



MA 200 Elementary Statistics

Amber Meis
NORTH CENTRAL KANSAS TECHNICAL COLLEGE

COURSE INFORMATION

This course covers topics related to distributions, measures of central tendency and dispersion, sampling methods, hypothesis testing, correlation, and regression. A good working knowledge of "intermediate" algebra is necessary for the successful student of introductory statistics. Students will apply these concepts to real world situations through applications, simulations and word problems.

Credits: 3

Total Hours: 45

Pre/Corequisites:

- Prerequisite: MA-111

CLASS INFORMATION

Section Number: MA 200 Online

Term: Summer Year: 2024 Start Date: 6/3/2024 End Date: 7/26/2024

Delivery Mode: Online

INSTRUCTOR

Amber Meis

Email: ameis@ncktc.edu

Office Phone: 7856236153

Office Location: Classroom A Office

Office Hours:

By appointment. Email me if needed.

Email is the best way to communicate with me and get in contact with me for the fastest response. My email is ameis@ncktc.edu. I do get back to students within 48 business hours.

TEXTBOOKS

Required-- Cengage Unlimited Single Term Access Code- ISBN 978-0-357-70003-7

(Might be able to get this from <https://studyingcore.com/product/cengage-unlimited-1-term-4-months-1st-edition-m/>)

Comes with an electronic version of the book and then if you want a physical copy of the book, you can rent the textbook for \$10 from the company and it will ship to you within 7 days.

SUPPLIES

- Pencil and Paper
- Calculator (preferably scientific)
- Enhanced Webassign Access Code (available with purchase of book)

COURSE COMPETENCIES

1. Create graphical and numerical descriptions of quantitative and qualitative data.
2. Calculate probabilities and percentiles related to a general normal distribution.
3. Distinguish differences in data analysis and interpretation between observational data and data from designed experiments.
4. Calculate and interpret a confidence interval for a single parameter, using both large and small samples.
5. Perform and interpret a test of hypotheses for a single parameter, using both large and small samples.
6. Perform and interpret statistical inference on the difference of two parameters.
7. Fit and interpret a simple linear regression model, including correlation and scatterplots.

GRADING INFORMATION

NCK Tech Grading Scale

A – 90-100%

B – 80-90%

C – 70-80 %

D – 60-70%

F – 59%

Instructor Grading-

Grading will be awarded on a total point basis.

Each category will be part of your grade:

Chapter Online assignments

Discussion/ Reply Boards

3 Unit Exams

1 Cumulative Final

Extra Credit will also be offered at about midway through the semester.

ACADEMIC HONESTY

Membership in the NCK Tech learning community imposes upon the student a variety of commitments, obligations, and responsibilities. It is the policy of this college to impose sanctions on students who misrepresent their academic work. Appropriate classroom instructors or other designated persons will select these sanctions consistent with the seriousness of the violation and related considerations.

Examples of scholastic dishonesty include but are not limited to:

- Plagiarism: i.e. taking someone else's intellectual work and presenting it as one's own. Each department set standards of attribution. Faculty will include disciplinary or class-specific definitions in course syllabi.
- Cheating is unacceptable in any form. Examples include consultation of books, library materials, notes or intentional observation of another student's test on paper or a computer screen; accessing another student's answers from an exam to be given or in progress; submission of falsified data; alteration of exams or other academic exercises; and collaboration on projects where collaboration is forbidden.
- Falsification, forgery or alteration of any documents pertaining to assignments and examinations.
- Students who participate in, or assist with, cheating or plagiarism will also be in violation of this policy.

Classroom instructors and/or administrators will assess sanctions for violations of this policy. The seriousness of the violation will dictate the severity of the sanction imposed. Academic sanctions may include but are not limited to any of the following:

1. verbal or written warning
2. lowering of grade for an assignment
3. lowering of term grade

Administrative sanctions may include but are not limited to either of the following

1. Suspension from the course, program, or College
2. Dismissal from the course, program, or College

NCK TECH MISSION STATEMENT

North Central Kansas Technical College delivers applied, innovative and personalized education to empower learners, enrich lives, develop skilled professionals and strengthen economic systems.

