

## MATH 250: Statistics I

<b>Location:</b>	Evening
<b>Address:</b>	1001 Rogers Street Columbia, MO 65216
<b>Section:</b>	18SUMR1/MATH/250/EVA
<b>Semester Credit Hours:</b>	3
<b>Class Day(s) and Time(s):</b>	Wednesday 5:30 PM - 9:30 PM from April 29, 2019 to June 22, 2019

### ☰ Syllabus Contents

- Course Information
- Textbooks
- Technology Requirements
- Course Learning Outcomes
- Grading
- Schedule of Due Dates
- Assignment Overview
- Course Outline
- Additional Resources
- Columbia College Policies & Procedures

### 📘 Course Information

#### Catalog Description

Introduction to descriptive and inferential statistics. Topics include collection of data, numerical and graphical descriptive methods, linear correlation and regression, probability concepts and distributions, confidence intervals and hypothesis testing for means and proportions.

**Prerequisite:** Grade of C or higher in MATH 104, or a score of 20 or higher on the math portion of the ACT or a score of 480 or higher on the math portion of the SAT or a passing score on the Columbia College math placement exam. G.E.

### 📖 Textbooks

As part of Truition<sup>SM</sup>, students will receive their course materials automatically as described below.

📖 Michael Sullivan III. (2018). *Fundamentals of Statistics: Informed Decisions Using Datas: Informed Decisions Using Data with access to MyLabStatistics* (5th). Pearson. eText

#### Bookstore Information

Visit <https://www.ccis.edu/bookstore.aspx> for details.

#### eText Information

If a course uses an eText, (see textbook information above) the book will be available directly in Desire2Learn (D2L) seven

days before the session begins, if registered for courses prior to that date. Upon first login to VitalSource, students should use their CougarMail email address; alternate email addresses cannot be used. More information about how to use the VitalSource platform, including offline access to eTexts, can be found in D2L.

#### Physical Course Materials Information

Students enrolled in courses that require physical materials will receive these materials automatically at the shipping address on file with Columbia College. Delivery date of physical materials is dependent on registration date and shipping location. Please refer to confirmation emails sent from Columbia College for more details on shipping status.

**Returns:** Students who drop a class are responsible for returning any physical course materials that were shipped. To initiate a return, visit [Ingram Returns](#) to generate a pre-paid return label. Materials from dropped courses must be returned within 30-days of receipt. **Failure to return physical items from a dropped course will result in a charge to the student account for all unreturned items.**

**Note:** Students who opt-out of having their books provided as part of [TruTition<sup>SM</sup>](#) are responsible for purchasing their own course materials.

#### Technology Requirements

##### **THIS IS A TECHNOLOGY-ENRICHED COURSE WHICH COMBINES IN-SEAT INSTRUCTION WITH ONLINE LEARNING.**

Participation in this course will require the basic technology for all classes at Columbia College:

- A computer with reliable internet access
- A web browser
- Acrobat Reader
- Microsoft Office or another word processor such as Open Office

For more information, see [technical requirements](#).

#### Course Learning Outcomes

1. Construct and interpret appropriate graphical displays of qualitative and quantitative data.
2. Describe distributions of quantitative data in terms of shape, center, and spread.
3. Use appropriate methods to explore and describe the relationship between two qualitative or two quantitative variables.
4. Compute and interpret probabilities and conditional probabilities and use probabilities to determine if events are independent.
5. Solve applied problems involving discrete and continuous random variables, including the binomial and normal random variables.
6. Compute and interpret point estimates and interval estimates for a mean or proportion.
7. Test hypotheses for a single mean or proportion using P-values and interpret the results.

#### Grading

##### Grading Scale

Grade	Points	Percent
A	900 - 1000	90-100%
B	800 - 899	80-89%
C	700 - 799	70-79%
D	600 - 699	60-69%
F	0 - 599	0-59%

##### Grade Weights

Assignment Category	Points	Percent
Online Learning Activity	150	15%
Weekly Evaluations	400	40%
Weekly Homework	180	18%

Project	70	7%
Final Examination	200	20%
<b>Total</b>	<b>1000</b>	<b>100%</b>

### Schedule of Due Dates

#### Week 1

Assignment	Points	Due
Chapter One and Chapter Two	25	May 8

#### Week 2

Assignment	Points	Due
MyLabsPlus Quiz 1	25	May 8
Chapter Three and Chapter Four	25	
Evaluation 1	80	

May 15

#### Week 3

Assignment	Points	Due
MyLabsPlus Quiz 2	25	May 15
Chapter Five	25	
Evaluation 2	80	

