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Open Educational Resources Syllabus Review

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2020

## **Psychological Statistics**

North Carolina Agricultural and Technical State University

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**COURSE SYLLABUS**

College Name: College of Health and Human Sciences  
Department Name: Department of Psychology  
Course Name: Psychological Statistics

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**COURSE INFORMATION**

- Course Number/Section: PSYC 250
- Term:
- Semester Credit Hours: 3
- Times and Days:
- Class Location:

**INSTRUCTOR CONTACT INFORMATION**

- Instructor:
- Office Location:
- Office Phone:
- Email Address:

*Faculty must notify students of the approximate time and method they can expect to receive an answer to all communications (e.g., email, phone, course messages). Excluding holidays, the response should be provided within 48 hours.*

*If there's a graduate teaching assistant assigned to work with this course, please include their names also.*

**STUDENT HOURS**

*These are times students may visit the professor without an appointment to request the assistance they need.*

*NOTE: Students are responsible for reading, understanding, and following the syllabus.*

: AM  / PM  – : AM  / PM

Monday  Tuesday  Wednesday  Thursday  Friday

**COURSE PREREQUISITES**

## **COURSE DESCRIPTION**

This course introduces techniques of analysis and interpretation of research data. Topics will include descriptive statistics (frequency distributions, centrality, variability, and correlational measures), and an introduction to statistical inference (normal curve, sampling theory, test of statistical hypotheses, t-test, analysis of variance, chi-square, and others).

## **STUDENT LEARNING OBJECTIVES/OUTCOMES (SLO)**

*Learning outcomes should be specific, measurable, and focused on the content knowledge the students are expected to master and not what the faculty will teach.*

*If the course is a General Education Course, the SLO should be listed and labeled as "General Education."*

SLO 1: Objective: Understand statistical concepts and how to apply them in specific social-science research situations.

Outcome: Students will demonstrate their understanding of statistical concepts by answering conceptual questions and solving problems on quizzes/examinations, and by submitting solutions to homework problems.

SLO 2: Objective: Use analytical thinking skills to evaluate information critically.

Outcome: Students will demonstrate their use of analytical thinking skills by solving quiz/exam problems that require them to interpret research scenarios and identify appropriate statistical procedures.

SLO 3: Objective: Use information to draw inferences, test hypotheses, and make decisions.

Outcome: On quizzes/examinations and homework problems, students will use inferential statistics to draw conclusions about populations based on sample data.

## **REQUIRED TEXTBOOKS AND MATERIALS**

*Any course-level subscriptions and tools linked in Blackboard Learn learning management system (LMS) should be listed here. The Blackboard LMS must have links to their student data privacy statement.*

### **REQUIRED TEXTS:**

Gravetter, F. J. & Wallnau, L.B. (2018). *Essentials of statistics for the behavioral sciences*, Cengage

### **REQUIRED MATERIALS:**

## **SUGGESTED COURSE MATERIALS**

### **SUGGESTED READINGS/TEXTS:**

### **SUGGESTED MATERIALS:**

## GRADING POLICY

### ASSIGNMENTS AND GRADING POLICY

94% and above	A		76% - 74%	C
93% - 90%	A-		73% - 70%	C-
89% - 87%	B+		69% - 67%	D+
86% - 84%	B		66% - 64%	D
83% - 80%	B-		63% - 60%	F
79% - 77%	C+			

**For GRADUATE COURSES:** See 2019-2020 Graduate Catalog p.38 for graduate grading scale and Non-Graded Courses

### GRADING ALLOCATION

Course grades are based on a weighted grading scale of 100%. The breakdown for the course is as follows: *[Faculty, please adjust according to your course.]*

Category	# of Activities	Percentage Grade Weight
Discussion Boards	16	16
Synchronous Sessions	15	0
Quizzes	14	56
PSQI Assessment	1	10
Exams	1	18
<b>Total</b>	<b>47</b>	<b>100%</b>

## COURSE POLICIES

### USE OF BLACKBOARD AS THE LEARNING MANAGEMENT SYSTEM

Blackboard is the primary online instructional and course communications platform. Students can access the course syllabus, assignments, grades, and learner support resources. Students are encouraged to protect their login credentials, complete a Blackboard orientation, and log in daily to the course.