Vision Statement

North Central Kansas Technical College is dedicated to being a leader in workforce development by maximizing value for students, employers and communities through educational excellence.

Core Values

Achieving EXCELLENCE with INTEGRITY through

DEDICATION

INNOVATION

COLLABORATION

COMMUNICATION

NCK TECH NON-DISCRIMINATION POLICY

NCK Tech is committed to nondiscrimination on the basis of race, color, gender, ethnic or national origin, sex, sexual orientation, gender identity, marital status, religion, age, ancestry, disability, military status, or veteran status in admission or access to, or treatment or employment in, its programs and activities. Further, it is the policy of the college to prohibit harassment (including sexual harassment and sexual violence) of students and employees. Any person having inquiries concerning the college's compliance with the regulations implementing Title VI, Title VII, Title IX, Section 504, and the Americans with Disabilities Act Amendments Act is directed to the VP of Student and Instructional Services (Section 504/ADA Compliance Officer and Title VI, Title VII, & Title IX Compliance Officer) at (785)738-9055, cisbell@ncktc.edu, or PO Box 507, 3033 US Hwy 24, Beloit, KS 67420.

NCK TECH TOBACCO USE POLICY

The use of tobacco products in any form and/or electronic cigarettes is prohibited in, or within ten (10) feet of any building owned, leased, or rented by the College.

NCK TECH WEAPONS POLICY

Individuals who choose to carry concealed handguns **are solely responsible to do so in a safe and secure manner in strict conformity with state and federal laws and NCK Tech weapons policy.** Individuals must be 18 years of age to carry concealed handguns.

Safety measures outlined in the NCK Tech weapons policy specify that a concealed handgun:

- Must be under the constant control of the carrier.
- Must be out of view, concealed either on the body of the carrier, or backpack, purse, or bag that remains under the carrier's custody and control and within immediate reach of the individual.
- Must be in a holster that covers the trigger area and secures any external hammer in an un-cocked position
- Must have the safety on, and have no round in the chamber.

Lockers, toolboxes, and/or tool bags are not approved storage devices in accordance with NCK Tech Policy.

OVERVIEW FOR STUDENTS WITH DISABILITIES

NCK Tech is dedicated to providing equal access and opportunity to all campus programs and services for students with disabilities. We are committed to providing reasonable accommodations in accordance with applicable state and federal laws including, but not limited to, Section 504 and 508 of the Federal Rehabilitation Act of 1973 and the Americans with Disabilities Act Amendments Act (ADAAA) of 2008. We strive to create a safe, respectful and inclusive environment and promote awareness, knowledge and self-advocacy.

NCK Tech acknowledges that traditional methods, programs and services are not always appropriate or sufficient to accommodate the limitations experienced by some qualified persons with disabilities. When a student's disability prevents him/her from fulfilling a course requirement through conventional procedures, consideration will be given to alternatives, **keeping in mind that academic standards must be maintained.**

Services are provided through Student Accessibility Services (SAS) staff located in the Student Success Center, on the Beloit Campus, and in Student Services, on the Hays Campus.

- Director of Learning Services, may be reached at [1-785-738-9020](tel:1-785-738-9020); or by mail at [NCK Technical College, 3033 US Hwy 24, Beloit, KS 67420](mailto:Director of Learning Services@nck.edu).

Student Responsibilities

Students requesting support services will need to register ("self-disclose" and complete Student Accessibility Services Intake and Consent Form), provide appropriate documentation (if available) including how the disability affects academic performance and suggested accommodations, and communicate with the Director of Learning Services as part of the interactive process to create an *Educational Accommodation Plan* that will notify Instructors of approved accommodations, services and/or auxiliary aids.

Students are encouraged to make timely and appropriate disclosures and requests, at least two weeks in advance of a course, program, or activity for which an accommodation is requested (or as soon as realistically possible) to allow adequate time for accommodation services to be set in place.