May 22

#### Week 4

Assignment	Points	Due
MyLabsPlus Quiz 3	25	May 22
Chapter Six and Chapter Seven	25	May 29
Evaluation 3	80	Week of May 22

#### Week 5

Assignment	Points	Due
MyLabsPlus Quiz 4	25	May 29
Statistics Project	--	
Chapter 8 and Chapter 9	25	June 5
Evaluation 4	80	

June 19

#### Week 6

Assignment	Points	Due
MyLabsPlus Quiz 5	25	June 5
Chapter 10	25	
Evaluation 5	80	

June 12

#### Week 7

Assignment	Points	Due
MyLabsPlus Quiz 6	25	June 12
Course Synthesis	30	June 19

#### Week 8

Assignment	Points	Due
Final Examination	200	June 19
Project Presentation	70	

**Total Points: 1000**

## Assignment Overview

### Online Component Expectations

This course uses an online learning application called MyLabsPlus, which is designed to accompany your textbook. You must have access to MyLabsPlus in order to complete the online graded quizzes for this course. There are 6 MyLabsPlus quizzes worth 25 points each. Each quiz includes 10 - 21 items. There is a 1 hour time limit, and problems for each week may be accessed multiple times before the deadline for each module. You will be allowed two attempts for every quiz. They are assigned during Weeks 2 – 7 and will cover content from Chapters 1 – 10 of the textbook.

## Course Outline

Click on each week to view details about the activities scheduled for that week.

### Week 1:

#### **Chapter One and Chapter Two**

Chapter One and Chapter Two will be covered this evening. The concepts covered include topics from the following sections.

- 1.1: Introduction to the Practice of Statistics
- 1.2: Observational Studies versus Designed Experiments
- 1.3: Simple Random Sampling
- 1.4: Effective Sampling Methods
- 1.5: Bias in Sampling
- 1.6: The Design of Experiments
- 2.1: Organizing Qualitative Data
- 2.2: Organizing Quantitative Data
- 2.3: Graphical Misrepresentations of Data

### Week 2:

#### **MyLabsPlus Quiz 1**

MyLabsPlus Quiz 1 (Covers Sections 1.1 – 1.4, 2.1 – 2.3)

#### **Chapter Three and Chapter Four**

We will cover the following sections from Chapter Three and Chapter Four

- 3.1: Measures of Central Tendency
- 3.2: Measures of Dispersion
- 3.3: Measures of Position and Outliers
- 3.4: The Five-Number Summary and Box-plots
- 4.1: Scatter Diagrams and Correlation
- 4.2: Least-Square Regression
- 4.4: Contingency Tables and Association

## Evaluation 1

Evaluation One will include sections 1.1-1.6.

## Week 3:

### MyLabsPlus Quiz 2

MyLabsPlus Quiz 2 (Covers Sections 3.1 – 3.5, 4.1, 4.2, 4.4)

### Chapter Five

Sections covered in class this evening include the following.

5.1: Probability Rules

5.2: The Addition Rule and Complements

5.3: Independence and Multiplication Rule

5.4: Conditional Probability and the General Multiplication Rule

5.5: Counting Techniques

### Evaluation 2

Evaluation Two will include sections 2.1-3.1 as defined by the syllabus.

## Week 4:

### MyLabsPlus Quiz 3

MyLabsPlus Quiz 3 (Covers Sections 5.1 – 5.4)

### Chapter Six and Chapter Seven

The following sections from chapters 6 & 7 will be discussed this evening.

6.1: Discrete Random Variables

6.2: The Binomial Probability Distribution

7.1: Properties of the Normal Distribution

7.2: Applications of the Normal Distribution

7.3: Assessing Normality

### Evaluation 3

Evaluation Three will include sections 3.2-3.5 as defined by the syllabus .

## Week 5:

### MyLabsPlus Quiz 4

MyLabsPlus Quiz 4 (Covers Sections 6.1, 6.2, 7.1 – 7.3)

### Statistics Project

Students may work independently or in a group of two to present a statistical project to their peers. The details of the project will be discussed in class. The final project grade will be recorded in week 8.

### Chapter 8 and Chapter 9

The following sections will be covered in class this evening.

8.1: Distribution of the Sample Mean

8.2: Distribution of the Sample Proportion

9.1: Estimating the Population Proportion

9.2: Estimating the Population Mean

9.3: Putting it Together, Which Procedure to Use

#### Evaluation 4

Evaluation Four will cover the sections 4.1, 4.2, and 4.4.

#### Week 6:

##### MyLabsPlus Quiz 5

MyLabsPlus Quiz 5 (Covers Sections 8.1, 8.2, 9.1 – 9.3)

##### Chapter 10

The following sections will be included in the class lesson for today.

