Introductory Statistics - Math 1342.082
Course Syllabus: Spring 2018

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Office Hours	Monday	Tuesday	Wednesday	Thursday	Friday	Online
	1:00-3:30	9:30 - 11:00 1:00 - 3:30	1:00 - 3:30	10:00 - 11:00	As needed	Professor checks email often daily

The information contained in this syllabus is subject to change without notice. Students are expected to be aware of any additional course policies presented by the instructor during the course.

Catalog Course Description (include prerequisites): This is an 8 week elementary course in Statistics, designed to meet the needs of nursing, business, education and behavioral science students. Included are the following topics and their applications in various fields: frequency distributions, probability, random sampling, central tendency, dispersion, normal distribution, binomial distribution, sampling distributions, confidence intervals, hypothesis testing, Chi square, analysis of variance (ANOVA, and linear regressions analysis). PREREQUISITE: MATH 0305 (Intermediate Algebra) or its equivalent.

Students are expected to have a sufficient algebra background in addition to the ability to read at college-level. Students will earn three hours college credit for each course.

NEW TEXTBOOK INFORMATION – VERY IMPORTANT, MUST READ:

Welcome to MATH 1342.082! This 8 week course will take part in a new program called Exclusive Access, The NTCC Bookstore's new digital course material service. This new service enables the bookstore to offer students instant access to online course materials, like textbooks and class websites, at the **lowest price possible**. This semester your course will be included in a select number of courses taking part in this newly available program. The bookstore has implemented this program to save students as much money as possible to combat the current high prices of course materials.

So what does this mean for you, the student? It means you immediately have access to your digital course materials on the first day of class! To gain access to your content you'll log in to your Blackboard course and follow the instructions in the "Start Here" folder.

Your student account has been charged the bookstore's exclusive low price for the MyStatLab code – The only thing you need to purchase now is the loose-leaf binder textbook in the NTCC bookstore. It is the cheaper version of the hard-back textbook.

If, for some reason, you decide you do not want to purchase these materials from the bookstore, you can opt-out of the Exclusive Access program by going to the RedShelf link in your Blackboard course, clicking the View Course Materials button, scrolling to the bottom of the page to click the grey opt-out button and following the prompts. If you opt-out by the add/drop deadline, you will receive a refund to your student account. Please contact the bookstore with any questions about refunds.

This program is aimed to help students navigate the world of ever-rising textbook prices and offer all students access to the materials at the start of instruction. If you have any questions concerning Exclusive Access, please reach out to the bookstore at ntaylor@ntcc.edu or email help@redshelf.com.

Required Textbook (this is the one that you've already purchased when you registered for the class):

Triola, Essentials of Statistics, 5th Edition (loose-leaf binder version – pick up in the bookstore) &

0-321-69464-3 TRIOLA / DIGITAL TEXT W/MYSTATSLAB (This part is automatically built into your Blackboard account when you register.)

To access your course materials, click on the Course Materials Access link within the Start Here folder on Blackboard.
For additional information on Exclusive Access, please access the textbook information provided on the portal (student tab, click on Academics then Textbooks.)

Recommended Reading(s):
None

Student Learning Outcomes:

Upon successful completion of this course, students will

1342.1   Demonstrate an understanding of descriptive statistics.

1342.2   Exhibit an understanding of the basic principles of sampling.

1342.3   Determine values using various probability distributions.

1342.4   Develop an ability to generalize from sample to population.

1342.5   Utilize various hypothesis tests including linear regression and correlation.

Core Curriculum Purpose and Objectives:

Through the core curriculum, students will gain a foundation of knowledge of human cultures and the physical and natural world; develop principles of personal and social responsibility for living in a diverse world; and advance intellectual and practical skills that are essential for all learning.

Courses in the foundation area of mathematics focus on quantitative literacy in logic, patterns, and relationships. In addition, these courses involve the understanding of key mathematical concepts and the application of appropriate quantitative tools to everyday experience.

College Student Learning Outcomes:

Critical Thinking Skills

CT.1   Students will demonstrate the ability to 1) analyze complex issues, 2) synthesize information, and 3) evaluate the logic, validity, and relevance of data.

Communication Skills

CS.1   Students will effectively develop, interpret and express ideas through written communication.

Empirical and Quantitative Skills

EQS.1 Students will manipulate numerical data or observable facts by organizing and converting relevant information into mathematical or empirical form

EQS.2 Students will analyze numerical data or observable facts by processing information with correct calculations, explicit notations, and appropriate technology.

EQS.3 Students will draw informed conclusions from numerical data or observable facts that are accurate, complete, and relevant to the investigation.

