

THIS A SAMPLE SYLLABUS (Not an actual course syllabus)

Statistics in Psychology

PSYC 402
Credits: 4.00
Fall 2020
McConnell 230

Professor:
Victor Benassi, Ph.D.
Contact Information:
Faculty Office:
Email:
Phone:
Office hours:

ACKNOWLEDGING THE MOMENT (FROM STANFORD U)

“As you know, we are engaged in this class under extraordinary circumstances. Not only are we now conducting the class [in unpredictable times], but we are all working with repercussions of the COVID-19 emergency. This new version of our course, and the circumstances it is offered under, are going to require adaptability, understanding, and help from all of us.”

Please do feel free to reach out to me about how the class is going at any time by email, or during these virtual office hours: _____. Also, I want to especially call attention this term to the variety of supports available to you [UNH student portal link].”

COURSE DESCRIPTION

This course introduces design, statistical analysis, and decision making in psychological research. The overview of statistical analyses for this course includes probability, hypothesis testing, confidence intervals, exploratory data analysis (including measures of central tendency, variability), t-tests, correlations, bivariate regression, one-way analysis of variance, and chi-square. You will be introduced to and given opportunities to practice computer methods of computation (using SPSS statistical package).

COURSE LEARNING OUTCOMES

By the end of the course, my goal is that you will be able to:

- *Critically interpret* ordinary statistics encountered in everyday life
 - For example, what it means when political poll results tell us “58% +/- 2%”
- *Apply and interpret* descriptive statistics commonly used in psychological research

- Statistics that are used to categorize and summarize data
- *Apply and interpret* inferential statistics commonly used in psychological research
 - Statistics that are used to make decisions about research findings
 - ✓ i.e. whether the research results are due to random happenstance (chance), or to cause and effect
- *Choose and conduct* appropriate statistical analyses
- *Critically evaluate* results of statistical analyses, and to draw appropriate conclusions
- *Analyze* psychological data using computer software (SPSS)

TIME COMMITMENT

To succeed in this course, students will need to work consistently every week during the semester. In order to be successful in this course, you will need to put in substantial time, effort, and dedication. This is especially true for statistics, as every topic builds on the preceding topic. You must keep up with the courses assignments.

This is a four (4) credit course. Consistent with tradition at UNH, **for each credit hour**, the university requires, at a minimum, the equivalent of **three hours of student academic work each week**. (4 x 3 = 12 hours). This is an estimate. I expect some of you will put in more time to do well in the course; others may require less time. Plan wisely when establishing your course-related work schedule. CITE UNH credit hour policy:

UNH's credit hour policy: 0 4. 211(fs) UNH Credit Hour Policy. The University of New Hampshire is in compliance with the federal definition of credit hour. For each credit hour, the university requires, at a minimum, the equivalent of three hours of student academic work each week. Academic work includes, but is not limited to, direct faculty instruction, e-learning, recitation, laboratory work, studio work, field work, performance, internships and practicums. Additional academic activities include, but are not limited to, readings, reflections, essays, reports, inquiry, problem solving, rehearsal, collaborations, theses, and electronic interactions. Student work reflects intended learning outcomes and is verified through evidence of student achievement.

CLASS RECORDING (TERRI WINTERS' WEEKLYEMAIL UPDATE, JULY 27, 2020)

"Lectures or other class meetings may be recorded for online transmission or classroom use using the UNH media platforms. Your voice or image may be captured on the recordings and the video or audio may be used by the University of New Hampshire and its agents or employees for the following purposes:

- Instruction for students enrolled in this class
- As a review tool for students enrolled in this class"

Be sure to include a statement that “chats” are ‘public’ to everyone in a session.

PLAN FOR THE FALL SEMESTER (UNDER UNH’S INSTRUCTIONAL GUIDELINES IN THE COVID ERA)

In the course, the overall instructional plan will remain the same across the semester, **with one exception (below).**

1. **Two weekly class meetings** held in our classroom, during which there will be problem-solving activities.
2. **Asynchronous instructional videos** (2 per week) prepared by me and presented on Zoom. Although these will be lectures on the material to be addressed during the week, there will be a series of required learning activities that students will be required to complete and submit to me via the Canvas quiz platform.
3. **Weekly reading, learning activities, and study time** using the OLI Statistical Reasoning course materials and other resources.
4. **Scheduled homework assignments** (SPSS, Psychology Lab Experience)
5. **Formal assessments** of your learning in the course: mid-term and final exam; checkpoint quizzes in Statistical Reasoning material; Choosing the Appropriate Statistical Test Quizzes; Cumulative “Choosing the Appropriate Statistical Test”; SPSS Assignments; Statistical Concepts Final.

