2020

Applications of Psychological Statistics

North Carolina Agricultural and Technical State University

NORTH CAROLINA AGRICULTURAL AND TECHNICAL STATE UNIVERSITY

COURSE SYLLABUS

College Name: College of Health and Human Sciences (CHHS)
Department Name: Department of Psychology
Course Name: Applications of Psychological Statistics

COURSE INFORMATION

- Course Number/Section: PSYC 252
- 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

PSYC 101 or 110, PSYC 150

COURSE DESCRIPTION

This course will focus on the practical application of the statistical concepts covered in PSYC 250. During lectures, activities, and assignments, students will work with real data sets to describe, analyze, and interpret results. Particular focus will be placed on the use of computer software to carry out statistical analyses

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 complete assignments that require statistical analyses of data using SPSS.

SLO 2: Objective: Gain familiarity with computer-based methods for analyzing data and making statistical inferences.
Outcome: Students will complete assignments that require the use of statistical software SPSS.

SLO 3: Objective: Use analytical thinking skills to evaluate information critically.
Outcome: Students will carry out analyses that require them to interpret research scenarios and identify appropriate statistical procedures using SPSS.

SLO 4: Objective: Use information to draw inferences, test hypotheses, and make decisions.
Outcome: On assignments, students will use inferential statistics to draw conclusions about populations based on sample data using SPSS.

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:

None

REQUIRED MATERIALS:

SUGGESTED COURSE MATERIALS

SUGGESTED READINGS/TEXTS:

APA Manual

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% - 0%	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	15	15
Synchronous Sessions	15	0
Lab Assignment	15	45
PSQI Assessment	1	15
Exam	1	25
Total	**47**	**100%**

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:*

https://www.ncat.edu/provost/academic-affairs/bulletins/index.php

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. 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/studen_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 Using SPSS	ULO 1: Explain statistical concepts and how to apply them in specific social-science research situations using SPSS software. (SLO 1) ULO 2: Gain familiarity with computer-based methods for analyzing data and making statistical implications. (SLO 2) ULO 3: Utilize analytical thinking skills to evaluate information critically. (SLO 1-4) ULO 4: Evaluate information to draw inferences, test hypotheses, and make decisions using SPSS software. (SLO 1-4)	**1. Read: Textbook:** Gravetter, F. J., Wallnau, L. B., & Forzano, L. - A. B. (2018). *Essentials of statistics for the behavioral sciences* (9th ed.). Cengage Learning. a. Chapter 1: Introduction to Statistics **2. View:** PowerPoint: a. *Chapter-1 Introduction to Statistics* **3. Complete:** Discussion Board #1 (ULO 3) **4. Complete:** Lab Assignment #1 (ULO 1-4)
	Unit 2: Variability	ULO 1: Use SPSS to generate and explain measures of variability, including range, variance, and standard deviations, utilizing SPSS software and generated outputs. (SLO 1-4) ULO 2: Use SPSS to calculate, apply, and explain SS, variance, and standard deviations using SPSS-generated outputs. (SLO 1-4)	**1. Read:** Textbook: Gravetter, F. J., Wallnau, L. B., & Forzano, L. - A. B. (2018). *Essentials of statistics for the behavioral sciences* (9th ed.). Cengage Learning. a. Chapter 2: Frequency Distributions b. Chapter 4: Variability **2. See:** PowerPoints: a. *Chapter 2: Frequency Distributions* b. *Chapter 4: Variability* **3. Complete:** Discussion Board #2 (ULO 1-4) **4. Complete:** Lab Assignment #2

		ULO 3: Explain how frequency tables are used. (SLO 1-4) ULO 4: Know how to generate, understand, and interpret graphs. (SLO 1-4)	(ULO 1-4) **5. Start:** PSQI Assessment (due in Unit 3) (ULO 2,4)
	Unit 3: Frequency Distributions	ULO 1: Describe how frequency tables are used. (SLO 1-4) ULO 2: Know how to generate, understand, and interpret graphs using SPSS. (SLO 1-4)	**1. Read:** Textbook: Gravetter, F. J., Wallnau, L. B., & Forzano, L. - A. B. (2018). *Essentials of statistics for the behavioral sciences* (9th ed.). Cengage Learning. a. Chapter 2: Frequency Distributions **2. See:** PowerPoint: a. *Chapter 2: Frequency Distributions* **3. Complete:** Discussion Board #3 (ULO 1-2) **4. Complete:** Lab Assignment #3 (ULO 1-5) **5. Complete:** PSQI Assessment Unit 2 (ULO 2,4)
	Unit 4: Hypothesis Testing, Correlation, and Regression in SPSS (Part 1)	ULO 1: Use SPSS to generate outputs. (SLO 1-4) ULO 2: Compute and explain Pearson's r as a measure of relationships between variables as well as other correlation coefficients. (SLO 1-4) ULO 3: Use SPSS to compute, understand, and apply other correlation coefficients such as the point-biserial, Spearman's rho, and phi coefficient in conjunction with a variable's scale of measurement. (SLO 1-4) ULO 4: Use SPSS outputs to interpret and explain the relationship	**1. Read:** Textbook: Gravetter, F. J., Wallnau, L. B., & Forzano, L. - A. B. (2018). *Essentials of statistics for the behavioral sciences* (9th ed.). Cengage Learning. a. Chapter 14: Correlation and Regression **2. See:** PowerPoint: a. *Chapter 14* **3. Complete:** Discussion Board #4 (ULO 4-5) **4. Complete:** Lab Assignment #4 (ULO 1-5)