10.1: The Language of Hypothesis Testing

10.2: Hypothesis Testing for a Population Proportion

10.3: Hypothesis Tests for a Population Mean

##### Evaluation 5

Evaluation Five covers sections 5.1 - 6.2 as defined by the syllabus.

#### Week 7:

##### MyLabsPlus Quiz 6

MyLabsPlus Quiz 6 (Covers Sections 10.1 – 10.3)

##### Course Synthesis

This class will include the culmination of the concepts taught and being discussed throughout the session. This class meeting will include additional discussion regarding topics in Chapters Nine and Ten. A practice test will be assigned as homework.

#### Week 8:

##### Final Examination

The final examination will be taken this evening. Details of the final will be discussed during class.

##### Project Presentation

Each student will present their project to the class.

#### + Additional Resources

Online databases are available at [library.ccis.edu](http://library.ccis.edu). You may access them using your CougarTrack login and password when prompted.

##### Technical Support

If you have problems accessing the course or posting your assignments, contact your instructor, the Columbia College Technology Solutions Center, or the D2L Helpdesk for assistance. If you have technical problems with the VitalSource eText reader, please contact VitalSource. Contact information is also available within the online course environment.

- Columbia College Technology Solutions Center: [CCHelpDesk@ccis.edu](mailto:CCHelpDesk@ccis.edu), 800-231-2391 ex. 4357
- D2L Helpdesk: [helpdesk@d2l.com](mailto:helpdesk@d2l.com), 877-325-7778
- VitalSource: [support@vitalsource.com](mailto:support@vitalsource.com), 1-855-200-4146

##### Online Tutoring

SmarterThinking is a free online tutoring service available to all Columbia College students. SmarterThinking provides real-time online tutoring and homework help for Math, English, and Writing. SmarterThinking also provides access to live tutorials in writing and math, as well as a full range of study resources, including writing manuals, sample problems, and study skills manuals. You can access the service from wherever you have a connection to the Internet. I encourage you to take advantage of this free service

provided by the college.

Access Smarthinking through CougarTrack at [Students -> Academics -> Resources](#).

## 📌 Columbia College Policies and Procedures

### Attendance

Columbia College students are expected to attend all classes and laboratory periods for which they are enrolled. Students are directly responsible to instructors for class attendance and work missed during an absence for any cause. If absences jeopardize progress in a course, an instructor may withdraw a student from the course with a grade of "F" or "W" at the discretion of the instructor. For additional information, see the [Columbia College policy on Student Attendance](#).

### Academic Integrity

Columbia College students must fulfill their academic obligations through honest, independent effort. Dishonesty is considered a serious offense subject to strong disciplinary actions. Activities which constitute academic dishonesty include plagiarism, unauthorized joint effort on exams or assignments, falsification of forms or records, providing false or misleading information, or aiding another in an act of academic dishonesty. For more information, see the [Columbia College Academic Integrity Policy and Procedures](#).

### Class Conduct and Personal Conduct

Students must conduct themselves so others will not be distracted from the pursuit of learning. Students may be disciplined for any conduct which constitutes a hazard to the health, safety, or well-being of members of the College community or which is deemed detrimental to the College's interests. Discourteous or unseemly conduct may result in a student being asked to leave the classroom. For more information, see the [Columbia College Student Code of Conduct](#) and [Student Behavioral Misconduct Policy and Procedures](#).

### Cancelled Class Make-Up

Classes cancelled because of inclement weather or other reasons must be rescheduled. For more information, see the [Columbia College Inclement Weather Policy](#).

### Make-Up Examinations

Make-up examinations may be authorized for students who miss regularly scheduled examinations due to circumstances beyond their control. Make-up examinations must be administered as soon as possible after the regularly scheduled examination period and must be administered in a controlled environment.

### Adding, Dropping, or Withdrawing from a Course

Students may add a course through Wednesday of the first week of the session and drop a course without academic or financial liability through close of business on Monday of the second week of the session. Once enrolled, a student is considered a member of that class until he or she officially drops or withdraws in accordance with College policy. An official drop/withdrawal takes place only when a student has submitted a Drop/Add/Withdrawal form. A failure to attend class, or advising a fellow student, staff or adjunct faculty member of an intent to withdraw from a class does not constitute official drop/withdrawal. The drop/add/withdrawal periods begin the same day/date the session starts, not the first day a particular class begins. If a student stops attending a class but does not submit the required Drop/Withdrawal form a grade of "F" will be awarded. For more information, see the [Columbia College Registration Policy and Procedures](#).

