

Data Analysis Course Syllabus

Midwestern State University
Robert D. & Carol Gunn College of Health Sciences & Human Services
4123 NURS/RADS/RESP/SOWK
Fall 2026
Updated: 08/2026

Professor

Mandy Sedden MSRS, RT(R)

Email: mandy.sedden@msutexas.edu

Use this information in the subject line: 4123 x##_your last name_topic of the message.

Email is the best way to reach me. If I have not responded within 72 hours, please email me again.

Phone: (940) 397-4664

Office Location: Midwestern State University
3410 Taft Blvd.
Centennial Hall 430M
Wichita Falls, TX 76308

Office Hours: Please make an appointment

Course Communication

Contact information for the instructor is listed at the beginning of this syllabus. Email is the instructor's preferred mode of communication.

Please use the following format in the subject header for your email:

4123 x(##)_your last name_topic of message

Example: 4123 x10_Smith_Quiz 4

When emailing the instructor, please include your full name, course and section number, and a thorough explanation in your message. This will help expedite your request or needs.

When there is a need to contact students, the instructor will use the student's MSUTexas email account, students.msutexas.edu. The instructor is not responsible for sending emails to any other email account. Faculty members will not be responsible for keeping up with other email addresses for students. If you have not established this account, do so as soon as possible by going to the [Information Technology Email site](#).

The instructor will respond or at least acknowledge email messages from students within a maximum of five (5) business days when MSU is in session. MSU is open only 4 days a week in the summer, so be mindful that if you email the instructor on a Friday you might not get a response until Monday. Beyond standard university holidays and breaks, the instructor will notify students of any extended periods of time when email contact is not practical (professional meetings, etc.). I will meet face-to-face with any interested students by appointment only. This meeting is optional and must be confirmed by email ahead of time with me.

Setting Up Notifications for News items and Forwarding E-mails

The News section of the course is where I will send messages to the entire class. It is best to set up your D2L account to receive an email notification (to the email of your choice) when News items are posted.

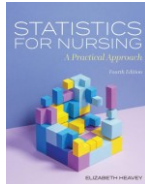
1. Click the down arrow in the News section on the 4123-course home page
2. Select Notifications
3. Check the box next to "News- new item available" and then check any other boxes you wish to receive an email notification from.
4. Check the email address you wish to send email notifications. If you need to change this, select "change your email settings" and enter the new email address. This email address should be an email address you frequently check.

Steps to forward D2L email to another email address:

1. Click on the ***Envelope Icon** in the top menu bar.
2. Click ***Email**.
3. Click ***Settings** in the top right corner of the inbox.
4. Scroll down to ***Forwarding Options** and type in the new email or uncheck the box to turn forwarding off.
5. Click ***Save**.

Remember to go to the new email and click to verify the email address.

Textbook



Heavey, E. (2019). Statistics for nursing. A practical approach, (4th ed.). Burlington, MA: Jones and Bartlett. ISBN: 9781284254907

How to Access Your Course Materials

You can access your course materials through **D2L** or through an email from **Kortext**.

Option 1: Access Through D2L

1. Log in to **D2L**.
2. At the top of the page, select **My Materials** or **Follett Discover**.
3. Select your campus if prompted.
4. If you do not see your course, use the **Current Semester/Term** dropdown to select the correct semester.

If no courses are displayed:

On a computer: The semester dropdown is on the left side of the screen.

On a phone or tablet: The semester dropdown is above the course list.

Option 2: Access Through Your Email

You will also receive an email from **Kortext Digital Materials** (no-reply@kortext.com) at your MSU email address.

1. Check your MSU email for a message from **Kortext**.
2. Open the email and select the **activation link**.
3. Your course materials will open in your **Kortext Library**.

***If you have trouble accessing your materials, please contact the bookstore.**

Course Overview

Course Overview

This interdisciplinary data analysis course is designed for health sciences and human services majors, focusing on statistical techniques and data structures relevant to clinical investigations. Students will learn to select appropriate statistical procedures and apply them to understand clinical data. Topics include basic statistics, measures of correlation and difference, hypothesis testing and bias, confidence intervals, reliability and validity, significance, power analysis, levels of evidence, sample size and distribution, treatment effects, quality improvement, relative risk and relative risk reduction, and odds ratios.