Accommodations, Academic Support Services, or Auxiliary Aids

Reasonable accommodations including academic support services and auxiliary aids are provided to allow students with disabilities an equal opportunity to participate in and benefit from our educational programs. Accommodations will be provided on a case-by-case basis determined by student request, documentation, intake interview, Educational Accommodation Plan team, and assessment of individual needs and course requirements.

Reasonable testing accommodations may include, but are not limited to:

- Extended testing time
- Reduced distraction testing environment
- Test reader and/or scribe
- Use of calculator

Academic support services/auxiliary aids may include, but are not limited to:

- Note-taking assistance (second set of notes, power point slides, or other visual aids provided)
- Sign Language Interpreter
- Preferential seating in the classroom
- Large print exams, handouts, signs, etc.
- Telecommunications devices
- Use of Assistive Technology

Accommodations may not fundamentally alter the nature of the program or activity, lower academic standards, present undue financial or administrative burden on the college, or pose a threat to others or public safety.

Additionally, some accommodations and services cannot be provided, such as personal devices or assistance with personal services.

Auxiliary aids may be available through a variety of sources available to individual students. The student may make a request in obtaining specialized support services from other resources such as Vocational Rehabilitation Services (VR), Recordings for the Blind, Kansas Talking Book Service, etc. For example, Vocational Rehabilitation may fund such items as transportation to the institution, tuition, textbooks, hearing aids, and other individually prescribed medical devices.

If at any time throughout the academic year, a student feels that the agreed upon accommodations are not being followed or that alternate accommodations need to be provided, the student should notify Student Accessibility Services (SAS) staff. NCK Tech is committed to student success; however, we do not require students to use accommodations. The decision of when to utilize approved accommodations or services is up to the student. Integration, self-advocacy and individual responsibility are promoted and expected.

Grievance Procedure

Any student who believes he or she has been subjected to discrimination on the basis of disability or has been denied access or accommodations, shall have the right to invoke the Grievance Procedure.

Students are encouraged to first discuss their concerns with SAS. An attempt will be made to resolve the issue(s) causing concern by assisting the student in discussions with the person(s) involved. Most situations are positively resolved through this process. If the student does not feel the concern or complaint has been appropriately resolved, he or she should contact the [Vice President of Student and Instructional Services](#) at 1-800-658-4655 or [PO Box 507, 3033 US Hwy 24, Beloit, KS 67420](#), where grievance procedures are filed for all students, including students with disabilities.

If the complaint is not resolved at the College level, a student may choose to file a complaint with the [Office for Civil Rights](#) at 1-816-268-0550 or [U.S. Department of Education, One Petticoat Lane, 1010 Walnut Street, Suite 320, Kansas City, MO 64106](#).

Confidentiality

All information regarding a student's disability is confidential. All documentation will remain separate from academic records and will not be released to an individual or source external to NCK Tech without the student's written consent. In order to provide effective services, it may be necessary to communicate limited information on a need-to-know basis regarding disability-related needs to NCK Tech faculty and/or staff.

REASONABLE SUSPICION

If reasonable suspicion of substance abuse exists regarding an employee or student based on objective criteria (including, but not limited to, behavior, appearance, demeanor, detection of the odor of alcohol or any controlled substance), the employee or student will be requested to consent to drug testing performed by NCK Tech's contract vendor at the expense of the college.

- A college administrator (or their designee) shall drive the employee or student to the vendor's site for drug testing and shall return the employee or student to his/her residence (or arrange for transportation) following the testing.

- B. Test results shall be sent directly to the college administrator, with a copy also sent to the employee or student. All test results will be considered confidential, access to the results will be limited to institutional personnel who have a legitimate need-to-know.
- C. In the event of a positive test result, the employee or student may request a retest of the sample at the employee or student's expense. The request must be submitted within 24 hours.
- D. Positive results for any illegal drugs, or prescription drugs (either not prescribed for the employee or student, or at levels above the prescribed dosage), or blood alcohol level of 0.04 or greater shall be grounds for disciplinary action, up to and including termination or expulsion.
- E. Refusal to provide a specimen for this testing shall be treated as a positive drug test result.
- F. Test results or specimens that have been determined to be altered by the employee or student shall be grounds for disciplinary action, up to and including termination or expulsion.
- G. If the employee or student tests positive for an authorized prescription drug which may impair his/her performance or judgment, the employee or student may not be permitted to participate in college activities until he/she provides a doctor's release.