**Note:** Uploading assignments through Blackboard presents a challenge for Chromebook users in locating the files for submission. If you use a Chromebook, please be sure you also have access to a Mac computer or Windows computer so you can fully participate in your Blackboard class. For more information about student computer recommendations, please visit <https://hub.ncat.edu/administration/its/computer-recommendations.php>.

### MAKE-UP EXAMS

See << Update Academic Year >> *Undergraduate Bulletin*:

**For GRADUATE STUDENTS: See 2019-20 Graduate Catalog p. 54  
EXTRA CREDIT**

## LATE WORK

## SPECIAL ASSIGNMENTS

**For GRADUATE STUDENTS: FAILING TO MEET COURSE REQUIREMENTS (Graduate Catalog p.40)**

**For GRADUATE STUDENTS: CLASS ATTENDANCE (see 2019-20 Graduate Catalog p. 53-54)**

Students are expected to attend class and participate on a regular basis in order to successfully achieve course learning outcomes and meet federal financial aid requirements ([34 CFR 668.22](#)). Class attendance in online courses is defined as active participation in academically-related course activities. Active participation may consist of course interactions with the content, classmates, and/or the instructor. Examples of academically-related course activities include, but are not limited to:

- Completing and submitting assignments, quizzes, exams, and other activities within Blackboard or through Blackboard (3rd-party products).
- Participating in course-related synchronous online chats, discussions, or meeting platforms such as Blackboard Collaborate in which participation is tracked.

## CLASSROOM CITIZENSHIP

Courtesy, civility, and respect must be the hallmark of your interactions.

## COMPLIANCE WITH THE AMERICANS WITH DISABILITIES ACT

North Carolina A&T State University is committed to following the requirements of the Americans with Disabilities Act Amendments Act (ADAAA) and Section 504 of the Rehabilitation Act. If you need an academic accommodation based on the impact of a disability, you must initiate the request with the Office of Accessibility Resources (OARS) and provide documentation in accordance with the Documentation Guidelines at N.C. A&T. Once documentation is received, it will be reviewed. Once approved, you must attend a comprehensive meeting to receive appropriate and reasonable accommodations. If you are a student registered with OARS, you must complete the Accommodation Request Form to have accommodations sent to faculty.

OARS is located in Murphy Hall, Suite 01 and can be reached at 336-334-7765, or by email at [accessibilityresources@ncat.edu](mailto:accessibilityresources@ncat.edu). Additional information and forms can be found on the internet at <https://www.ncat.edu/provost/academic-affairs/accessibility-resources/index.php>.

**Please note:** Accommodations are not retroactive and begin once the Disability Verification Form is provided to faculty.

## TITLE IX

North Carolina A&T State University is committed to providing a safe learning environment for all students—free of all forms of discrimination and harassment. Sexual misconduct and relationship violence in any form are inconsistent with the university’s mission and core values, violates university policies, and may also violate federal and state law. Faculty members are considered “Responsible Employees” and are required to report incidents of sexual misconduct and relationship violence to the Title IX Coordinator. If you or someone you know has been impacted by sexual harassment, sexual assault, dating or domestic violence, or stalking, please visit the Title IX website to access information about university support and resources. If you would like to speak with someone confidentially, please contact Counseling Services at 336-334-7727 or the Student Health Center at 336-334-7880.

## **TECHNICAL SUPPORT**

If you experience any problems with your A&T account, you may call Client Technology Services (formerly Aggie Tech Support and Help Desk) at 336-334-7195, or visit <https://hub.ncat.edu/administration/its/dept/ats/index.php>.

## **FIELD TRIP POLICIES / OFF-CAMPUS INSTRUCTION AND COURSE ACTIVITIES**

*If applicable:*

Off-campus, out-of-state, foreign instruction, and activities are subject to state law and university policies and procedures regarding travel and risk-related activities. Information regarding these rules and regulations may be found at <https://www.ncat.edu/campus-life/student-affairs/index.php>.