Exception

- After November 20, 2020:
 - The two **weekly classroom meetings will switch** from synchronous and asynchronous to **entirely remote meetings** and continue until the end of the semester.
 - Class meetings will be **held synchronously during class time** via Zoom/Kaltura for all students who are able to ‘attend’ during these times.
 - Sessions will be **recorded and accessible** to students.
- **In the event that circumstances with COVID change**, such that UNH pivots to entirely remote format prior to November 20, the above change will occur at that time.

Components 2, 3, 4, and 5 (above) **will remain the same** no matter whether or not class meets on campus or entirely remotely.

Early in the semester, we will hold a couple class meetings in entirely remote format so we all have experience with this format BEFORE there will be a change after (or before) November 20.

STRUCTURE OF COURSE

Class Meetings (in classroom, via Zoom, Hybrid—synchronous and asynchronous):

Each Tuesday and Thursday, at our scheduled class time, there will be class problem solving, short video presentations, and learning other activities. How many students will be permitted to attend a given session in our classroom remains unclear at present. These class sessions, which will focus on problem solving and related activities, will be captured on video and streamed live to students, via Zoom, who are not present at a given class session. The sessions will also be recorded. There will be a graduate teaching assistant present during these sessions who will monitor the chat, where students will be able to post questions and comments. I will try to answer as many questions as possible from in-class and Zoom students. Questions not addressed during these sessions will be responded to off-line by the TA or me.

Instructor Video Presentations:

Each week, there will be 2 or 3 asynchronous presentations via Zoom/Kaltura; each presentation will be between 20 and 30 minutes total time. Each presentation will be segmented into 2 or 3 brief periods, so as to address viewer fatigue. Each presentation will include embedded learning activities to increase your engagement with the presented material and to foster your learning.

Reading and Student Learning Activities:

Using the Open Learning Initiative Statistical Reasoning Course materials, you will complete weekly reading assignments and a variety of learning activities (including 'learn-by-doing', 'did I get it', and checkpoint quizzes).

Homework:

Students will complete and submit the Department of Psychology's required SPSS Statistics assignments. These assignments will be completed individually by students outside of class meeting times, according to due dates provided in the course calendar and according to the instructions provided in Canvas.

Once we begin to learn about the statistical inference tests covered in the course, you will complete instructional materials related to the Choosing Statistical Tests and take all of the associated quizzes. Instructions on the assignments and quiz due dates are provided in Canvas.

CLASS ATTENDANCE AND PARTICIPATION

Starting in the second week of the semester, there will be in-class activities every week until the end of the semester (except for days on which there will be exams and other assessments). You must participate in a class session to complete these activities (whether it is in-person, or remotely (synchronously, unless you have been granted permission to participate in these sessions asynchronously). You will submit to Canvas your responses to the learning activities; submissions will be recorded but not scored for accuracy. Instead, you will receive class participation points for completing the activities, which collectively, will contribute to 7.5% of your course grade.

REQUIRED MATERIALS AND RESOURCES

Text:

You will work through a computer-based text and instructional courseware offered through the Carnegie Mellon University (CMU) Open Course Initiative. **You must register and pay \$25.00, using a credit card.** (You may not use the Guest option of working on the course materials because this option will not record and save your work, which is essential in order to give you credit for your work, including your OLI checkpoint quiz scores.)

The \$25.00 fee for using the CMU materials is a huge savings, as a typical new text for this course costs well over \$200. However, don't be concerned that the low cost is indicative of an inferior product. The OLI statistical reasoning course materials have been continually updated and improved over the past 20 years, based on learning science, data analytics, and student and instructor feedback.

