

University of North Texas
Department of Rehabilitation and Health Services

PUBH 4020: Biostatistics

Section 001: Tuesdays & Thursdays: 12:30 P.M. – 01:50 P.M.

Fall 2025

Class Location: Chilton Hall 240

Instructor Name: Chisom Iwundu, PhD, MPH

Instructor Email: chisom.iwundu@unt.edu

Instructor Phone: 940-369-5356

Office: Chilton Hall 238L

Office Hours: Tuesdays & Thursdays: 11:00 A.M – 12:30 P.M, or by appointment

Course Description: This introductory course focuses on statistical concepts and methods used in data analysis. Students will learn descriptive and inferential statistics as well as some epidemiological concepts and designs. Students will gain statistical skills and be able to use knowledge gained to understand public health issues and research. Students will also be introduced to statistical packages such as SPSS and EXCEL and be able to use these packages for data analysis. Upon completion of this course, students will understand and be able to apply basic techniques in descriptive and inferential statistics important for public health research.

Learning Objectives

- Calculate and interpret descriptive statistics
- Interpret differences in data distributions via visual displays
- Calculate and interpret confidence intervals for population means and proportions
- Interpret p-values
- Collect and interpret public health data
- Explain the differences among various statistical tests
- Choose appropriate analysis methods based on the characteristics of the variables
- Gain hands-on experience using SPSS for basic calculations and to answer real-world questions

Course Pre-requisites: PUBH 1010 (Intro to Pub Health), PUBH 2010 (Epidemiology) & PUBH 2015 (Research Methods in Public Health) for majors ONLY

Required text: George, D., & Mallery, P. (2018). IBM SPSS Statistics 25 Step by Step: A Simple Guide and Reference (15th ed.). Routledge.

Supplemental text: Sullivan. (2017). Essentials of Biostatistics in Public Health (3rd ed.). Jones & Bartlett Learning.

Student Evaluation

1. Quizzes (50 points each for a total of 250 points): **Five** quiz sets will be assigned periodically as shown in the schedule on page 3. Quiz questions may consist of but will not be limited to calculations, multiple choice, short answer questions, and materials covered in lectures. Quizzes are worth 25% of the final grade. **Quizzes will be open on Sundays at 12:00am and close on Tuesdays at 11:59pm.**
2. Homework set (50 points each for a total of 400 points): **Eight** problem sets will be assigned as shown in the course schedule. Problem sets may consist of calculation problems, short answer, multiple choice, short essays and, and usually will require the use of SPSS or EXCEL. **Homework MUST be submitted in EXCEL for grading on Canvas.** More information regarding the homework sets will be provided on Canvas. The homework is worth 40% of the final grade. **Submissions are due on Tuesdays of the assigned week at 11:59pm.**
3. Exams (150 points each for a total of 300 points): To provide students with opportunities to demonstrate their knowledge of the course material, **two** cumulative exams will be given. Both exams are worth 30% of the final grade. For both exams, students are responsible for materials covered during the lectures and their corresponding reading assignments. Extensive formulas will be provided. You are expected to use SPSS and EXCEL on the exams.
4. Attendance and participation (50 points): Class attendance and participation is important in understanding the concepts that will be covered. It is worth 5% of your final grade. Please inform the instructor on time before absences are made.

Grading Scale: Your final grade will be based on the following scale:

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|----------------|
| 1000 – 900 = A |
| 899 – 800 = B |
| 799 – 700 = C |
| 699 – 600 = D |
| 599 – 500 = F |

Course Schedule

| Week | Supporting Reading | Topic | Activities/Due Dates |
|------|---|---|---|
| 1 | Sullivan Chapter 1 | Course introduction and introduction to biostatistics | August 19 |
| 2 | Sullivan Chapter 2 | Study designs used in public health research | August 26 Homework 1 |
| 3 | George Chapter 1-2 | Introduction to EXCEL and SPSS – SPSS processes, creating and editing a data file | September 2 Homework 2 |
| 4 | George Chapter 3-4 | Managing data | September 9 Homework 3 Quiz 1 |
| 5 | George Chapter 4-5 Sullivan Chapter 12 | Managing data contd. Data visualization/graphs | September 16 Homework 4 |
| 6 | George Chapter 5 Sullivan Chapter 4 | Descriptive statistics and frequencies/Summarizing data collected in a sample | September 23 Homework 5 |
| 7 | George Chapter 6-7 | Summarizing data collected in a sample contd. | September 30 Homework 6 Quiz 2 |
| 8 | | Exam #1 | October 9 |
| 9 | George Chapter 8 | Hypothesis testing Crosstabulation and Correlation | October 14 |
| 10 | George Chapter 8 | Hypothesis testing Chi-square tests | October 21 Quiz 3 |
| 11 | George Chapter 11 Sullivan Chapter 7 | T-TEST: Independent samples | October 28 Homework 7 Quiz 4 |
| 12 | George Chapter 11 Sullivan Chapter 7 | T-TEST: Paired samples and one-sample tests | November 4 Homework 8 |
| 13 | Sullivan Chapter 7 | ANOVA | November 11 Quiz 5 |
| 14 | Sullivan Chapter 7 | Summary of all tests | November 18 |
| 15 | Sullivan Chapter 6 | Thanksgiving break | November 25 |
| 16 | | Exam #2 | December 2-4 |

IMPORTANT NOTE: The schedule and topics may change as the course unfolds. Students will be notified of any changes via Canvas announcements.

Time Requirements/Commitment: In order to be a successful student, you should plan to log in to the course at least twice per week, possess excellent time management and organization skills, and avoid procrastination (risk of technology failure increases as the deadline for an assignment approaches).

***Technology/Internet issues is not an excuse for missed assignment or exam.**

There are weekly activities that you need to keep up with in order to do well in this class. Make note of deadlines for the quizzes, homework sets, and exams.

