



# Math 1342.881 Introductory Statistics Online

Course Syllabus: Summer 2019 (Subject to Change)

Class Meetings: Online (No in Class Meetings)

(6/10/2019 – 7/11/2019)

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

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Office Hours	Monday	Tuesday	Wednesday	Thursday	Friday	Online
	Online	Online	Online	Online	Online	Email-anytime Zoom meeting by appointment.

*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 an 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):**

Good news: your textbook for this class is available for free online! If you prefer, you can also get a print version at a very low cost.

Your book is available in web view and PDF for free. You can also choose to purchase on iBooks or get a print version via the campus bookstore or from OpenStax on Amazon.com.

You can use whichever formats you want. Web view is recommended -- the responsive design works seamlessly on any device. If you buy on Amazon, make sure you use the link on your book page on [openstax.org](http://openstax.org) so you get the official OpenStax print version. (Simple printouts sold by third parties on Amazon are not verifiable and not as high-quality.)

Introductory Statistics from OpenStax, Print ISBN 1938168208, Digital ISBN 1947172050, [www.openstax.org/details/introductory-statistics](http://www.openstax.org/details/introductory-statistics)

**Publisher:** OpenStax

**ISBN Number:** Print: 1938168208 Digital: 1947172050 Note:  
The NTCC Bookstore link is at [www.ntcc.edu](http://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:**

This is a fast paced five-week class where students will be required to complete activities in Blackboard. A typical class will involve general participation by all members in a discussion regarding the mathematical principles and procedures being studied. Some small as well as large group activities will be employed, and students are expected to develop as team members as well as individuals.

**Evaluation/Grading Policy:**

Make-up exams will coincide with the final exam unless the student proactively schedules before the exam with the instructor. Late work will not be accepted unless coordinated in advance with instructor. The midterm exam will count as 30% of the final grade and the final exam will count as 30% of the final grade. **The Midterm and Final Exam MUST be proctored.** A daily grade consisting of online assignments (discussions and/or drop-box assignments), homework via MyOpenMath will total to be 40% of the final grade.

Midterm Exam	30%
Assignments (Daily Grade)	40%
<u>Final Exam</u>	<u>30%</u>
TOTAL	100%

"A"	90 - 100%
"B"	80 - 89%
"C"	70 - 79%
"D"	60 - 69%
"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 required for this course. The instructor uses a TI-83 or TI-84. Please contact your instructor with any questions regarding the graphing calculator requirement before purchasing.

**Student Responsibilities/Expectations:**

Students are expected to abide by Netiquette rules when communicating online. See this link for details <http://www.albion.com/netiquette/corerules.html>.

The college's official means of communication is via your campus email address. I will use your campus email address and Blackboard 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.

**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 Katherine Belew, Academic Advisor/Coordinator of Special Populations located in the College Connection. She can be reached at 903-434-8104. For more information and to obtain a copy of the Request for Accommodations, please refer to the [Office of 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.

**NTCC Campus Carry Policy:**

Please review the [Campus Carry Policy](#) at the link provided.

**Other Course Policies:**

Students are expected to be respectful toward classmates and professor at all times! Review Student Conduct in the [Student Handbook](#).