Course Format

This is a three-credit online course covering the same material as its classroom-based equivalent; expect to devote substantial time outside of class to master the content.

Responsibilities include:

- Viewing chapter lectures and homework reviews
- Completing computer tutorial lessons
- Reading assigned text material
- Participating in discussion forums
- Completing tests and assignments as directed by the syllabus
- Checking the D2L page daily

A Note on Pacing

This course moves quickly, and each unit builds directly on the last. Falling behind early compounds fast; schedule dedicated time each week to fully master the material before moving on.

Each unit includes lecture content and a homework review. ***Attempt the homework before watching the review** — working through problems on your own is how you discover what you actually don't understand yet. Skipping that step tends to show up later in quiz and final exam performance.

Course Rationale

Healthcare providers must be able to critique research design and analysis to build evidence-based practices in clinical settings. This course prepares students to select, apply, and evaluate statistical techniques, using entry-level methods applied to published clinical research. It's designed for the adult learner, with an emphasis on independent learning and mastery of the material.

Course Objectives

Upon completion of this course, the student will:

- Develop a broad-based understanding of descriptive statistics and selected statistical techniques
- Choose and make the appropriate graph/table for a set of data.
- Describe the characteristics of the normal distribution
- Identify different levels of measurement.
- Explain Type I and Type II error and the consequences of each error
- Differentiate independent and dependent samples
- Explain the effect of alpha, the number of tails, and sample size on the critical value of t.

- Determine the power of an independent-samples t-test and the sample size necessary to have an independent-samples t-test with sufficient power.
- Interpret the results from a chi-square test for contingency tables.
- Choose an appropriate statistical test to use in analyzing a data set
- Evaluate diagnostic and screening tests appropriately.
- Understand the factors that form the basis for hypothesis and statistical testing.
- Apply statistical outcomes to processes of quality improvement.
- Use statistical outcomes to evaluate the effects of treatment.

Teaching Strategies

Online delivery with asynchronous interactions between students and teacher, interactive discussions, quizzes, and a semester long project on behavior change.

Attendance

This is an online course, and as such, there are no mandatory sessions. However, the students should be vigilant in checking their email and logging onto D2L. Regular checks will ensure messages from the instructor and fellow students are received in a timely manner. This course is on a schedule that will be strictly adhered to (see table below). The instructor will be available to meet face-to-face with any student who is interested. Please email the instructor to schedule an appointment.

Requesting a Withdrawal

***Last Day for "W", November 23 by 4:00 p.m. – Drops after this date will receive grades of "F."** Refer to the Undergraduate Bulletin for details about receiving a grade of "Incomplete" in a course. In an emergency or extenuating circumstance, a student may request a grade of "Incomplete" in a course before grades are submitted. If the instructor grants the "Incomplete," the student has until thirty (30) days after the beginning of the next long semester to complete the course requirements. If the student does not complete the course requirements within the deadline, the grade of "Incomplete" will automatically convert into a grade of "F."

Grading/Evaluation

Evaluation

- 30% Quizzes
- 45% Discussion Board
- 25% Comprehensive Final Exam

Grading Scale

- A = 90-100
- B = 80-89
- C = 70-79
- D = 60-69
- F = 59 and below

Midterm Grades

In order to help students, keep track of their progress toward course objectives, the instructor for this class will provide a Midterm Progress Report through each student's WebWorld account. ***[only at-risk students will be reported]**. Midterm grades will not be reported on the students' transcript; nor will they be calculated in the cumulative GPA. They simply give students an idea of where they stand at the midpoint of the semester. Students earning below a C at the midway point should schedule a meeting with the professor.

Viewing Feedback in Tests

1. Go to the place where you took the quiz,
2. Click on the down arrow next to the exam,
3. Select submissions,
4. Click on the attempt,
5. The feedback for the entire exam is displayed under Attempt Feedback
6. The feedback for each question is under the View Feedback button under each question

Viewing feedback in Assignment Dropbox

Tip: You can also view assignment feedback from User Progress and Grades.