## **STUDENT HANDBOOK**

<https://www.ncat.edu/campus-life/student-affairs/departments/dean-of-students/student-handbook.php>

## **STUDENT TRAVEL PROCEDURES AND STUDENT TRAVEL ACTIVITY WAIVER**

[https://hub.ncat.edu/administration/student-affairs/staff-resources/student\\_activity\\_travel\\_waiver.pdf](https://hub.ncat.edu/administration/student-affairs/staff-resources/student_activity_travel_waiver.pdf)

## **OTHER POLICIES** (e.g., *Copyright Guidelines, Confidentiality, etc.*)

### **STUDENT HANDBOOK**

<https://www.ncat.edu/campus-life/student-affairs/departments/dean-of-students/student-handbook.php>

[Graduate Catalog](#)

### **SEXUAL MISCONDUCT POLICY**

<https://www.ncat.edu/legal/title-ix/sexual-harassment-and-misconduct-policies/index.php>

### **FAMILY EDUCATIONAL RIGHTS AND PRIVACY ACT (FERPA)**

<https://www.ncat.edu/registrar/ferpa.php>

### **STUDENT COMPLAINT PROCEDURES**

<https://www.ncat.edu/current-students/student-complaint-form.php>

## STUDENT CONDUCT AND DISCIPLINE

North Carolina A&T State University has rules and regulations that govern student conduct and discipline meant to ensure the orderly and efficient conduct of the educational enterprise. It is the responsibility of each student to be knowledgeable about these rules and regulations.

Please consult the following about specific policies such as academic dishonesty, cell phones, change of grade, disability services, disruptive behavior, general class attendance, grade appeal, incomplete grades, make-up work, student grievance procedures, withdrawal, etc.:

- Undergraduate Bulletin  
<https://www.ncat.edu/provost/academic-affairs/bulletins/index.php>
- Graduate Catalog  
<https://www.ncat.edu/tgc/graduate-catalog/index.php>
- Student Handbook  
<https://www.ncat.edu/campus-life/student-affairs/departments/dean-of-students/student-handbook.php>

## ACADEMIC DISHONESTY POLICY

Academic dishonesty includes but is not limited to the following:

1. Cheating or knowingly assisting another student in committing an act of cheating or other academic dishonesty;
2. Plagiarism (unauthorized use of another's words or ideas as one's own), which includes but is not limited to submitting exams, theses, reports, drawings, laboratory notes or other materials as one's own work when such work has been prepared by or copied from another person;
3. Unauthorized possession of exams or reserved library materials; destroying or hiding source, library or laboratory materials or experiments or any other similar actions;
4. Unauthorized changing of grades, or marking on an exam or in an instructor's grade book or such change of any grade record;
5. Aiding or abetting in the infraction of any of the provisions anticipated under the general standards of student conduct;
6. Hacking into a computer and gaining access to a test or answer key prior to the test being given. N.C. A&T reserves the right to search the emails and computers of any student suspected of such computer hacking (if a police report of the suspected hacking was submitted prior to the search); and
7. Assisting another student in violating any of the above rules.

A student who has committed an act of academic dishonesty has failed to meet a basic requirement of satisfactory academic performance. Thus, academic dishonesty is not only a basis for disciplinary action, but may also affect the evaluation of a student's level of performance. Any student who commits an act of academic dishonesty is subject to disciplinary action.

In instances where a student has clearly been identified as having committed an act of academic dishonesty, an instructor may take appropriate disciplinary action, including loss of credit for an assignment, exam, or project; or awarding a grade of "F" for the course, **subject to review and endorsement by the chairperson and dean.**

**For GRADUATE STUDENTS:** Reference for academic dishonesty – 2010-2020 Graduate Catalog, p.58-59

**For GRADUATE STUDENTS: STUDENT RELIGIOUS OBSERVANCE (see Graduate Catalog, p.55)**

**ASSIGNMENTS AND ACADEMIC CALENDAR**

Include topics, reading assignments, due dates, exam dates, withdrawal dates, pre-registration and registration dates, all holidays, and convocations.\*

