



MATH 240 – Applied Statistics

4 credits

Instructor: Tracy Chisholm

Course Description: An examination of introductory statistics concepts, including:

- Data Collection & Sampling
- Descriptive Statistics
 - Organizing & Summarizing Data
 - Numerically Summarizing Data
 - Correlation & Regression
- Probability & Probability Distribution
 - Probability
 - Discrete Probability Distributions
 - The Normal Probability Distribution
- Inference: From Samples to Population
 - Sampling Distributions
 - Eliminating the Value of a Parameter
 - Hypothesis Tests Regarding a parameter
 - Inferences on Two Samples
 - Inference on Categorical Data
 - Comparing Three or More Means/ANOVA

Technology will be used to enhance learning and mirror statistical applications and practices in the larger world.

Prerequisite: MATH 103 College Algebra

Course Objectives:

- To develop an understanding of basic probability and statistical concepts.
- To develop an understating of how statistics are relevant in real-life situations and in decision making processes.
- To teach students how to calculate, use, and interpret statistics correctly so that they may use this knowledge in their fields of study.
- To teach students how to use statistical technology to solve and interpret problems in elementary probability and statistics.
- To develop lifelong learning skills; students will learn to learn.
- To improve communication and collaboration with others.
- To become better problem solvers who think creatively to solve novel problems.

Class Schedule: MTWF 9-9:50am

Monday	Tuesday	Wednesday	Thursday	Friday
NSC 124		NSC 124	Thatcher 212	NSC 124
10-10:50am		10-10:50am	1-1:50pm	10-10:50am

Instructor: Tracy Chisholm

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Office Hours: Mon-Fri 3-4pm and Thursday 2-4pm or by appointment

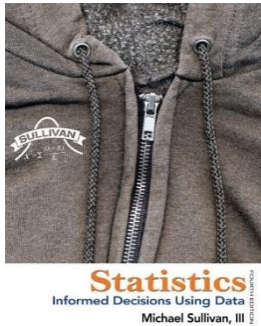
Tentative Course Outline:

Chapter	Dates	
Chapter 1: Data Collection	Weeks 1-2	
Chapter 2: Organizing and Summarizing Data	Weeks 2-3	
Chapter 3: Numerically Summarizing Data	Weeks 3-4	
Chapter 4: Describing the Relation between Two Variables	Weeks 4-5	
Chapter 5: Probability	Weeks 6-7	
Chapter 6: Discrete Probability Distributions	Weeks 7-8	
Chapter 7: The Normal Probability Distribution	Weeks 8-9	
Chapter 8: Sampling Distributions	Week 10	
Chapter 9: Estimating the Value of a Parameter	Weeks 10-11	
Chapter 10: Hypothesis Tests Regarding a Parameter	Weeks 12-13	
Chapter 11: Inferences on Two Samples	Weeks 14-15	
Chapter 12: Inference on Categorical Data	Week 15	
Chapter 13: Comparing Three or More Means (ANOVA)	Week 16	

****The final exam must be taken during the designated time according the finals week schedule.****

My final is: _____.

Required Text: *Statistics: Informed Decisions Using Data, Fourth Edition* by Michael Sullivan, III with MyStatLab & StatCrunch online learning software. Pearson Publishing.



MyStatLab Learning Software Website: www.mystatlab.com

Course Requirements:

Daily attendance is expected and can influence your grade. Learning any type of math is an investment of time. It takes place through participation and engagement in the material and the course; thus, it is essential that you attend and actively participate in class. You cannot recreate what happens in class. You need to come to class prepared, get involved, work in your group, treat others as you would want to be treated, and bring a positive attitude and strong work ethic.

Homework Assignments & Other Activities: Homework and other activities in which you practice and apply the concepts of the course are important. It is important for you to read and do the homework on a regular basis. There will be problems assigned for each chapter in MyStatLab. Chapter assignments close at 11:59 PM, CDT on the night before the corresponding unit test. You get two attempts at each problem so you can learn from your mistakes. Do the work well in advance. Late assignments will not be accepted. The assignments are the minimum amount of homework you should complete. If you need to do more problems to understand the material, then you should do so.