The Carnegie Mellon's Open Learning Initiative (OLI) Statistical Reasoning course is as a major source of material in the course. You read and consider material from a series of 12 modules; you will complete "Learn by Doing" and "Did I Get this" activities as a way for you (and I) to assess how well you are learning and understanding the course material. (These are ungraded, but completing them and considering the feedback you receive is essential for you to do well in the course.)

CANVAS

You will need to access the course *Canvas* site on a regular basis throughout course in order to access important materials and announcements relevant to the course.

Information on Canvas and helpful tips may be accessed through this webpage:

<https://td.unh.edu/TDClient/60/Portal/KB/ArticleDet?ID=2177>

SPECIAL EQUIPMENT

Computer: You will need dedicated access to a computer to complete a variety of course activities and assignments. The computer must be able to meet the requirements for using Zoom/Kaltura, completing the OLI Statistical Reasoning course material, and using UNH's Canvas learning management system. It is each student's responsibility to verify that the computer to be used in the course meets the requirements.

Calculator:

You will need a calculator with a square key and a square root key as you work to compute and understand the statistical problems.

SPSS:

There are four assignments for which you will use the computer software, SPSS, for statistical analysis of data. Therefore, you either need to access a computer on campus that has SPSS OR you will download this program onto the PC or Mac you will use for this course (see instructions https://clusters.unh.edu/services/software/spss_win.html)

Note: I have provided you (in the SPSS Assignments folder in Canvas) with a separate document that instructs you on how to use the SPSS program (and I will cover this topic in class on January 22). In addition, the instructions and other material necessary to complete each of the four SPSS assignments are included in this folder.

COURSE INTRODUCTION

The aim of this introductory course is to provide a general knowledge of how basic statistical concepts are used in psychological research. You will learn in which conditions – and how – to perform various computational techniques, along with underlying statistical theories in the application of those techniques. Working with symbols is fundamental in statistics; treat them as a foreign language – work to understand them conceptually, and then memorize them. Another essential component of statistical analysis is mathematics. In terms of the math, success in this course requires the appropriate application of only basic mathematical operations and computations of elementary algebraic expressions.

What happens if a schedule class meeting (whether on campus or remote) doesn't occur (for example, due to curtailed operations at UNH)? If it is a regular class period during the semester, I will provide you with a Zoom video (which you should watch prior to our next class session). There also may be an assigned activity for you to complete and submit via Blackboard. If class does not meet on the date of the exam, the exam will be administered on the next class session. In the very unlikely event that the exam must be rescheduled, I will provide you with instructions at the time.

COURSE WORK AND ASSESSMENTS

- Choosing the Appropriate Statistical Test Quizzes (10% of your course grade)
 - Once we begin to address various statistical inference tests, I will assign, on Canvas, modules for each statistical test that we cover. Each module will contain background on the statistical test, followed by a brief quiz designed to help you

understand appropriate use. These modules are designed to prepare you for a final exam on these materials. Further details will be presented when we begin these activities.

- There are 8 of these online graded quizzes administered through the Canvas modules. Due dates are in Course Schedule and in the Canvas Modules. (Note: The Choosing Statistical Test final exam will consist of questions where you are asked to select the appropriate statistical test for a described research problem.)
- SPSS Assignments (5% of your course grade)
 - There will be four assignments that everyone is required to complete that involve analyzing sets of data using the statistical program called SPSS. For each assignment, you will prepare and submit a report (via the course **Canvas** site). Details will be presented when we begin these assignments. Due dates are in Course Schedule and in the Canvas Modules.
- OLI Checkpoint Quizzes (10% of your course grade)
 - Within OLI, these are called: “Checkpoint quizzes.” These are graded quizzes that assess your understanding of material from relatively small sections of the OLI course material. Scores on these quizzes will contribute to your final course grade.
 - If you complete all of the assigned quizzes, I will drop your lowest score before I calculate your overall OLI Checkpoint Quizzes score. If you do not complete all assigned quizzes, I will calculate your score based on all of the assigned quizzes. Due dates are in Course Schedule and in the Canvas Modules.
- Two Exams on OLI Checkpoint Quizzes (50% of your course grade; 25% each)
 - Exam 1 and Exam 2 will cover OLI CMU material from Modules 4 through 10 and Modules 11 through 15, respectively. The exams will consist of multiple-choice questions based directly on the quizzes assigned in the OLI course material (checkpoint quizzes). The questions will be on the same concepts tested in the OLI quizzes, but they will not be exactly the same questions. The concepts tested will be the same as the content in the OLI quizzes.
 - *Note for Exam 1: You must take the exam on the scheduled day, between 8:00 am and 10:00 pm eastern time.*
 - *Note for Exam 2: You must take the exam on the scheduled day, between 8:00 am and 10:00 pm eastern time.*
- Choosing Stat Tests Final Exam (20% of your course grade)
 - This exam will consist of 24 word problems. For each problem, I will describe a research study and then ask you which among the following statistical tests is appropriate to analyze the data from the study: Z-test, independent samples t-test, matched samples t-test, ANOVA, chi-square, correlation, liner regression.