THE WEEK OF MM/DD/YY	SUBJECT	UNIT LEARNING OUTCOMES (ULO)	READING IN TEXT, ACTIVITY, HOMEWORK, EXAM
	Unit 1 - Introduction to Statistics and Measures of Central Tendency	<p>ULO 1: Evaluate and apply measures of central tendency to a dataset. (SLO 1 &amp; 2)</p> <p>ULO 2: Discuss previous experience with statistics and online classes. (SLO 1)</p> <p>ULO 3: Draw and interpret graphs displaying several means or medians representing different treatment conditions or groups. (SLO 1 &amp; 2)</p>	<ol style="list-style-type: none"> <li><b>Read</b> Textbook: Gravetter, F. J. &amp; Wallnau, L. B. (2018). <i>Essentials of statistics for the Behavioral Sciences</i>. Cengage.               <ol style="list-style-type: none"> <li>Chapter 1: Introduction to Statistics</li> </ol> </li> <li><b>See PowerPoint:</b> Chapter1: Introduction to Statistics</li> <li><b>Complete</b> Quiz #1 (ULO 1-3)</li> <li><b>Complete</b> Discussion Board #1 (ULO 1-3)</li> <li><b>Complete</b> Discussion Board #2 (ULO 1-3)</li> </ol>
	Unit 2 - Measures of Variability	<p>ULO 1: Explain variability and measures of dispersion (SLO 1 &amp; 2)</p> <p>ULO 2: Describe the difference between measures of dispersion (SLO 1 &amp; 2)</p> <p>ULO 3: Evaluate standard deviations in terms of data analysis (SLO 1 &amp; 2)</p>	<ol style="list-style-type: none"> <li><b>Read</b> Textbook: Gravetter, F. J. &amp; Wallnau, L. B. (2018). <i>Essentials of statistics for the Behavioral Sciences</i>. Cengage.               <ol style="list-style-type: none"> <li>Chapter 2: Frequency Distributions</li> <li>Chapter 4: Variability</li> </ol> </li> <li><b>See PowerPoint:</b> <ol style="list-style-type: none"> <li>Chapter 2: Frequency Distributions</li> <li>Chapter 4: Variability</li> </ol> </li> <li><b>Complete</b> Quiz #2 (ULO 1-3)</li> <li><b>Start</b> Working on PSQI Assessment (Announced in this unit, due in Unit-3) (ULO 2-3)</li> <li><b>Complete</b> Discussion Board #3 (ULO 1)</li> </ol>
	Unit 3 - Frequency Distributions	ULO 1: Explain frequency distributions. (SLO 3)	<ol style="list-style-type: none"> <li><b>Read</b> Textbook: Gravetter, F. J. &amp; Wallnau, L. B. (2018). <i>Essentials of statistics</i></li> </ol>



		<p>ULO 2: Describe when to use them and how to graph and construct figures. (SLO 2)</p> <p>ULO 3: Evaluate frequency distributions from a dataset and condense larger data sets into grouped frequencies. (SLO 1, 2, 3)</p>	<p><i>for the Behavioral Sciences</i>. Cengage.</p> <p>a. Chapter 2: Frequency Distributions</p> <p>2. <b>See PowerPoint:</b> Chapter 2 Frequency Distributions</p> <p>3. <b>Read</b> Lecture Notes</p> <p>4. <b>Complete</b> Quiz #3 (ULO 1-3)</p> <p>5. <b>Complete</b> PSQI Assessment (Announced in Unit 2) (ULO 3)</p> <p>6. <b>Complete</b> Discussion Board #4 (ULO 1-2)</p>
Unit 4 - Hypothesis Testing, Correlation, and Regression (Part 1)	<p>ULO 1: Discuss the purpose of hypothesis testing in terms of statistics and research findings (SLO 2)</p> <p>ULO 2: Use different correlation coefficients (depending on measurement scale) to describe the relationship between two or more variables (SLO 1, 2, 3)</p> <p>ULO 3: Build linear regression lines and interpret the statistical and predictive accuracy of the model as determined by p-values and R-squared value (proportion of variance accounted for) (SLO 1, 2, 3)</p>	<p>1. <b>Read</b> Textbook: Gravetter, F. J. &amp; Wallnau, L. B. (2018). <i>Essentials of statistics for the Behavioral Sciences</i>. Cengage.</p> <p>a. Chapter 14: Correlation and Regression.</p> <p>b. Chapter 8: Introduction to Hypothesis Testing.</p> <p>2. <b>See PowerPoint:</b></p> <p>a. Chapter 8</p> <p>b. Chapter 14</p> <p>3. <b>Complete</b> Quiz #4 (ULO 1-3)</p> <p>4. <b>Complete</b> Discussion Board #5 (ULO 1)</p>	
Unit 5 - Hypothesis Testing, Correlation, and Regression (Part 2)	<p>ULO 1: Discuss the purpose of hypothesis testing in terms of statistics and research findings (SLO 3)</p> <p>ULO 2: Use different correlation coefficients (depending on measurement scale) to describe the relationship between two or more variables (SLO 1, 2, 3)</p>	<p>1. <b>Read</b> Textbook: Gravetter, F. J. &amp; Wallnau, L. B. (2018). <i>Essentials of statistics for the Behavioral Sciences</i>. Cengage.</p> <p>a. Chapter 14: Correlation and Regression.</p> <p>b. Chapter 8: Introduction to Hypothesis Testing.</p> <p>2. <b>See PowerPoint:</b></p> <p>a. Chapter 8</p> <p>b. Chapter 14</p> <p>3. <b>Complete</b> Quiz #5 (ULO 1-3)</p>	

