

# Midwestern State University

Robert D. & Carol Gunn College of Health Sciences & Human Services  
Department of Radiologic Sciences

*Revised August 2019*

## Course Syllabus: Data Analysis

### Course Information

**Name:** RADS 4123 X11

**Credit:** 3 hours

**Term:** Fall 2018

**Prerequisite:** None

### Professor

**Mandy Sedden MSRS, RT(R) Assistant Professor**

**Email:** [mandy.sedden@msutexas.edu](mailto:mandy.sedden@msutexas.edu)

Use this information in the subject line: 4913X11\_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 preferred mode of communication. Students must use their standardized MSU Student email for correspondence about this course. When emailing the instructor, you must use the following subject header:

4123x10\_your last name\_topic of message

Example: 4123x11\_Smith\_Quiz 4

When there is a need to contact students, the instructor will use the student's MWSU email account, students.mwsu.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: <http://infosys.mwsu.edu/email.asp>

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.

## **Feedback**

Feedback varies throughout the course. 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 3773 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.

## **Course Description**

The focus of this course is to provide an interdisciplinary data analysis class specifically for health sciences and human services majors using techniques and data structures relevant to clinical investigations. General topics include choosing correct procedures and using statistics to understand clinical data. Specific topics include but are not limited to 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, assessing effects of treatment, quality improvement, relative risk and relative risk reduction, and odds ratio.

## **Course Objectives**

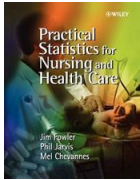
Upon completion of this course, the student will:

1. Use the measures of central tendency and measures of dispersion.
2. Use concepts of estimates, relative risk, relative risk reduction, and odds ratios.
3. Use tests that analyze frequencies, correlations, and differences.
4. Understand the basic concepts of measurement, sampling, sample size, and sample distribution.
5. Grasp the general principles of processing and presenting data.
6. Explain, calculate, and interpret inferential statistics including probability and hypothesis testing.
7. Correlate the concepts of probability and the normal distribution curve.
8. Understand the factors that form the basis for hypothesis and statistical testing.
9. Apply statistical outcomes to processes of quality improvement.
10. Use statistical outcomes to evaluate effects of treatment.

## Teaching Methodology

Online delivery with asynchronous interactions between students and teacher, interactive discussions, group application activities, and a comprehensive final examination.

## Course Materials



Fowler, J., Jarvis, P., & Chevannes, M. (2002). *Practical statistics for nursing and health care*. West Sussex, Eng: Wiley Publisher. [ISBN 978-0-471-49716-5]

## 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

**The last day to drop this course with a grade of "W" is 4:00 pm on Thursday, July 12, 2016.** 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**

Students are required to submit all assignments in the appropriate assignment dropbox within D2L. Do not email or fax assignments unless told specifically to do so by your instructor. Do not wait until the last minute to submit in case you have technical difficulties. If you have difficulties submitting any assignments, contact your instructor immediately so that problems can be resolved by the deadline. Technical difficulties need to be addressed through the D2L help link. Assignments must be submitted on time; **each late submission will result in a grade of 0.**

### **Grade Distribution**

- 10% Discussion Boards
- 30% Quizzes
- 35% Project Assignments
- 25% Comprehensive Final

### **Grade Scale**

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

## **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.

## **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 Support Services (DSS) provides information and assistance, arranges accommodations, and serves as a liaison for students, instructors, and staff. The DSS has assistance 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 Support Services in the Clark Student Center Room 168 or call (940) 397.4140 for further information. 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 Director of the Counseling Center serves as the ADA Coordinator and may be contacted at (940) 397.4618, TDD (940) 397.4515, or 3410 Taft Blvd., Clark Student Center Room 108.

## **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. Interim Department Chair: Dr. Beth Veale (940) 397.4679
2. Interim College Dean: Dr. Jeff Killion (940) 397.4594
3. Dean of Students: Matthew Parks (940) 397.6273

## **Academic Conduct**

RADS 4123 adheres to the MSU Code of Conduct. In particular, academic dishonesty, however small, creates a breach in academic integrity. A student's participation in this course comes with the expectation that his or her work will be completed in full observance of the MSU Code of Student Conduct. A student should consult the current Student Handbook for answers to any questions about the code.