RIGHT TO MODIFY THE SYLLABUS

The instructor reserves the right to modify the syllabus during the semester. Students will be given advanced notice if a change would occur.

NCKTC INCLEMENT WEATHER POLICY

School dismissals and cancelations will be announced using the NCKTC RAVE Alert system. Local media will also be notified.

NCKTC KANSAS CORE OUTCOME STATEMENT

The learning outcomes detailed in this syllabus meet, or exceed, the learning outcomes specified by the Kansas Core Outcomes Project for this course, as sanctioned by the Kansas Board of Regents.

GENERAL EDUCATION OUTCOMES

General education outcomes are academic foundation and life-long learning skills, knowledge, and perspectives identified as requirements for success by the faculty at North Central Kansas Technical College. They include skills such as written and oral communication, humanities, fine arts, math, science, and social science.

Prior to earning a certificate you will need to demonstrate that you have achieved the General Education Outcomes by completing all required performance assessments.

By achieving the competencies in this course, you will build some of skills, abilities, and attitudes required by the following general education outcomes:

Mathematics

MUTUAL RESPECT

The mathematics classes are designed for collaboration rather than competition. That means that each member of the class supports the others in their efforts to succeed. Be sure to come to each class prepared to:

1. Listen with respect.
2. Speak with respect.
3. Contribute actively to the work of your team.

NONDISCRIMINATION

North Central Kansas Technical College does not discriminate on the basis of age, race, sex, color, national origin, religion or disability in admission to, access to, or operations of its programs, services, or activities. NCKTC does not discriminate in its hiring or employment practices.

ACADEMIC HONESTY 3

Academic honesty is a core principle of learning and scholarship. When you violate this principle, you cheat yourself of the confidence that comes from knowing you have mastered the targeted skills and knowledge. You also hurt all members of the learning community by falsely presenting yourself as having command of competencies with which you are credited, thus degrading the credibility of the college, the program, and your fellow learners who hold the same credential.

All members of the learning community share an interest in protecting the value, integrity, and credibility of the outcomes of this learning experience. We also have the responsibility to censor behaviors that interfere with this effort.

The following behaviors will be subject to disciplinary action:

Plagiarism - presenting someone else's words, ideas, or data as your own work.

Fabrication - using invented information or the falsifying research or other findings.

Cheating - misleading others to believe you have mastered competencies or other learning outcomes that you have not mastered. *Examples include, but are not limited to:*

- 1. Copying from another learner's work**
- 2. Allowing another learner to copy from your work**
- 3. Using resource materials or information to complete an assessment without permission from your instructor**
- 4. Collaborating on an assessment (graded assignment or test) without permission from the instructor**
- 6. Taking a test for someone else or permitting someone else to take a test for you**

Academic Misconduct - other academically dishonest acts such as tampering with grades, taking part in obtaining or distributing any part of an assessment, or selling or buying products such as papers, research, projects or other artifacts that document achievement of learning outcomes.

ATTENDANCE 2

Importance of class attendance: Class attendance contributes significantly to academic success. Students who attend classes regularly tend to earn higher grades and have higher passing rates in courses. Excessive absences may jeopardize your grades or even your ability to continue in this course.

Class absences: If you are absent from class for any reason you are responsible for all missed work and for contacting the instructor promptly.

GUIDELINES FOR SUCCESS IN THIS CLASS

Attendance Policy:

- Attendance in class is very important. Please sign in and complete your assignment every week. Completion of homework is how you will pass this course.
- This class has three components to it. First, you are required to complete online assignments through Cengage on WebAssign. Secondly, you are to write a discussion board and third reply to *at least* one classmate during the week. There are other helpful things such as useful real-life problems that are given to you that you can

complete to extend your knowledge of the subject as well. I also include video lessons and notes to help you with your learning journey too.

