Introductory Statistics – MATH 1342.001, Traditional F2F

Course Syllabus: Spring 2020

"Northeast Texas Community College exists to provide personal, dynamic learning experiences empowering students to succeed."

Professor: Dr. Leah Reagan

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	Monday	Tuesday	Wednesday	Thursday	Friday	Online
Office Hours	10:30 – 11:00 1:00 – 1:30 3:00 – 4:00	10:30 – 11:00 1:00 - 3:30	10:30 – 11:00 1:00 – 4:00	10:30 – 11:00 12:30 – 1:30		Professor checks email multiple times daily.

This syllabus serves as the documentation for all course policies and requirements, assignments, and instructor/student responsibilities.

Information relative to the delivery of the content contained in this syllabus is subject to change. Should that happen, the student will be notified.

Course Description:
This is an 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(s): Appropriate test score / TSI placement with multiple measures

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.

Evaluation/Grading Policy:

You will have 3 major 100 point examinations, evenly spaced throughout the semester. Each exam 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.

If an exam is missed or failed, the highest possible make-up grade is a 70 (with instructor notification prior to the exam missed).

Tests/Exams:

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

TOTAL	100 %

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

QUIZ rules: If you miss a quiz, you will receive a zero for that quiz. No exceptions, no re-takes. I will drop your lowest quiz grade at the end of the semester (I will drop only 1.)

** 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.

Required Instructional Materials:
Triola, *Elementary Statistics*, 13th Edition
Printed textbook with MyStatLab access code.

Publisher: Pearson Publishing Co. (www.pearson.com)

ISBN Number-978-0-13-474853-5 (Inclusive Access Content – MyStatLab access code)
ISBN Number-978-0-13-446306-3 (Loose-leaf print upgrade)

Note: The NTCC Bookstore link is at www.ntcc.edu

Optional Instructional Materials: None

Minimum Technology Requirements:
Students must have a working computer at home and reliable Internet service. A Graphing Calculator is required. TI-84 is preferred, but other models may be approved by the instructor.

Required Computer Literacy Skills:

1) Communicate via email;
2) Saving and reloading saved files;
3) Navigate Blackboard to access posted materials and MyStatLab assignments.

Course Structure and Overview:
This is a 16-week traditional face-to-face course where students are required to access graded activities on MyStatLab via the Blackboard Learning Management System. Students should attend class twice a week and take notes during each class. A typical class involves general participation by all students in discussions involving mathematical and statistical principles and the algorithms needed to apply these principles. Students should come to class prepared, bringing paper, pencils, a calculator, and sometimes a laptop (instructor will tell you when to bring your laptop). Students are required to complete online homework in addition to quizzes, and over the course of the semester, three exams and a final exam. It is very important students keep up with course materials and assignments since this is a very fast-paced, college-level course. Students are expected to watch posted instructional videos, read course textbook, and complete online assignments located in MyStatLab by due dates.

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. Correlation and Regression
   A. Correlation
   B. Regression

X. Chi-Square (if time permits)
   A. Test of Independence
   B. Test of Homogeneity

Communications:
Emails and Remind texts will be responded to within 24 hours.

The college's official means of communication is via your campus email address. Your instructor will use your campus email, Blackboard, and Remind texting to communicate with you outside of class. You need to check these daily so that you won't miss any information from your instructor. Make sure you keep your campus email cleaned out and below the limit so you can receive important messages.

Institutional/Course Policy:

Attendance is extremely important in this class. It is a very fast-paced class, and students should attend every class. If a student is sick, he/she should contact the instructor prior to missing class. Students need to be self-motivated to keep up with the work. Students should be working on homework daily in order to keep up. In addition to attending class, students need to watch the videos provided in Blackboard and on MyStatLab to help them learn the material. The videos are very helpful.

No late work will be accepted. It is the student's responsibility to check Blackboard and NTCC email for important information/announcements regarding the course. Students should be working on course material via Blackboard daily. Do not wait until the last minute to complete and submit assignments in case of technology issues.

NTCC Academic Honesty/Ethics Statement:
NTCC upholds the highest standards of academic integrity. The college expects all students to engage in their academic pursuits in an honest manner that is beyond reproach using their intellect and resources designated as allowable by the course instructor. Students are responsible for addressing questions about allowable resources with the course instructor. Academic dishonesty such as cheating, plagiarism, and collusion is unacceptable and may result in disciplinary action. This course will follow the NTCC Academic Honesty and Academic Ethics policies stated in the Student Handbook. Refer to the student handbook for more information.

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 the Academic Advisor/Coordinator of Special Populations located in Student Services and can be reached at 903-434-8264. For more information and to obtain a copy of the Request for Accommodations, please refer to special population page on the NTCC website.

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.

Tentative Course Timeline (*note* instructor reserves the right to make adjustments to this timeline at any point in the term):

Course Schedule:

1	**ASSIGNMENTS:** ORIENTATION Homework	**Tentative Due Dates:** Week 1
2	Chapter 1 HW – Introduction to Statistics	Week 1
3	Chapter 1 Review Quiz	Week 2
4	Chapter 2 HW – Exploring Data with Tables & Graphs	Week 2
5	Chapter 2 Review Quiz	Week 3
6	Chapter 3 HW – Describing, Exploring, & Comparing Data	Week 3
7	Chapter 3 Quiz	Week 4
8	REVIEW FOR EXAM #1	Week 4
9	**EXAM #1 (Chapters 1,2,3)**	**Week 4**
10	Section 4.1 HW – Basic Concepts of Probability	Week 5
11	Section 4.2 HW – Addition Rule & Multiplication Rule	Week 5
12	Section 4.3 HW – Complements & Conditional Probability	Week 5
13	Section 4.4 HW - Counting	Week 6
14	Chapter 4 Review Quiz	Week 6
15	Chapter 5 HW – Discrete Probability Distributions	Week 7
16	Chapter 5 Review Quiz	Week 8

17	Chapter 6 HW - Normal Probability Distributions			Week 8		
18	Chapter 6 Review Quiz			Week 8		
19	REVIEW for Exam #2 (Chapters 4, 5, 6)			Week 9		
20	**EXAM #2 (Chapters 4, 5, & 6)**			**Week 9**		
21	Chapter 7 HW – Estimating Parameters & Determining Sample Sizes			Week 10		
22	Chapter 7 Review Quiz			Week 10		
23	Chapter 8 HW – Hypothesis Testing			Week 11		
24	Chapter 8 Review Quiz			Week 11		
25	Chapter 10 HW – Correlation & Regression			Week 12		
26	Chapter 10 Review Quiz			Week 12		
27	Review for Exam #3			Week 13		
28	**EXAM #3 - Chapters 7, 8, & 10**			**Week 14**		
29	Review for Final Exam (Chapters 7, 8, 10)			Week 15		
30	**FINAL EXAM!!!**			**Week 16**		