Introductory Statistics - Math 1342.078TR

Course Syllabus: Summer I 2017 – Pittsburg HSC

"Northeast Texas Community College exists to provide responsible, exemplary learning opportunities."

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Office Hours	Monday	Tuesday	Wednesday	Thursday	Friday	Online
	Online Appointment	9:00-10:00	9:00-10:00	9:00-10:00	Online Appointment	Everyday

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 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.

Required Textbook(s):
Triola, Essentials of Statistics, 5th Edition
Publisher: Pearson, Boston, MA
ISBN Number: # 0-321-92459-2
Note: The NTCC Bookstore link is at www.ntcc.edu.

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

Lectures & Discussions:
A typical class will involve general participation by all members in a discussion regarding the mathematical principles and procedures being studied. Small as well as large group activities will be employed, and students are expected to develop as team members as well as individuals. This is a hybrid class in which students are required to access graded activities online using blackboard instructional delivery system.

Evaluation/Grading Policy:

Two major 150 point examinations, a midterm and final, will be given and will be worth 75% of the final grade. A series of special online assignments, quizzes, and homework valued at 100 points will be worth 25% of the final grade.

2 Major Exams	75%	A – 90%
Special Assignments	25%	B – 80%
TOTAL	100%	C – 70%
		D – 60%
		F – Below 60%

Tests/Exams:
Exam information is located above in the Evaluation/Grading Policy. Material covered on each exam is located below in the Assignments section.

Other Course Requirements:
A graphing calculator is highly recommended for this course, but not required.

Student Responsibilities/Expectations:
Regular and punctual attendance at all scheduled classes is expected. Attendance is necessary for successful completion of course work. Excused absences may be permitted at the discretion of the instructor for illness, official college activities, or personal emergencies. The student is responsible for initiating procedures for make-up work. All make-up exams will coincide with the final exam unless arrangements are made prior to missing an examination.

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 arrange an appointment with a College counselor to obtain a Request for Accommodations form. For more information, please refer to the NTCC Catalog or Student Handbook.

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:
There will be no cell phone usage in the classroom. Students will be warned if caught using a phone during class. A student will be removed from class if the disruption continues.

The college's official means of communication is via your campus email address. I will use your campus email address, Blackboard, and MyMathLab to communicate with you outside of class. Make sure you keep your campus email cleaned out and below the limit so you can receive important messages.