Submitting Assignments: Assignments should be submitted through Canvas by the specified due date. Each assignment will have a submission link/dropbox. Assignments sent to the instructor's email will not be graded. Homework sets will be checked by Turnitin, and lockdown browser may be used for the exam, all within the Canvas system. The times used in this syllabus are all Central Standard Time. Modules open every Saturday at 11:59 pm. You will still have access to material after the end of the module.

Late Assignments: Late assignments will be graded at 50% up to a maximum of 2 days late. After 2 days, the assignment will no longer be accepted, and the student will receive a score of 0. (This late policy is not applicable to exams and quizzes. Appropriate documentation must be provided for missed exams and quizzes before a student will be allowed to retake it).

Course Technology Requirements & Skills

Technology Requirements: Please familiarize yourself with the technical requirements to complete this online course:

Canvas

1. [Hardware and Software requirements for Canvas](#)
2. [Canvas Browser Check](#)

Technology Competencies/Skills

Students enrolled in the course must be prepared to perform the basic tasks below.

1. Send and receive email
2. Attach files to an email message
3. Use of basic Microsoft Office programs
4. Save files to an external device (e.g., flash drive, CD, or DVD)

Other Materials: SPSS software, v 26 or 28 or 29 must be installed on the student's personal laptop or computer **by the third week of class (9/3/23).**

Student Support Services: Also known at the University of North Texas campus as SSS. All activities and services provided by SSS are intended to help students progress through their

degree to an *on-time graduation*. Please refer to the website (<https://trio.unt.edu/ss>) for detailed list of services. More student support information is also available on Canvas.

Communication with the Instructor: Personalized communication between instructor and student is important in enhancing the learning experience. The primary means to contact me will be via e-mail: chisom.iwundu@unt.edu or via the Canvas inbox email.

Instructor Response Time:

- Questions via email will be answered within 24 hours during the work week, and 36 hours on weekends and holidays
- Feedback/grades will be posted within 7 days after the item's submission due date
- Final grades will be posted by the due date listed in the Academic Calendar

Grades Incomplete: In general, students will not be allowed to take an Incomplete in the course. If you find you have a legitimate reason for needing to take an Incomplete (refer to UNT policy on requesting incompletes), please discuss with me as soon as possible.

Academic Integrity: All works submitted for credit must be original works created by the scholar uniquely for the class. It is considered inappropriate and unethical, to make duplicate submissions of a single work for credit in multiple classes, unless specifically requested by the instructor. You are encouraged to become familiar with the university's Student Standards of Academic Integrity policy:

https://policy.unt.edu/sites/default/files/06.003.AcadIntegrity.Final_.pdf

Student will receive no credit for the assignment or assessment on which the student engaged in academic misconduct.

Syllabus Revision: The course instructor reserves the right to modify any portion of this syllabus. Students are expected to be aware of any presented changes. A best effort will be made to provide an opportunity for students to comment on a proposed change before the change takes place.

AI Statement: Intellectual integrity is essential in both our academic community and this course. All submitted work must be your own and adhere to the University's Guidelines on Academic Integrity. The use of ChatGPT or any other generative AI applications is strictly prohibited in this class. Any assignment found to involve AI reporting more than >30% will receive a zero. AI is not a replacement for your own thinking and research.

UNT Policies

Academic Honesty Policy: You are encouraged to become familiar with the University Student Code of Conduct maintained by the Dean of Students in the Office of Student Affairs: Student Conduct Operations | Dean of Students. You are encouraged to become familiar with the University Student Code of Conduct maintained by the Dean of Students in the Office of Student Affairs: [Student Conduct Operations](#) | [Dean of Students](#).

ADA Policy: As per the Office of Disability Accommodation, a syllabus for a course SHALL include the following statement:

The University of North Texas makes reasonable academic accommodation for students with disabilities. Students seeking accommodation must first register with the Office of Disability Accommodation (ODA) to verify their eligibility. If a disability is verified, the ODA will provide you with an accommodation letter to be delivered to faculty to begin a private discussion regarding your specific needs in a course. You may request accommodations at any time, however, ODA notices of accommodation should be provided as early as possible in the semester to avoid any delay in implementation. Note that students must obtain a new letter of accommodation for every semester and must meet with each faculty member prior to implementation in each class. Students are strongly encouraged to deliver letters of accommodation during faculty office hours or by appointment. Faculty members have the authority to ask students to discuss such letters during their designated office hours to protect the privacy of the student. For additional information see the Office of Disability Accommodation website at <http://disability.unt.edu/>. You may also contact them by phone at 940.565.4323.

Add/Drop Policy: The department adheres to add/drop schedule established and published by the UNT office of the registrar. See the registration calendar for information <https://registrar.unt.edu/registration/fall-registration-guide>.

University of North Texas Compliance

To comply with immigration regulations, an F-1 visa holder within the United States may need to engage in an on-campus experiential component for this course. This component (which must be approved in advance by the instructor) can include activities such as taking an on-campus exam, participating in an on-campus lecture or lab activity, or other on-campus experience integral to the completion of this course.

If such an on-campus activity is required, it is the student's responsibility to do the following:

- (1) Submit a written request to the instructor for an on-campus experiential component within one week of the start of the course.
- (2) Ensure that the activity on campus takes place and the instructor documents it in writing with a notice sent to the International Student and Scholar Services Office. ISSS has a form available that you may use for this purpose.

Because the decision may have serious immigration consequences, if an F-1 student is unsure about his or her need to participate in an on-campus experiential component for this course, s/he should contact the UNT International Student and Scholar Services Office (telephone 940-565-2195 or email internationaladvising@unt.edu) to get clarification before the one-week deadline.