		ULO 3: Build linear regression lines and interpret the statistical and predictive accuracy of the model as determined by p-values and R-squared value (proportion of variance accounted for) (SLO 1, 2, 3)	4. <b>Complete</b> Discussion Board #6 (ULO 1)
Unit 6 - Single Sample T-Tests and Independent Sample T-Tests	<p>ULO 1: Gain a general understanding of t-testing (SLO 1-3)</p> <p>ULO 2: Master identifying what type of t-test with the corresponding data and research question (SLO 1-3)</p> <p>ULO 3: Calculate the t-value obtained and determine statistical significance (SLO 2-3)</p> <p>ULO 4: Convey results using APA formatting for statistics and interpret (state) what it means (i.e., if groups differ from each other) and in terms of effect size using Cohen'sd. (SLO 1-3)</p>	<p>1. <b>Read</b> Textbook: Gravetter, F. J. &amp; Wallnau, L. B. (2018). <i>Essentials of statistics for the Behavioral Sciences</i>. Cengage.</p> <p>a. Chapter 11: The t Test for Two Related Samples.</p> <p>2. <b>See PowerPoint:</b> Chapter 11 Repeated Measures t test</p> <p>3. <b>Complete</b> Quiz #6 (ULO 1-4)</p> <p>4. <b>Complete</b> Discussion Board #7 (ULO 1-2)</p>	
Unit 7 - Repeated Measures T-Test	<p>ULO 1: Gain a general understanding of t-testing (SLO 1-3)</p> <p>ULO 2: Master identifying what type of t-test with the corresponding data and research question (SLO 1-3)</p> <p>ULO 3: Calculate the t-value obtained and determine statistical significance (SLO 2-3)</p> <p>ULO 4: Convey results using APA formatting for statistics and interpret (state) what it means (i.e., if groups differ from each other)</p>	<p>1. <b>Read</b> Textbook: Gravetter, F. J. &amp; Wallnau, L. B. (2018). <i>Essentials of statistics for the Behavioral Sciences</i>. Cengage.</p> <p>a. Chapter 13: Repeated-Measures and Two-Factor Analysis of Variance.</p> <p>2. <b>See PowerPoint:</b> Chapter 13 Repeated-Measures and Two-Factor Analysis of Variance</p> <p>3. <b>Complete</b> Quiz #7 (ULO 1-4)</p> <p>4. <b>Complete</b> Discussion Board #8 (ULO 1-2)</p>	

		and in terms of effect size using Cohen's (SLO 1-3)	
Unit 8 - Introduction to ANOVA: One Way Anova (Part 1)	<p>ULO 1: Understand different ANOVA techniques as it applies to 2+ group analyses (must have nominal IC and continuous DV) -- including statistical assumptions (SLO 1)</p> <p>ULO 2: Calculate the F-ratio by determining SS, MS, and F-obtained; state if it has statistical significance and where the differences are (SLO 1-3)</p> <p>ULO 3: Explain statistical findings in APA format using statistical language (SLO 1-3)</p> <p>ULO 4: Understand and apply strengths and weaknesses of ANOVA when using this parametric test (SLO 1-3)</p> <p>ULO 5: Consider and discuss alternative ways to analyze the data other than ANOVA (SLO 1-3)</p>	<ol style="list-style-type: none"> <li>1. <b>Read</b> Textbook: Gravetter, F. J. &amp; Wallnau, L. B. (2018). <i>Essentials of statistics for the Behavioral Sciences</i>. Cengage. <ol style="list-style-type: none"> <li>a) Chapter 12: Introduction to Analysis of Variance.</li> </ol> </li> <li>2. <b>See PowerPoint:</b> Chapter 12 Intro to Analysis of Variance</li> <li>3. <b>Complete</b> Quiz #8 (ULO 1-5)</li> <li>4. <b>Complete</b> Discussion Board #9 (ULO 3,4)</li> </ol>	
Unit 9 - Introduction to ANOVA: One Way ANOVA (Part 2)	<p>ULO 1: Explain the assumptions of the one-way ANOVA (SLO 1)</p> <p>ULO 2: Describe variable scaling and properties of the ANOVA (SLO 1-3)</p> <p>ULO 3: Evaluate the F-ratio and explain what results mean (SLO 1-3)</p>	<ol style="list-style-type: none"> <li>1. <b>Read</b> Textbook: Gravetter, F. J. &amp; Wallnau, L. B. (2018). <i>Essentials of statistics for the Behavioral Sciences</i>. Cengage. <ol style="list-style-type: none"> <li>a. Chapter 13: Repeated-Measures and Two-Factor Analysis of Variance.</li> </ol> </li> <li>2. <b>See PowerPoint:</b> Chapter 13 Repeated-Measures and Two-Factor Analysis of Variance</li> <li>3. <b>Complete</b> Quiz #9 (ULO 1-3)</li> <li>4. <b>Complete</b> Discussion Board</li> </ol>	