Assignment Policy:

- You are permitted and encouraged to use a calculator for this class. It should be a calculator that gives you the ability to raise a number to a large exponent.
- **No late assignments are accepted** after the due date.
- Due dates will be as follows: Webassign will be due on Sunday evening at 11:59 p.m. (unless otherwise stated). We will intend to complete (usually) two chapters at a time. You will have 3 unit exams and one cumulative final. The other due dates are for your discussion boards and replies. Your discussion board will be due on Thursday at 11:59 p.m., and then the reply to a classmate will be due on Sunday evening at 11:59 p.m. I also include a section for you with extra problems where you can attempt to complete some additional real-world problems in order to increase your knowledge of statistics concepts if you so desire. I am available for assistance if needed on those as well. There are videos of me teaching basic concepts of the chapter that you can download and watch as well as notes over the video that will assist you greatly in learning the material.
- There is a rubric for the discussion and reply boards. Please use this rubric for your discussion posts. This is how I grade you for your posts. I do not ask that you use MLA or APA style in your writing but if you take information from a source, please give credit to that source in some way. Do not plagiarize and use their material as if it is your own information. I do have a strict policy against this and it will cause your assignments to result in a zero, the first time, and if it happens again, you will fail my course. Consider this as a warning. (I have had this happen in the past so please do not make me do this.) Also, do your own work and write your own posts. Resist the temptation of coming and looking at other classmate's posts before you write your own post. Copying off of a classmate is also plagiarism, not to mention academic dishonesty. Again, you will get zeros and then fail my course if I suspect you do this. Just changing a word or two but taking someone else's ideas is still cheating and plagiarism (just so you are aware).
- **THIS IS IMPORTANT!!! ALWAYS TAKE A SCREENSHOT** of your scores before you submit your assignments (**especially your tests!**) If you are testing and the internet goes down in the middle of the exam, your test score will be lost! Unless you take a screenshot of that test score and save it to your computer by going to a word document and posting it there by copying it there, then you will not have anything to back up that you took the test. You should keep that screenshot until I post your score and you ensure that I have the correct score for you. If you do not do this, you will have to deal with the consequences of not doing so, whether that means that you have a zero as a grade or you have to retake the exam or redo the assignment. Unfortunately, the internet is not reliable all of the time and I cannot be held responsible for the results of losing your grade. If you choose to take the chance by not taking a screenshot of your scores, then that is your decision.
- About the paper problems- these are meant to be more difficult than the WebAssign. These problems are used to help you think deeply about the subject and the problems and incorporate the learning that you have had that week. These problems come directly out of the book and can be used for greater understanding of the subject. Also, if you are needing a little extra help, I will be available to give that to you by emailing me and asking me for help with what concepts you are not understanding.
- **Proctor:** You will have to find a proctor for testing. This person can be a teacher from a close college, or another suitable person that is listed on the information for selecting an exam proctor page that is located in your Moodle shell. Please do not wait to get this accomplished. Your first exam will sneak up on you faster than you think and there will be extra points given to those who have it done by the due date.

Videos:

For my face-to-face classes, I use what is known as a “flipped classroom” approach to teaching. This means that I video the basics of the lesson and send it to my students. I have those videos for you to access so they can help you as well. I have also left the notes for you to download and take notes on the video if you so desire. These videos are not for your entertainment value and are only to be used for the purpose of providing information to you about the concepts of the chapter. Then the students will come to class and work on the problems in class while I am present so I can assist them if they need it. Another good reason I video the lesson, some of you may only need to hear it one time, and you can get the process down. There are some of you, though, that require more exposures to the content than that and this provides you the opportunity to watch the videos again at your convenience.