(Note: I will give you eight quizzes during the course, so that you can practice learning what tests about to different research designs.)

- *Note: You must take the exam on the scheduled day, between 8:00 am and 10:00 pm eastern time.*
- **Statistical Concepts Final Exam (5% of your course grade)**
 - There is a Final exam on major Statistical Concepts Covered in this Course.
 - The general topics covered on this final exam are:
 - How data are collected (e.g., sampling methods, research designs, types of variables)
 - How data are represented (e.g., graphs, tables)
 - Measures of Center (mean, median, mode)
 - Measures of Spread (e.g., variance, standard deviation, stem and leaf, boxplots)
 - Normal Distribution
 - Probability
 - Bivariate Quantitative Data
 - Bivariate Categorical Data
 - Sampling Distributions
 - Confidence Intervals
 - Significance Tests (Z-test for population mean, *t*-test for population mean, *t*-test for two independent samples, *t*-test for matched pairs, chi square, correlation, and regression). This exam will not include analysis of variance (ANOVA)

GRADING

You will be able to access your scores for all assignments from the Grade Center at the course Canvas site.

Your course grade is based on:

Choosing Stat Test Quizzes	10%
SPSS Problems	5%
OLI Checkpoints (quizzes)	10%
2 Exams on OLI Checkpoint Quizzes	50% (25% each)
Choosing Stat Tests Final Exam	20%
Statistical Concepts Final Exam	5%
Total Possible:	100%

Course Grade	Range
A	.93 – 1.00
A-	.90 - .92
B+	.87 - .89
B	.83 - .86
B-	.80 - .82
C+	.77 - .79
C	.73 - .76
C-	.70 - .72
D+	.67 - .69
D	.63 - .66
D-	.60-.62
F	< .60

For example:

Choosing Stat Tests Quizzes	.85 X .10	= .085
SPSS Problems	.90 X .05	= .045
OLI Checkpoint Quizzes	.84 X .10	= .084
2 Exams on OLI Checkpoint Quizzes	.85 X .50	= .425
Choosing Stat Tests Final	.89 X .20	= .178
Statistical Concepts Final	.85 X .05	= .043
Final Course Weighted Score		= .86

ONLINE NETIQUETTE AND IN-CLASS ETIQUETTE

This UNH website has excellent and tips for what might go in this section:

<https://mycourses.unh.edu/courses/54722/pages/student-interactions>

INCLUSIVE CLASS ENVIRONMENT

This website (U. of Michigan) has excellent information and tips for what might go in this section:

<https://sites.lsa.umich.edu/inclusive-teaching/inclusive-classrooms/inclusive-syllabus-language/>

SERVICES, RESOURCES, POLICIES

Students' Rights, Rules, Responsibilities

[https://www.unh.edu/sites/default/files/departments/student life/final pdf 90521 .rights and rules 2018-2019 for website 0.pdf](https://www.unh.edu/sites/default/files/departments/student%20life/final%20pdf%2090521%20rights%20and%20rules%202018-2019%20for%20website%200.pdf)

<https://www.unh.edu/student-life/student-rights-rules-responsibilities>

You may learn about some resources available to you by accessing this website:

<https://www.unh.edu/studentaccessibility/campus-resources-and-offices>

Information on Student Accessibility Services (SAS) at UNH:

<https://www.unh.edu/studentaccessibility>

“According to the Americans with Disabilities Act (as amended, 2008), each student with a disability has the right to request **services** from UNH to accommodate his/her disability. If you are a student with a documented disability or believe you may have a disability that requires

accommodations, please contact Student Accessibility Services (SAS) at 201 Smith Hall. Accommodation letters are created by SAS with the student. Please follow-up with your instructor as soon as possible to ensure timely implementation of the identified accommodations in the letter. Faculty have an obligation to respond once they receive official notice of accommodations from SAS, but are under no obligation to provide retroactive accommodations.”