SCANS Skills:
N/A

Course Outline:
  I.   Introduction to Statistics
            A. Statistical and Critical Thinking
            B. Types of Data
            C. Collecting Sample Data

  II.   Summarizing and Graphing Data
            A. Frequency Distributions
            B. Histograms
            C. Graph Qualities

  III.   Statistics for Describing, Exploring, and Comparing Data
            A. Measures of Center
            B. Measures of Variation
            C. Measures of Relative Standing and Boxplots

IV.   Probability
    A. Basics
    B. Addition Rule
    C. Multiplication Rules
    D. Counting

V.   Discrete Probability Distributions
    A. Probability Distributions
    B. Binomial Probability Distributions

VI.   Normal Probability Distributions
    A. Standard Normal Distribution and Applications
    B. Sampling Distributions and Estimators
    C. The Central Limit Theorem
    D. Assessing Normality
    E. Normal as Approximation to Binomial

VII.   Estimates and Sample Sizes
    A. Estimating a Population Proportion
    B. Estimating a Population Mean
    C. Estimating a Population Standard Deviation or Variance

VIII. Hypothesis Testing
    A. Basics of Hypothesis Testing
    B. Testing a Claim about a Mean

IX.   Inferences from Two Samples
    A. Two Means: Independent Samples
    B. Two Means: Dependent Samples

X.   Correlation and Regression
    A. Correlation
    B. Regression

XI.   Chi-Square
    A. Test of Independence
    B. Test of Homogeneity

Evaluation/Grading Policy:

You will have 3 major 100 point examinations, evenly spaced throughout the semester. Each of those 3 exams will be worth 15% of the final grade (total 45% of final grade). Quizzes will count for 10% of your grade. Homework will count a total of 25% of your final grade, and the Final Exam will count 20% of your overall grade.

Tests/Exams:

Exam #1	15%
Exam #2	15%
Exam #3	15%
Quizzes (5)	10%
Online Homework Assignments*	25%
Final Exam	20%

TOTAL	100 %

"A" - 90%
"B" - 80%
"C" - 70%
"D" - 60%
"F" - Below 60%

* Any online assignment, quiz, or exam not submitted (it will say "past due") will receive a grade of zero at the end of the semester when I average grades.

<u>IMPORTANT DUE DATES: (write these down now on your calendar)</u>
Quiz #1: due by midnight on 1/22
Quiz #2: due by midnight on 1/26
Quiz #3: due by midnight on 1/31
Quiz #4: due by midnight on 2/11
Quiz #5: due by midnight on 2/16

<u>EXAMS</u> – All open for 2 days. Opens on the 1st day at 8 am and closes at midnight on the 2nd day.
Exam #1: Feb 3-4
Exam #2: Feb 20-21
Exam #3: Mar 3-4
Final: Mar 7-8

Other Course Requirements:
A graphing calculator is required for this course. TI-84 Plus is recommended.

Student Responsibilities/Expectations:
Being an online student requires you to keep up with all assignments and Exams on their DUE DATES. This takes intrinsic motivation and commitment to the course.

NTCC Academic Honesty Statement:
"Students are expected to complete course work in an honest manner, using their intellects and resources designated as allowable by the course instructor. Students are responsible for addressing questions about allowable resources with the course instructor. NTCC upholds the highest standards of academic integrity. This course will follow the NTCC Academic Honesty policy stated in the Student Handbook."

Academic Ethics
The college expects all students to engage in academic pursuits in a manner that is beyond reproach. Students are expected to maintain complete honesty and integrity in their academic pursuit. Academic dishonesty such as cheating, plagiarism, and collusion is unacceptable and may result in disciplinary action. Refer to the student handbook for more information on this subject.

ADA Statement:
It is the policy of NTCC to provide reasonable accommodations for qualified individuals who are students with disabilities. This College will adhere to all applicable federal, state, and local laws, regulations, and guidelines with respect to providing reasonable accommodations as required to afford equal educational opportunity. It is the student's responsibility to request accommodations. An appointment can be made with Shannin Garrett, Academic Advisor/Coordinator of Special Populations located in the College Connection. She can be reached at 903-434-8218. For more information and to obtain a copy of the Request for Accommodations, please refer to the NTCC website - Special Populations.

Family Educational Rights And Privacy Act (**Ferpa**):
The Family Educational Rights and Privacy Act (FERPA) is a federal law that protects the privacy of student education records. The law applies to all schools that receive funds under an applicable program of the U.S. Department of Education. FERPA gives parents certain rights with respect to their children's educational records. These rights transfer to the student when he or she attends a school beyond the high school level. Students to whom the rights have transferred are considered "eligible students." In essence, a parent has no legal right to obtain information concerning the child's college records without the written consent of the student. In compliance with FERPA, information classified as "directory information" may be released to the general public without the written consent of the student unless the student makes a request in writing. Directory information is defined as: the student's name, permanent address and/or local address, telephone listing, dates of attendance, most recent previous education institution attended, other information including major, field of study, degrees, awards received, and participation in officially recognized activities/sports.

Other Course Policies:

The college's official means of communication is via your email address. I will use your email address, Blackboard, and MyMathLab to communicate with you outside of class. I will also use Remind 101 (instructions on Blackboard in the "Start Here" folder).