



MATH 210 – Elementary Statistics

4 credits

Instructor: Tracy Chisholm

Course Description: An introduction to statistical methods of gathering, presenting and analyzing data. Topics include probability and probability distributions, confidence intervals, hypothesis testing, and linear regression and correlation.

- 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
 - Inference on the Least-Squares Regression model and Multiple Regression

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

Prerequisite: ASC 93 Algebra Prep III, placement by math placement test or instructor approval

Course Objectives:

1. Students will be able to use statistical methods of gathering, presenting and analyzing data.
2. Students will be able to work with probability and probability distributions and their applications.
3. Students will be able to work with confidence intervals and their applications.
4. Students will be able to work with hypothesis testing.
5. Students will be able to work with linear regression and correlation and its applications.

Class Schedule: MTWF 10-10:50am

Monday	Tuesday	Wednesday	Thursday	Friday
NSC 124	NSC 124	NSC 124		NSC 124
10-10:50am	10-10:50am	10-10:50am		10-10:50am

Instructor: Tracy Chisholm

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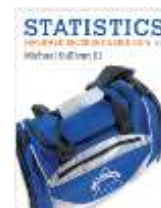
Office Hours: Mon-Wed, Fri 3-4pm or by appointment

Tentative Course Outline:

Chapter	Topic	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	Week 16

Required Text: *Statistics: Informed Decisions Using Data, Fifth Edition* by Michael Sullivan, III Pearson Publishing.

MyMathLab Learning Software Website: www.mymathlab.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 & Lab 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 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 linked with MyStatLab), 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 two-four of them will be. 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 we have learned in class.

Tests: Approximately nine graded tests are administered over the semester. Students are allowed one attempt on each test and must be completed in one sitting. If a student leaves the classroom during a test, the test will be collected and graded. Tests must be taken on the day they are given or previous arrangements must be made prior to the test day. **If you miss an exam you must contact me within 24 hours of the missed exam to arrange for a time to make up the exam. Exams must be made up within 72 hours of the original exam time. If you do not contact me within 24 hours, a grade of 0 will be entered for the exam that was missed. Students are only allowed to make up ONE exam per course. The exam grade will be docked 10% per day for late points. Cheating on tests will not be tolerated. If you are caught cheating, that will result in an automatic 0 for the exam.**



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

Classroom Policies:

- Respect is to be shown towards the instructor and fellow students in the classroom.
- Attendance and participation is expected. You are responsible for the activities of each class period. If you know of a conflict ahead of time, you are welcome to submit assignments early.
- Show up to class on time and be prepared (pencil, notebook, calculator, etc).
- Cell phones and all other electronics should be off/silenced and put away. You will be asked once to put the phone away, if asked again you will be asked to leave.
- **Do NOT wear headphones during class or tests. They are not allowed.**

Student Email Policy: Dakota College at Bottineau is increasingly dependent upon email as an official form of communication. A student's campus-assigned email address will be the only one recognized by the campus for official mailings. The liability for missing or not acting upon important information conveyed via campus email rests with the student.

General Education Competencies/Learning Outcomes:

Competency/Goal 3: Demonstrates the ability to solve a variety of mathematical problems

Learning Outcome 1: Utilizes mathematical skills to solve problems

- Performance Indicator 1: Solves problems using an appropriate method
- Performance Indicator 2: Produces graphs

Learning Outcome 2: Employs critical thinking skills to solve problems

- Performance Indicator 1: Interprets research information
- Performance Indicator 2: Write conclusions from information collected
- Performance Indicator 3: Utilizes pertinent information to solve word problems

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.

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, please let me know as soon as possible. You can also contact the Disability Service coordinator at 701-228-5672.

The syllabus is a living document that is subject to change. Students will be informed of any changes.