Sexual Harassment/Sexual Abuse by a member of the UNH Faculty or Staff: The Schneider Ruling

“The NH Supreme Court requires that all faculty and staff must report any incidents of sexual harassment and/or sexual assault perpetrated by a faculty or staff member on a student to the **UNH Affirmative Action and Equity Office.**”

For further information on **Mandatory Reporting** requirements for faculty, refer to this webpage: <https://www.unh.edu/sharpp/reporting-requirements>

Academic Honesty

Are students are required to know and follow UNH’s policies on academic honesty. You can read about the relevant policies at: <https://www.unh.edu/student-life/09-academic-honesty>

Academic honesty is a core value at the University of New Hampshire. The members of its academic community both require and expect one another to conduct themselves with integrity. This means that each member will adhere to the principles and rules of the University and pursue academic work in a straightforward and truthful manner, free from deception or fraud. The academic policy can be found in the annual publication, *Student Rights, Rules and Responsibilities*

Connors Writing Center

Students can seek a variety of types of assistance related to academic writing at the Connors Writing Center: <https://www.unh.edu/writing/cwc>

UNH Virtual Library

COURSE CALENDAR

Note 1: The page numbers in the course calendar refer to the pages for assigned readings and required checkpoints (quizzes) that appear in the OLI CMU online course materials.

Note 2: OLI Checkpoint quizzes, SPSS assignments, and Choosing Statistical Test quizzes are due by 9:30 am on the class date as shown in the calendar below.

Course Calendar

Week	Tuesday Class	Between Class	Thursday Class	Between Class
1.	Hybrid Format	Student Learning Activities	Hybrid Format	Student Learning Activities
	Ice Breaker for In-Class and Remote Students	OLI Modules 1 – 3 (pp. 1-11)	Review Did I Get This and Learn By Doing Activities	Complete Study Skills Module (Required of all students. Instructions in Canvas)
	Hybrid Course Introduction	OLI Module 4: Examining Distributions (pp. 12-25)	Q & A on reading assignment	Download SPSS and ensure it is working properly on your computer. Instructions in Canvas)
	Review Course Syllabus, Course Policies, etc.	Watch Asynchronous instructional video on Examining Distributions	Individual Student Problem Solving (response submitted to Canvas Assignments)	OLI Module 4: Examining Distributions (pp. 21-36)
	Prior to first Class: Watch all Pre-Course Zoom Videos. Instructions in Canvas.	Examining Distributions Checkpoint 1 (p.25)		Watch Asynchronous instructional video on Examining Distributions
				Examining Distributions Checkpoint 2 (p.37)

2.	Remote Only	Student Learning Activities	Remote Only	Student Learning Activities
	<p>Review Did I Get This and Learn By Doing Activities</p> <p>Q & A on reading assignment</p> <p>Individual Student Problem Solving (response submitted to Canvas Assignments)</p>	<p>Module 5: Examining Relationships (pp. 38-51)</p> <p>Watch Asynchronous instructional video on Examining Distributions</p> <p>Examining Distributions Checkpoint 1 (p.25)</p> <p>Examining Relationships Checkpoint 1 (p. 51)</p>	<p>Review Did I Get This and Learn By Doing Activities</p> <p>Q & A on reading assignment</p> <p>Individual Student Problem Solving (response submitted to Canvas Assignments)</p>	<p>Complete LAT of remote learning experience. (To be discussed in next hybrid class session)</p> <p>Module 5: Examining Relationships (pp. 52-68)</p> <p>Examining Relationships Checkpoint 2 (p.65)</p>
3.	Hybrid	Student Learning Activities	Hybrid	Student Learning Activities

Etc. for the term