		between variables. (SLO 1-4) ULO 5: Consider other intervening variables that may explain findings. (SLO 4)	
	Unit 5: Hypothesis Testing, Correlation, and Regression in SPSS (Part 2)	ULO 1: Use SPSS to generate outputs. (SLO 1-4) ULO 2: Compute and explain Pearson's r as a measure of relationships between variables as well as other correlation coefficients. (SLO 1-4) ULO 3: Use SPSS to compute, understand, and apply other correlation coefficients such as the point-biserial, Spearman's rho, and phi coefficient in conjunction with a variable's scale of measurement. (SLO 1-4) ULO 4: Use SPSS outputs to interpret and explain the relationship between variables. (SLO 1-4) ULO 5: Consider other intervening variables that may explain findings. (SLO 4)	**1. Read:** Textbook: Gravetter, F. J., Wallnau, L. B., & Forzano, L. - A. B. (2018). *Essentials of statistics for the behavioral sciences* (9th ed.). Cengage Learning. a. Chapter 8: Introduction to Hypothesis Testing b. Chapter 14: Correlation and Regression **2. See:** PowerPoint: a. *Chapter 8* b. *Chapter 14* **3. Complete:** Discussion Board #5 (ULO 5) **4. Complete:** Lab Assignment #5 (ULO 4-5)
	Unit 6: Single Sample T-Tests and Independent Sample T-Tests Using SPSS	ULO 1: Apply t-tests to datasets using SPSS. (SLO 1-4) ULO 2: Describe assumptions for t-tests and generate t-values using SPSS. (SLO 1-4) ULO 3: Evaluate SPSS outputs and explain the data in APA format. (SLO 1-4)	**1. Read:** Textbook: Gravetter, F. J., Wallnau, L. B., & Forzano, L. - A. B. (2018). *Essentials of statistics for the behavioral sciences* (9th ed.). Cengage Learning. a. Chapter 11: The t Test for Two Related Samples **2. See:** PowerPoint: a. *Chapter 11* **3. Complete:** Discussion Board #6 (ULO 3) **4. Complete:** Lab Assignment

			#6 (ULO 1-3)
	Unit 7: Repeated Measures T-Test Using SPSS	ULO 1: Apply t-tests to datasets using SPSS. (SLO 1-3) ULO 2: Describe assumptions for t-tests and generate t-values using SPSS. (SLO 1-3) ULO 3: Evaluate SPSS outputs and explain the data in APA format. (SLO 2-3)	**1. Read:** Textbook: Gravetter, F. J., Wallnau, L. B., & Forzano, L. - A. B. (2018). *Essentials of statistics for the behavioral sciences* (9th ed.). Cengage Learning. a. Chapter 13: Repeated-Measures and Two-Factor Analysis of Variance **2. See:** PowerPoint: a. *Chapter 13* **3. Complete:** Discussion Board #7(ULO 1-3) **4. Complete:** Lab Assignment #7 (ULO 1-3)
	Unit 8: One Way Anova using SPSS (Part 1)	ULO 1: Explain the assumptions of ANOVA and use SPSS to run the parametric test. (SLO 1-3) ULO 2: Describe descriptive and inferential statistics. (SLO 1-3) ULO 3: Evaluate the statistical significance and write it in APA format. (SLO 1-3)	**1. Read:** Textbook: Gravetter, F. J., Wallnau, L. B., & Forzano, L. - A. B. (2018). *Essentials of statistics for the behavioral sciences* (9th ed.). Cengage Learning. a. Chapter 12: Introduction to Analysis of Variance **2. See:** PowerPoint: a. *Chapter 12* **3. Complete:** Discussion Board #8 (ULO 1-3) **4. Complete:** Lab Assignment #8 (ULO 1-3)
	Unit 9: One Way Anova using SPSS (Part 2)	ULO 1: Explain the assumptions of the ANOVA and use SPSS to run the parametric test. (SLO 1-3) ULO 2: Describe descriptive and inferential statistics. (SLO 1-3) ULO 3: Evaluate the statistical significance and write in APA format. (SLO 1-3)	**1. Read:** Textbook: Gravetter, F. J., Wallnau, L. B., & Forzano, L. - A. B. (2018). *Essentials of statistics for the behavioral sciences* (9th ed.). Cengage Learning. a. Chapter 13: Repeated-Measures and Two-Factor Analysis of Variance **2. See:** PowerPoint: a. *Chapter 13* **3. Complete:** Discussion Board #9 (ULO 2-3) **4. Complete:** Lab Assignment #9 (ULO 1-3)

