all readings, assignments, exams), weekly quizzes, and any other announcements. Moodle gradebook will be used so that you may keep track of your grades. All course materials on the Moodle course site should be treated as copyrighted material. Meaning, you may personally use any of the materials posted however, you may not share or distribute any posted materials with individuals not registered in this course in this semester. The instructor will not be held accountable for students who choose to violate copyright law.

Email. Other than posts on Moodle, my primary method of communicating with you will be via inclass announcements or by email to the class listserv. Check your U of L email account on a regular basis.

Email Policy. Because I cannot verify the sender of any email that does not originate from a University of Lethbridge account, I will reply ONLY to messages sent from a "uleth.ca" account. Furthermore, I will not reply to an email that does not include the course name and topic of your email in the Subject line. Your full name (as it appears on your registration) must be included at the end of your message. Finally, I will NOT reply to email inquiries regarding basic course information that has been made available in class, has been posted on Moodle, is provided in this course outline, or if your email message is belligerent or disrespectful.

Schedule PSYC2030

Module Content	Lecture Number	Date	Reading Text pages&	Quiz	Assignments and Due Date
	1	M	Sections:		
Basic Concepts	1	May 6	pp. 4-29		
			Sections: 1.1-1.5		
Frequency	1	May 6	pp. 38-52	1	
Distributions			Sections 2.1-2.4		
Descriptive	2	May 11	pp. 40-51	2	
Statistics &			Sections: 2.2-2.4		
Graphing & Intro			pp. 60-81		
to R			Sections: 3.1-3.6		
Variability,	3	May 13	pp. 90-111	3	
Standardized			Sections: 4.1-4.5		
scores, Probability,			pp.123-141		
z-tests			Sections: 5.1-5.6		
			pp. 150-196		
			Sections: 6.1-7.5		
No Class		May 18			
Introduction to	4	May 20	pp. 203-237	4	Computation #1
Hypothesis testing		·	Sections: 8.1-8.6		Posted
Single sample t-	4-5	May 25& 27	pp. 249-270	5	
Test &		•	Sections: 9.1-9.4		
Independent t-Test			pp. 280-312		
•			Sections: 10.1-10.4		
Paired t-Test	5	May 25& 27	pp. 314-331	6	
		•	Sections: 11.1-11.4		
Correlation	6	June 1	pp. 450-481	7	Computation #1
			Sections: 14.1-14.5		Due
Simple Linear	6	June 1	pp. 481-497	8	Article
Regression			Section: 14.6		Interpretation
					Assignment Posted
MIDTERM	7	June 1			Midterm posted
Review					(due within 24
					hours)
Chi square GOF &	8	June 3	pp. 510-536	9	Computation #2
test of			Sections: 15.1-15.5		Posted
Independence					
ANOVA: one-way.	9 & 10	June 8 & 10	pp. 346-429	10	Article
repeated measure.			Sections: 12.1-13.3	- •	Interpretation
two-way					Assignment Due
Final Exam	11	June 15			Computation #2
Review	11	June 15			Due
Tutorial & Final	12	Iune 17			Final posted (due
	12	suite 17			within 48 hours)

Note: Readings are strongly encouraged, as are practice assignments available through MindTap.