1. On the navbar, click Assignments.
2. From the Assignments page, locate your assignment, and click Unread in the Evaluation Status column.
3. From the View Feedback page, you can view your submission feedback, rubric assessment, and grade.
4. If your instructor added annotated feedback to the assignment, click View Inline Feedback. The annotation view opens in a new tab, displaying annotated feedback using highlighting, freehand drawing, shapes, and associated commenting.
5. To download the annotated assignment as a PDF, click Download.
6. When you are finished viewing feedback, navigate back to the View Feedback page and click Done.

If you are having technical difficulties accessing the course or any other technical issues please complete the [Online Problem Reporting System form](#) or contact d2lhelp@msutexas.edu.

Technical Difficulties

On occasion, you may experience problems with accessing D2L, accessing class files located within D2L, connecting with your internet service, or you may encounter other computer related problems. Make the professor aware of a technical problem as soon as possible. If a problem occurs on our end, such as D2L failure, then a due date extension will typically be granted. However, keep in mind it is your responsibility to have (or have access to) a working computer in this class. Assignments and tests are due by the due date, and personal computer technical difficulties will not be considered reason for the instructor to allow students extra time to submit assignments, tests, or discussion postings. Dropbox assignments that can be attached in an email should be emailed to the professor as soon as a problem is encountered. Failure to do so may result in points being lost, regardless of connection issues.

For help options:

- For D2L issues go online go to the Distance Education Helpdesk
- By phone call the Distance Education office at 940-397-4868 between 8am and 5pm.
- Use the D2L help link in D2L.
- Contact your professor.
- For other computer access issues, go online to the MSU Information Technology Website.

Student Responsibilities

As a student enrolled in this course, you will be responsible for adhering to and meeting posted deadlines and due dates. Posted closing dates along with assignment due dates and deadlines

found in the Course Calendar within D2L will be strictly enforced. If an assignment does not meet the posted deadline, a grade of zero (0) will be recorded for that assignment. Extenuating circumstances do occur and will be addressed on an individual basis.

NOTE: waiting until the last minute to submit an assignment does not constitute an extenuating circumstance.

Use of Artificial Writing Generators

The use of any artificial writing generator (ex: Chat GPT) is strictly prohibited. The use of artificial writing generators can and will be deemed a violation of the university's honor system. Any or all parts of a written assignment identified as having elements of writing attributed to an artificial writing source will automatically receive a zero (0) for a grade. ***Students will not be allowed to make up those assignments.** This program uses software that detects AI generators. For more policy information regarding cheating and plagiarism, see the Honor System section in this syllabus.

Note: By enrolling in this course, the student expressly grants MSU a limited right in all intellectual property created by the student for the purpose of this course. The limited right shall include but shall not be limited to the right to reproduce the student's work product in order to verify originality and authenticity, and for educational purposes.

Concealed Handgun Carry

Senate Bill 11 passed by the 84th Texas Legislature allows licensed handgun holders to carry concealed handguns on campus, effective August 1, 2016. Areas excluded from concealed carry are appropriately marked, in accordance with state law. For more information regarding campus carry, please refer to the [University's webpage regarding Campus Carry](#).

Active Shooter

The safety and security of our campus is the responsibility of everyone in our community. Each of us has an obligation to be prepared to appropriately respond to threats to our campus, such as an active aggressor. Please review the information provided by MSU Police Department regarding the options and strategies we can all use to stay safe during difficult situations. For more information, visit [Safety / Emergency Procedures](#). Students are encouraged to watch the video entitled "Run. Hide. Fight." which may be electronically accessed via the University police department's webpage: ["Run. Hide. Fight."](#)

Special Needs

In accordance with Section 504 of the Federal Rehabilitation Act of 1973 and the Americans with Disabilities Act of 1990, Midwestern State University endeavors to make reasonable adjustments in its policies, practices, services, and facilities to ensure equal opportunity for qualified persons with disabilities to participate in all educational programs and activities.