	Unit 10: Factorial ANOVA using SPSS (Part 1)	ULO 1: Explain the assumptions of the ANOVA and use SPSS to run the parametric test. (SLO 1-4) ULO 2: Describe descriptive and inferential statistics. (SLO 1-4) ULO 3: Evaluate the statistical significance and write in APA format. (SLO 1-4)	**1. Read:** Textbook: Gravetter, F. J., Wallnau, L. B., & Forzano, L. - A. B. (2018). *Essentials of statistics for the behavioral sciences* (9th ed.). Cengage Learning. a. Chapter 13: Repeated-Measures and Two-Factor Analysis of Variance **2. See:** PowerPoint: a. *Chapter 13* **3. Complete:** Discussion Board #10 (ULO 2-3) **4. Complete:** Lab Assignment #10 (ULO 1-3)
	Unit 11: Factorial ANOVA using SPSS (Part 2)	ULO 1: Explain SPSS output. (SLO 1-4) ULO 2: Describe the results. (SLO 1-4) ULO 3: Evaluate statistical significance and write in APA format using the correct symbols and values for main effects and interaction effects. (SLO 1-4)Generate a graph representing the results. (SLO 1-4) ULO 4: Explain the results. (SLO 1-4)	**1. Read:** Textbook: Gravetter, F. J., Wallnau, L. B., & Forzano, L. - A. B. (2018). *Essentials of statistics for the behavioral sciences* (9th ed.). Cengage Learning. a. Chapter 13: Repeated-Measures and Two-Factor Analysis of Variance **2. See:** PowerPoint: a. *Chapter 13* **3. Complete:** Discussion Board #11 (ULO 1-4) **4. Complete:** Lab Assignment #11 (ULO 1-4)
	Unit 12: Repeated Measures ANOVA Using SPSS (Part 1)	ULO 1: Explain the assumptions of the repeated measures ANOVA. (SLO 1-4) ULO 2: Describe and apply the steps for repeated measures ANOVA. (SLO 1-4) ULO 3: Compute and evaluate conclusions from the SPSS output. (SLO 1-4)	**1. Read:** Textbook: Gravetter, F. J., Wallnau, L. B., & Forzano, L. - A. B. (2018). *Essentials of statistics for the behavioral sciences* (9th ed.). Cengage Learning. a. Chapter 13: Repeated-Measures and Two-Factor Analysis of Variance **2. See:** PowerPoint: a. *Chapter 13* **3. Complete:** Discussion Board #12 (ULO 1-3) **4. Complete:** Lab Assignment #12 (ULO 1-3)
	Unit 13: Repeated	ULO 1: Explain the	**1. Read:** Textbook: Gravetter, F.

	Measures ANOVA Using SPSS (Part 2)	assumptions of the repeated measures ANOVA. (SLO 1-4)Describe and apply the steps for repeated measures ANOVA. (SLO 1-4) ULO 2: Compute and evaluate conclusions from the SPSS output. (SLO 1-4)	J., Wallnau, L. B., & Forzano, L. - A. B. (2018). *Essentials of statistics for the behavioral sciences* (9th ed.). Cengage Learning. a. Chapter 13: Repeated-Measures and Two-Factor Analysis of Variance **2. See:** PowerPoint: a. *Chapter 13* **3. Complete:** Discussion Board #13 (ULO 1-2) **4. Complete:** Lab Assignment #13 (ULO 1-2)
	Unit 14: Introduction to Non-Parametric Testing using SPSS (Part 1) Unit 14: Introduction to Non-Parametric Testing using SPSS (Part 1) page options	ULO 1: Use SPSS to generate chi-square and other non-parametric tests. (SLO 1-4) ULO 2: Describe the results in APA format using the correct symbolism. (SLO 1-4) ULO 3: Evaluate the statistical significance and explain what this means. (SLO 1-4)	**1. Read:** Textbook: Gravetter, F. J., Wallnau, L. B., & Forzano, L. - A. B. (2018). *Essentials of statistics for the behavioral sciences* (9th ed.). Cengage Learning. a. Chapter 15: The Chi-Square Statistic: Tests for Goodness of Fit and Independence **2. See:** PowerPoint: a. *Chapter 15* **3. Complete:** Discussion Board #14 (ULO 1-3) **4. Complete:** Lab Assignment #14 (ULO 1-3)
	Unit 15: Introduction to Non-Parametric Testing using SPSS (Part 2)	ULO 1: Use SPSS to generate chi-square and other non-parametric tests. (SLO 1-4) ULO 2: Describe the results in APA format using the correct symbolism. (SLO 1-4) ULO 3: Evaluate the statistical significance and explain what this means. (SLO 1-4)	**1. Read:** Textbook: Gravetter, F. J., Wallnau, L. B., & Forzano, L. - A. B. (2018). *Essentials of statistics for the behavioral sciences* (9th ed.). Cengage Learning. a. Chapter 15: The Chi-Square Statistic: Tests for Goodness of Fit and Independence **2. See:** PowerPoint: a. *Chapter 15* **3. Complete:** Discussion Board #15 (ULO 1-3) **4. Complete:** Lab Assignment #15 (ULO 1-3) **5. Complete: Exam** (ULO 1-3)

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