All components of RADS 4123 are designed to represent the efforts of each student individually and are NOT to be shared, copied, or plagiarized from other sources. When students submit their efforts for grading, they are attesting they abide by this rule. An online plagiarism service may be used in this course. Student assignments may be uploaded to the service for identification of similarities to other student papers and published works.

Cheating includes, but is not limited to

- Use of any unauthorized assistance in taking quizzes, tests, or examinations
- Dependence upon the aid of sources beyond those authorized by the professor in writing papers, preparing reports, solving problems, or completing other assignments
- The acquisition of tests or other academic materials belonging to the university faculty or staff without permission.

Plagiarism includes, but is not limited to

- The use of, by paraphrase or direct quotation without correct citation in the text and in the reference list
- The published or unpublished works of another person.
- Students may NOT submit papers and assignments that they have previously submitted for this or other courses.
- The use of materials generated by agencies engaged in "selling" term papers is also plagiarism.

Academic dishonesty (cheating, plagiarism, etc.) will not be tolerated in this class. Whenever a student is unsure of whether a particular situation will be interpreted as academic dishonesty, he/she should ask the professor for clarification. If students are guilty of academic dishonesty, a grade of zero (0) will be given for the quiz, assignment, etc. Cases may also be referred to the Dean of Students for possible dismissal from the university.

Students are encouraged to review the tutorials and suggested websites for more information about plagiarism. If you have any questions about what constitutes plagiarism, please consult:

- The University Academic Dishonesty Policy: [http://mwsu.edu/Assets/documents/student>life/2013>14%20Student%20Handbook.pdf](http://mwsu.edu/Assets/documents/student%20life/2013%2014%20Student%20Handbook.pdf)
- The website [Plagiarism.Org](http://Plagiarism.Org)
- The professor

### **Please 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/ project in order to verify originality and authenticity, and for educational purposes. Specifically, faculty may submit student papers and assignments to an external agency to verify originality and authenticity, and to detect for plagiarism.

All assignments will be submitted to TurnItIn.com, a computerized service which checks for plagiarism. Any suspicious results will be investigated. Instances of plagiarism will result in a lower grade on the assignment; a grade of "F" on the assignment, and/or a grade of "F" on the course. Repeated or severe instances may result in academic probation, or dismissal from the program. Instances can also be referred to the Dean of Students for further action.

### **Senate Bill 11**

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 campus carry webpage. If you have

questions or concerns, please contact MSU Chief of Police Patrick Coggins by email at [mpatrick.coggins@mwsu.edu](mailto:mpatrick.coggins@mwsu.edu).

## **Data Analysis Assignment Details**

### **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.

### **Assignment Format:**

Assignments are a significant portion of the grade and represent application of the material studied. All assignments are to be submitted as instructed in each unit. Points will be deducted for improper format. Proper APA format must be used when appropriate. Plagiarism will be graded harshly. Assignments must be received prior to the deadline. Late assignments are not be 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: Chapters 1 and 2
- Unit 2: Chapters 3 and 4
- Unit 3: Chapters 7 and 8
- Unit 4: Chapter 9
- Unit 5: Chapters 10 and 11
- Unit 6: Chapters 12, 13, and 14
- Unit 7: Chapters 15 and 16
- Unit 8: Chapters 5 and 6
- \*Supplemental notes are provided within D2L to complement the reading assignments.

### **Discussion Board (10%)**

The discussion board is a mandatory component in this course. Assignments are made specifically for this board. Students are expected to 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. Review for the grading rubric for each discussion board assignment.

### **Quizzes (30%)**

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 a zero (0) will be recorded. No extra credit activities are available.

If students have technical difficulties during a quiz, they should use the 'Help' link located on the top toolbar within D2L to contact the MSU Information Systems Support Staff and send an email to the course instructor explaining what happened.