The Office of Disability Services (ODS) provides information and assistance, arranges accommodations, and serves as a liaison for students, instructors, and staff. The ODS has assistive devices such as books on tape, recorders, and adaptive software which can be loaned to qualified individuals. A student/employee who seeks accommodations on the basis of disability must register with the [Office of Disability Services](#) in the Student Wellness Center, (940)397-4140. Documentation of disability from a competent professional is required.

Individuals with grievances related to discrimination or lack of accommodation on the basis of a disability are encouraged to resolve the problem directly with the area involved. If the matter remains unresolved, advice and/or assistance will be provided by the Office of Disability Services for resolution. The grievance procedure may be found in the Student Handbook and Activities Calendar. The ADA Coordinator may be contacted at (940)397-4140, or 3410 Taft Blvd., Student Wellness Center.

Honor System

Academic Integrity

NURS/RADS/RESP/SOWK 4123 adheres to the MSU Code of Student Conduct. Participation in this course requires full compliance with that code; consult the current Student Handbook with any questions.

Collaborative vs. Individual Work

Much of this course is designed to be interactive — students are encouraged to use D2L resources, internet sites, textbooks, journals, faculty, and peers to work through course objectives together.

However, the following components must reflect each student's individual effort and may not be shared or copied from other sources: discussion boards, module quizzes, and the comprehensive final exam. Submitting these for grading is an attestation that this rule was followed.

Cheating includes, but is not limited to:

- Unauthorized assistance on quizzes, tests, or exams
- Reliance on sources beyond those authorized when writing papers, preparing reports, solving problems, or completing assignments
- Acquiring tests or academic materials without permission

Plagiarism includes, but is not limited to:

- Using another person's published or unpublished work — paraphrased or quoted — without correct citation
- Submitting work previously submitted for this or another course
- Using materials from term-paper writing services

Review the plagiarism tutorials and suggested resources if you're unsure what counts.

Assignments may be submitted to an external service to verify originality.

Consequences: Academic dishonesty will not be tolerated. If you're ever unsure whether something crosses the line, ask the instructor first. Violations may result in a grade of zero on the assignment and/or referral to the Dean of Students for possible dismissal from the university.

Intellectual Property Note: By enrolling, you grant MSU a limited right to reproduce your coursework for originality/authenticity verification and educational purposes — including submission to an external plagiarism-detection service.

Administrative Process

Unresolved issues related to this course should be first addressed between the student and the course instructor. If there is no resolution, students must follow this sequence:

1. Director of Interdisciplinary Studies
 - a. Dr. Randy Case (940) 397-4652
2. Department Chair
 - a. BSRS, Dr. Lynette Watts (940) 397.4833

3. College Dean
 - a. Dr. Jeff Killion (940) 397.4594
 4. Dean of Students
 - a. Matthew Park (940) 397.6273
-

Data Analysis Assignment Details

Students can proceed through the course content at their own pace within the boundaries set by the Course Schedule and the MSU Academic Calendar. See the Course Schedule at the end of this syllabus for specific information about activities and due dates.

If students have technical difficulties, they should use the “Help” link on D2L, contact the MSU Information Systems Support Staff, and send an email to the professor explaining what happened.

- All work submitted to the instructor will be considered complete and final and will be graded as such.
- All reading assignments are mandatory and the student's comprehension of the content will either be graded in the form of a quiz or applied in an assignment.
- All assignments must be written at the baccalaureate level and will be graded for accuracy, completeness, quality, spelling, grammar, and integrity.
- Because of the nature of the assignments, late submissions will not be accepted.

Welcome (Students should start here!)

Students should begin the course by viewing the documents found in the Getting Started module. This module has valuable information about Lockdown Browser, Excel, and an Excel Lab introduction.