Class Importance:

1. Use calculator if possible
2. It is always okay to make mistakes in class! I will, you will, the other classmates will too. Please welcome this. Learn from them.
3. Know that I am here to help you. I want you to be successful. I spend a lot of my free time helping students individually and would not hesitate to help you either. I can at least point you in the right direction if you have questions. I will work with you if you work with me, but I cannot be the only one that wants you to succeed. **If you need help, please contact me.** I can tutor you on video or set you up with another person to study with! We also have a 24/7 tutoring system that you can have access to. But I will always make time for you!
4. It would be helpful if you show every step of your problems on paper so then you are able to use them on your test or when you need assistance. If you do not show your work on the problems on the paper that will not help you much on the test. I also will have difficulty helping you with questions if you do not show your work so that would be your first task to complete.
5. Show up to class (even online), participate, do your homework, and study twice as many hours out of class as you attend class per week. If you put in the effort, you will get the result you want.
6. This is a quick semester. Please know that your assignments are going to come quickly and going to be fast. You are doing 16 weeks in half that time. Stay focused and diligent.

"Education is the most powerful weapon which you can use to change the world." - Nelson Mandela

SUMMER 2023 SCHEDULE

Week	Chapter(s)	Assignment	Objectives Covered
Week 1	Chapter 1-4	Chapter 1 – 4 Online Introduce Yourself Discussion / Reply 1 Watch Video/ Notes/ Application Problems/ Slides (optional)	<ul style="list-style-type: none"> • Create graphical and numerical descriptions of quantitative and qualitative distribution • Distribution differences in data analysis and interpretation between observational data and data from designed experiments. Fit and interpret a simple linear regression model, including correlation and scatterplots.
Week 2	Chapter 5	Test 1 (Chapters 1 – 4) Chapter 5 Online Discussion/ Reply 2	<ul style="list-style-type: none"> • Create graphical and numerical descriptions of quantitative and qualitative distribution • Distribution differences in data analysis and interpretation between observational data

		Watch Video/ Notes/ Application Problems/ Slides (optional)		and data from designed experiments. Calculate probabilities and percentiles related to a general normal distribution
Week 3	Chapter 6 Chapter 7. 1	Chapter 6 Online Chapter 7 Online Part 1 (Chapter 7 will take 2 weeks) Discussion/ Reply 3 Watch Video/Notes/ Application Problems/ Slides (optional)	<ul style="list-style-type: none"> • • 	Create graphical and numerical descriptions of quantitative and qualitative distribution Distribution differences in data analysis and interpretation between observational data and data from designed experiments.
			<ul style="list-style-type: none"> • 	Calculate probabilities and percentiles related to a general normal distribution.
Week 4	Chapter 7.2 Chapter 8	Chapter 7 Part 2 Online Chapter 8 Online Discussion/ Reply 4 Watch Video/Notes/ Application Problems/ Slides (optional)	<ul style="list-style-type: none"> • • 	Create graphical and numerical descriptions of quantitative and qualitative distribution Distribution differences in data analysis and interpretation between observational data and data from designed experiments.
			<ul style="list-style-type: none"> • 	Calculate probabilities and percentiles related to a general normal distribution.
			<ul style="list-style-type: none"> • 	Calculate and interpret a confidence interval for a single parameter, using both large and small samples.
Week 5	Chapter 9	Test 2 (Chapter 5 – 8) Chapter 9 Online Discussion/ Reply 5 Watch Video/ Notes/ Application Problems/ Slides (optional)	<ul style="list-style-type: none"> • • 	Create graphical and numerical descriptions of quantitative and qualitative distribution Distribution differences in data analysis and interpretation between observational data and data from designed experiments.
			<ul style="list-style-type: none"> • 	Perform and interpret a test of hypotheses for a single parameter, using both large and small samples.
Week 6	Chapter 10	Chapter 10 Online Chapter 11 Online Discussion/ Reply 6 Watch Video/Notes/ Application Problems/ Slides (optional)	<ul style="list-style-type: none"> • • 	Create graphical and numerical descriptions of quantitative and qualitative distribution Distribution differences in data analysis and interpretation between observational data and data from designed experiments.
			<ul style="list-style-type: none"> • 	Perform and interpret a test of hypotheses for a single parameter, using both large and small samples.
			<ul style="list-style-type: none"> • 	Perform and interpret statistical inference on the difference of two parameters.

			•	Fit and interpret a simple linear regression model, including correlation and scatterplots.
Week 7		Test 3 (Chapters 9-11)		
Week 8		Final Exam (Chapters 1-7)		