### **Dropbox Project Assignments (35%)**

Units 2, 3, 4, 6, and 7 each contain a unique group project assignment. Specific instructions regarding each assignment can be found in the unit supplemental notes within D2L. It is very important to read the instructions carefully and review the grading rubric for each assignment as well.

If a student fails to participate in the group assignment, then that student's grade *will be affected by assigning a "0" for that assignment.* **All assignments must be submitted via the appropriate dropbox within D2L by the group leader using the Workgroup Activity Assignment Form.**

### **Final Exam (25%)**

The final exam is a timed, comprehensive exam consisting of 40 multiple choice questions. The students will have 90 minutes to complete the exam. Your final exam uses a system called Proctor U. This gives you the convenience of taking your final anywhere you choose. You do not have to go to MSU's testing center, or if you live outside Wichita Falls, you do not have to find a testing center and have it approved. There is a small fee of \$30 for using Proctor U. This fee will increase the later the exam is scheduled. Students must schedule the final exam through Proctor U by October 14, 2018. Please read the Proctor U instructions under Course Introduction.

Your test is still on D2L. Proctor U is just a way of having someone verify you are following the rules for the final from the comfort of your home or dorm room. The final examination is closed book and notes. You may not have any browser windows or tabs open except for the examination. You may not use your cell phone or any tablet during the examination. You may have a blank piece of paper and either a non-programmable calculator or Windows calculator. If there is any question about this please let me know. If Proctor U reports a violation, it results in a zero on the final and possible disciplinary action with the university.

### **Proctor U Specifications:**

- PC Users: A well-working computer running Windows XP or higher with 1024 MB of RAM or higher.
- Mac Users: A well-working computer running Mac OS X or higher.
- A web cam with 640x480 video pixel resolution (web cams built into laptops or monitors are acceptable).
- Headphones or working speakers connected to the computer.
- A microphone connected to the computer (your web cam or laptop may already have one built into it).
- A reliable high speed internet connection (minimum 768 Kbps/384 Kbps Download/Upload).
- A web browser with Adobe Flash Player installed.

### **Technical Problems**

- If you are disconnected during your exam, you must immediately send an email to your professor, and immediately contact ProctorU by phone. All exams are monitored and a log is created by the proctor and by D2L.
- \*All times will be documented\*
- The exam must be taken within the scheduled test dates, regardless of any technical issues that may arise. This is the student's responsibility.
- Late submissions will not be accepted.
- My suggestion is to take the exam during the first days it is available (listed below) to avoid receiving a zero due to technical issues. If you have to reschedule, it must be within the scheduled dates and times.
- See the Technical Difficulties section above for help options

**Note:** All assignments received are considered complete and will be graded as such. Any decision of the professor is final and there will be no further changes made.

Scroll down to view the Course Schedule.

## Course Schedule

Course Schedule is Central Standard Time

<b>Date</b>	<b>Assignment</b>
Saturday, August 24	Course opens
Sunday, September 1	Unit 1 Quiz due by midnight Unit 1 Discussion Board due by midnight
Sunday, September 15	Unit 2 Quiz due by midnight Unit 2 Workgroup Assignment due by midnight
Sunday, September 29	Unit 3 Quiz due by midnight Unit 3 Workgroup Assignment due by midnight
Sunday, October 13	Unit 4 Quiz due by midnight Unit 4 Workgroup Assignment due by midnight
Sunday, October 27	Unit 5 Quiz due by midnight Unit 5 Discussion Board due by midnight
Sunday, November 10	Unit 6 Quiz due by midnight Unit 6 Workgroup Assignment due by midnight
Sunday, November 24	Unit 7 Quiz due by midnight Unit 7 Workgroup Assignment due by midnight
Sunday, December 1	Unit 8 Quiz due by midnight
Monday, November 25	Final Exam opens at 8 am
Friday, December 6	Final Exam closes at midnight

\*\*All times are Central Standard Time (CST).