			#10 (ULO 2-3)
Unit 10 - Introduction to ANOVA: Factorial ANOVA (Part 1)	<p>ULO 1: Explain the main effect and an interaction and identify the patterns of data that produce main effects and interactions (SLO 1-3)</p> <p>ULO 2: Describe the structure of a factorial research design, especially a two-factor independent-measures design, using the terms factor and level and identify the factors and levels for a specific example of a two-factor design (SLO 1-3)</p> <p>ULO 3: Evaluate 3 F-ratios for a two factor ANOVA and explain how they are related to each other (SLO 1-3)</p>	<ol style="list-style-type: none"> <li>1. <b>Read Textbook:</b> Gravetter, F. J. &amp; Wallnau, L. B. (2018). <i>Essentials of statistics for the Behavioral Sciences</i>. Cengage. <ol style="list-style-type: none"> <li>a. Chapter 13: Repeated-Measures and Two-Factor Analysis of Variance.</li> </ol> </li> <li>2. <b>See PowerPoint:</b> Chapter 13 Repeated-Measures and Two-Factor Analysis of Variance</li> <li>3. <b>Complete:</b> Quiz #10 (ULO 1-3)</li> <li>4. <b>Complete:</b> Discussion Board #11 (ULO 1-3)</li> </ol>	
Unit 11 - Introduction to ANOVA: Factorial Anova (Part 2)	<p>ULO 1: Explain the main effect and an interaction and identify the patterns of data that produce main effects and interactions (SLO 1-3)</p> <p>ULO 2: Describe the structure of a factorial research design, especially a two-factor independent-measures design, using the terms factor and level and identify the factors and levels for a specific example of a two-factor design (SLO 1-3)</p> <p>ULO 3: Evaluate 3 F-ratios for a two factor ANOVA and explain how they are related to each other (SLO 1-3)</p>	<ol style="list-style-type: none"> <li>1. <b>Read Textbook:</b> Gravetter, F. J. &amp; Wallnau, L. B. (2018). <i>Essentials of statistics for the Behavioral Sciences</i>. Cengage <ol style="list-style-type: none"> <li>a. Chapter 13: Repeated-Measures and Two-Factor Analysis of Variance</li> </ol> </li> <li>2. <b>See PowerPoint:</b> Chapter 13 Repeated-Measures and Two-Factor Analysis of Variance</li> <li>3. <b>Complete:</b> Quiz #11 (ULO 1-2)</li> <li>4. <b>Complete:</b> Discussion Board #12 (ULO 1-3)</li> </ol>	
Unit 12 -	ULO 1: Explain and discuss	1. <b>Read Textbook:</b> Gravetter, F.	