Syllabus Agreement

The first step in starting this course is to read the syllabus in its entirety and complete the Syllabus Agreement quiz. By taking the Syllabus Agreement quiz you are stating that you have completely read, understand, and agree to the syllabus and its content. The unit 1 exam will **not** open until you have completed this step

Assignments

Assignments are a significant portion of the grade and represent the application of the material studied. All assignments are to be submitted as instructed in each unit. Assignments must be received prior to the deadline. Late assignments are not accepted beyond the deadline. A zero will be recorded for assignments not submitted or meeting the final deadline. ***All assignments must be written at the baccalaureate level and will be graded for accuracy, completeness, quality, spelling, grammar, punctuation, and integrity.**

Independent Reading Assignments

- Unit 1: Chapter 1
- Unit 2: Chapter 2
- Unit 3: Chapter 3
- Unit 4: Chapters 5 & 6
- Unit 5: Chapters 7 & 9
- Unit 6: Chapters 11 & 13

- Final: Review all chapters covered in the course

*Supplemental note outlines and chapter review questions/videos are provided within D2L to help guide the reading assignments.

Discussion Board

The discussion board is a mandatory component in this course. Assignments are made specifically for this board. Students are expected to complete the calculations and write formally (no shorthand or text messaging abbreviations) and use APA format and referencing when appropriate. Thoughtful responses, constructive critique of fellow students, and meaningful participation are expected. Keep in mind the discussion board is a formal assignment and part of your final grade. **Late discussion board posts are not accepted beyond the deadline. A zero will be recorded for assignments not submitted or meeting the final deadline.** All assignments must be written at the baccalaureate level and will be graded for accuracy, completeness, quality, spelling, grammar, punctuation, and integrity. Review the grading rubric for each discussion board assignment.

Quizzes

In each of the units, a quiz will be administered within D2L. These quizzes are open book, open notebook, but you will only have one hour to complete them and must be prepared as there will not be enough time to research every answer. Quizzes must be completed prior to the expiration dates listed in this syllabus. Quiz grades and answers will be released after the deadline of each quiz. Specific questions regarding the quizzes may be addressed to the instructor. **Quizzes will not be made up if missed and zero (0) will be recorded. No extra credit activities are available.**

If students have technical difficulties during a quiz, they should use the “Report a Problem” link located on the top toolbar within D2L to contact the MSU distance education Support Staff and send an email to the course instructor explaining what happened.

If a student finds a faulty quiz test item or believes a quiz question has been scored incorrectly, they should send an email to the course instructor that includes the following:

- Module quiz number (1-6)
- Question stem
- Rationale supporting why the student’s answer is correct
- Include page numbers when referencing the textbook

After reviewing the situation, if the course instructor thinks a revision is justified, the students’ quiz score will be revised to reflect the additional points and the test bank will be updated.

Final Exam

The final examination is comprehensive and consists of 50 randomized multiple-choice questions; with about 5 questions from each chapter. You will have 120 minutes to complete the final examination. The final exam is open book and open notes, however it is delivered through the LockDown browser. You will be required to use LockDown Browser and Monitor (Webcam). Make sure you have the most recent version of the LockDown Browser on your computer. You can install the latest version here: <https://msutexas.edu/distance/lockdown-browser.php>. Chromebook Laptops are NOT compatible with the LockDown Browser, so you will need to locate a different device for the final exam. The Final Examination can be taken any time between the exam open dates that are listed in the syllabus. You must complete all

module tests prior to taking the final examination. You will need to show your ID in Respondus before it will allow you to take the exam (so have your photo ID close).

***10pts will be deducted from your exam grade if you do not do a thorough room scan and 5 pts will be deducted for each time you leave the room while testing. A thorough room scan includes the area around you and behind the computer. You are expected to take this exam alone without anyone in the room.**

Course Schedule

***All assignments are due at 11:59 PM central standard time (CST)**

Date	Assignment
Monday, Aug. 24	Course opens
Monday, Aug. 31	Syllabus Agreement Quiz
Tuesday, Sept. 8	Unit 1 Quiz Unit 1 Discussion Board
Monday, Sept. 21	Unit 2 Quiz Unit 2 Discussion Board
Monday, Oct. 5	Unit 3 Quiz Unit 3 Discussion Board
Monday, Oct. 19	Unit 4 Quiz
Monday, Nov. 9	Unit 5 Quiz Unit 5 Discussion Board
November 25-27	Thanksgiving Break
Monday, Nov. 30	Unit 6 Quiz Unit 6 Discussion Board
Monday, Nov. 23	Final Exam opens at 8 am
Sunday Dec. 6	Final Exam closes at 5:00 PM