The MyStatLab site is loaded with tools to help you learn – videos, animations, online version of the book, StatCrunch (the statistical software we will be using), a calculator, and other materials. Use these materials to your advantage. When working on homework problems, you will notice icons on the side; you can click on these to directly bring you to the resources related to that section of the book.

Case Studies: At the end of each chapter is a case study which pulls together the key ideas of the chapter and has you apply these concepts in a meaningful context. Not all of these case studies have been assigned, but four of them have (Chapters 2, 6, 10, and 11). These will be done individually. They have specific due dates that will be announced in class as well as posted in MyStatLab. Do not procrastinate on these! They require you to think about, apply, and write about the material of the course. What you hand in must reflect good writing and the correct application of the concepts of the chapter.

Lab Work: The laboratory portion of the course provides an opportunity to integrate lecture concepts with real-life statistical situations. Attendance in lab is mandatory. Borrowed results are not acceptable and all parties involved will receive a grade deduction. Lab reports are due at the beginning of the next lab class (unless otherwise announced). Late lab reports will not be accepted.

Tests: Five unit tests will be given during the semester. Each one is worth 10% of your final grade. Students are allowed one attempt on each test. Tests must be taken on the day they are given or previous arrangements must be made prior to the test day. If arrangements are not made and you miss a test, you will receive a zero.



A = 90-100%
B = 80-89%
C = 70-79%
D = 60-69%

General Education Goals/Objectives:

- Goal 2: Demonstrates knowledge and application of technology.
 - Objective 2: Uses electronic resources for course related assignments and information
 - Skill 1: Selects appropriate electronic resources
 - Objective 4: Employs problem solving and critical thinking skills in order to solve a variety of different problems
 - Skill 1: Locates, evaluates, and applies research information
 - Skill 2: Analyzes information to determine its validity
 - Skill 3: Draws conclusions from information collected
- Goal 3: Demonstrates the ability to convert, calculate, and analyze a variety of mathematical problems
 - Objective 1: Utilizes mathematical equations to solve problems
 - Skill1: Solves equations and problems using the appropriate method
 - Objective 2: Applies practical application of mathematics to everyday life
 - Skill 1: Constructs tables, charts, graphs based on data
 - Skill 2: Defines and demonstrates the use of decimals, percentages, and fractions
 - Skill 3: Solves word problems
 - Objective 3: Employs problem solving and critical thinking skills in order to solve a variety of different problems
 - Skill 1: Locates, evaluates, and applies research information
 - Skill 2: Analyzes materials to determine their validity
 - Skill 3: Draws conclusions from information collected

Relationship to Campus Theme: The student will use the graphing calculator and StatCrunch to model application problems in nature, economics, science, psychology, etc. Communication with others will be emphasized.

Classroom Policies: Please refrain from any behavior that would disrupt the class. The academic environment is an open and harassment free environment. Participation is encouraged.

- Come to every class on time and always be prepared!
- Regular participation is expected.
- Cell phones can only be used in emergency situations and they must be turned to vibrate. Please use common sense with regard to electronic devices. You cannot learn effectively and are not actively involved in class if you are being continually interrupted and distracted. If you must answer your phone, please quietly leave the room.
- Learning activities and evaluation will occur in the MyStatLab learning system and requires Internet connectivity.

Academic Integrity: The academic community is operated on the basis of honesty, integrity and fair play. It is the expectation that all students, as members of the college community, adhere to the highest levels of academic integrity. This means that:

- Students are responsible for submitting their own work. Student work must not be plagiarized.
- Students must not cooperate on oral or written examinations or work together on evaluated assignments without authorization.
- If there is evidence of cheating, the student will receive an F on the assignment or exam.

Disabilities and Special Needs: If you have a disability for which you need accommodation, contact the Learning Center to request disability support services: phone 701-228-5477 or toll-free 1-888-918-5623.