	Introduction to ANOVA: Repeated Measures ANOVA (Part 1)	<p>the assumptions of the repeated measures ANOVA (SLO 1-3)</p> <p>ULO 2: Describe general advantages and disadvantages of repeated measures (SLO 1-3)</p> <p>ULO 3: Evaluate the relationship between the repeated measures t-test and a repeated measures ANOVA when evaluating the difference between two means from a repeated measures design (SLO 1-3)</p>	<p>J. &amp; Wallnau, L. B. (2018). <i>Essentials of statistics for the Behavioral Sciences</i>. Cengage.</p> <p>a. Chapter 13: Repeated-Measures and Two-Factor Analysis of Variance</p> <p>2. <b>See PowerPoint:</b> Chapter 13 Repeated-Measures and Two-Factor Analysis of Variance</p> <p>3. <b>Complete:</b> Quiz #12 (ULO 2-3)</p> <p>4. <b>Complete:</b> Discussion Board #13 (ULO 1-3)</p>
	Unit 13 - Introduction to ANOVA: Repeated Measures ANOVA (Part 2)	<p>ULO 1: Define the characteristics of a repeated measures ANOVA (SLO 1)</p> <p>ULO 2: Calculate the F-ratio by determining SS, MS, and F-obtained; state if it has statistical significance and where differences are (SLO 1-3)</p> <p>ULO 3: Explain statistical findings in APA format using statistical language (SLO 1-3)</p> <p>ULO 4: Apply strengths and weaknesses of repeated measures ANOVA when using this parametric test (SLO 1-3)</p> <p>ULO 5: Consider and discuss alternative ways to analyze data other than utilizing ANOVA (SLO 1-3)</p>	<p>1. <b>Read Textbook:</b> Gravetter, F. J. &amp; Wallnau, L.B. (2018). <i>Essentials of statistics for the behavioral sciences</i>, Cengage.</p> <p>a. Chapter 13: Repeated-Measures and Two-Factor Analysis of Variance</p> <p>2. <b>See PowerPoint:</b> Chapter 13 Repeated-Measures and Two-Factor Analysis of Variance</p> <p>3. <b>Complete:</b> Quiz #13 (ULO 2-3)</p> <p>4. <b>Complete:</b> Discussion Board #14 (ULO 1-5)</p>
	Unit 14 - Introduction to Non-Parametric Testing (Part 1)	ULO 1: Explain/specify the distinction between parametric and nonparametric tests,	1. <b>Read Textbook:</b> Gravetter, F. J. & Wallnau, L. B. (2018). <i>Essentials of statistics for the Behavioral Sciences</i> .

		<p>when to use each, and give an example of each. (SLO 1-3)</p> <p>ULO 2: Describe and solve problems using chi-square and specify the assumptions underlying this test. (SLO 1-3)</p> <p>ULO 3: The following objectives apply to the Wilcoxon matched-pairs signed ranks test, the Mann-Whitney U test, and the Kruskal-Wallis test. (SLO 1-3)</p> <p>ULO 4: Evaluate problems using chi-square and specify the assumptions underlying this test. (SLO 1-3)</p> <p>ULO 5: The following objectives apply to the Wilcoxon matched-pairs signed ranks test, the Mann-Whitney U test, and the Kruskal-Wallis test. (SLO 1-3)</p>	<p>Cengage.</p> <p>a. Chapter 15: The Chi-Square Statistic: Tests for Goodness of Fit and Independence.</p> <p>2. <b>See PowerPoint:</b> Chapter 15 The Chi-Square Statistic Tests for Goodness of Fit and Independence</p> <p>3. <b>Complete:</b> Quiz #14 (ULO 1-5)</p> <p>4. <b>Complete:</b> Discussion Board #15 (ULO 1-2)</p>
	<p>Unit 15 - Introduction to Non-Parametric Testing (Part 2)</p>	<p>ULO 1: Explain the difference between parametric and nonparametric testing and when to use each (SLO 1-3)</p> <p>ULO 2: Describe each type of parametric test (SLO 1-3)</p> <p>ULO 3: Evaluate problems and come up with the correct statistical conclusion based on hand calculated results (SLO 1-3)</p>	<p>1. <b>Read Textbook:</b> Gravetter, F. J. &amp; Wallnau, L.B. (2018). <i>Essentials of statistics for the behavioral sciences</i>, Cengage.</p> <p>a. Chapter 15: The Chi-Square Statistic: Tests for Goodness of Fit and Independence.</p> <p>2. <b>See PowerPoint:</b> Chapter 15 The Chi-Square Statistic Tests for Goodness of Fit and Independence</p> <p>3. <b>Complete:</b> Exam (ULO 1-5)</p> <p>4. <b>Complete:</b> Discussion Board #16 (ULO 1-2)</p>

\* These descriptions and timelines are subject to change at the discretion of the instructor.