### Withdrawal Excused

A student may request an excused withdrawal (WE) under extraordinary circumstances by submitting a Drop/Withdrawal form accompanied by a complete explanation of the circumstances and supporting documentation to the location director. The WE request must include all classes in which the student is currently enrolled. The Vice President for Adult Higher Education is the approving authority for all WE requests. A student who receives approval of their WE request may still be required to return some or all of the federal financial assistance received for the session. For more information, see the [Columbia College Withdrawal Policy](#).

### Incomplete

A student may request that the instructor award a grade of "I" due to extraordinary circumstances (unforeseen or unexpected circumstances beyond the student's control) that prevent a student from completing the requirements of a course by the end of a session. An "I" will not be given because a student is failing, negligent or not meeting requirements. If the instructor believes an "I" is appropriate, the instructor will specify the work needed to complete the course and the time allowed to complete the work. Work missed must be made up within two subsequent sessions unless the instructor specifies an earlier date. Extensions beyond two sessions must be approved by the Vice President for Adult Higher Education. If the work is completed during the specified time period, the instructor will change the "I" to the grade earned. Incompletes that are not finished are to be

automatically recorded as an F unless the instructor submits a grade change form. For more information, see the [Columbia College Undergraduate Grading Policy](#).

## Grade Appeal

A student may appeal any grade given if it is believed to be in error or in conflict with Columbia College policy and procedures. The student must state in writing to the location director why the grade awarded is believed to be in error and request a desired remedy. The faculty member who awarded the grade will be given the opportunity to comment on all student allegations. If the issue cannot be resolved at the location the appeal will be transmitted through the location director to the Vice President for Adult Higher Education. A grade appeal must be received for review by the Vice President for Adult Higher Education prior to the end of 60 days from the date the grade was awarded. For more information, see the [Columbia College Undergraduate Grading Policy](#).

## Prerequisites

Course prerequisites are established to ensure that a student has adequate academic preparation to succeed in a particular course. Staff members will attempt to ensure that students meet prerequisite requirements. However, it is the student's responsibility to closely examine the course descriptions to determine if prerequisites exist and to enroll in courses in the proper sequence. In some exceptional cases it may be apparent that the student possesses the required skills and knowledge to succeed in a particular course, even though they have not taken the prerequisite course. In this case the prerequisite course may be waived by the location director. Waiver of a course as a prerequisite does not remove the requirement to complete the course if it is a requirement for the student's degree program.

## CougarTrack

The College provides all students access to CougarMail (the official means of e-mail communication for the College), online resources from the [Stafford Library](#), and their Columbia College records (transcripts, grades, student schedules, etc.) through CougarTrack.

## CougarMail

The official student email address (also known as CougarMail) will be used for all official correspondence from faculty and staff. Students are responsible for the information received and are required to monitor their CougarMail account on a regular basis. Students may forward their CougarMail to another email account but will be held responsible for the information sent over CougarMail, even if there is a problem with the alternate mail service.

## Cell Phones

Cell phones can be a distraction to the learning process. Location directors or course instructors may require that cell phones be turned off or set to vibrate during class periods. Students requiring special arrangements to receive a cell phone call during class should make prior arrangements with their location director or course instructor.

## FERPA

The Family Educational Rights and Privacy Act (FERPA) affords students certain rights with respect to their education records. For more information, see the [Columbia College Family Education Rights and Privacy Policy](#).

## Student Accessibility Resources

Students with documented disabilities who may need academic services for this course are required to register with the office of Student Accessibility Resources. Until the student has been cleared through this office, accommodations do not have to be granted. If you are a student who has a documented disability, it is important for you to read the entire syllabus as soon as possible. The structure or the content of the course may make an accommodation not feasible. Student Accessibility Resources is located in Student Affairs in AHSC 215 and can be reached by phone at (573) 875-7626. For more information, see the [Columbia College ADA and Section 504 Policy for Students](#).

## Alcohol and Other Drugs: Columbia College Policies & Resources

Columbia College recognizes the negative health effects associated with the use, possession, and distribution of controlled and/or illicit substances, and their detrimental impact on the quality of the educational environment. Therefore, all members of the College community share in the responsibility of protecting the campus environment by exemplifying high standards of professional and personal conduct. For more information and resources, see the [Columbia College Alcohol and Other Drugs Policy](#).

## Tobacco-Free Policy

Columbia College values and is concerned for the health and well-being of its students, employees and visitors. The College is committed to providing a healthful and productive educational and employment environment for members of the College community. Consistent with this commitment and in the interest of the general health and welfare of the College community, the College prohibits the use of all tobacco products and related devices on all College property and premises. For more information, see the [Columbia College Tobacco-Free Policy](#).

## Non-Discrimination

Discrimination, harassment, and retaliation on the basis of protected status (see [Notice of Non-Discrimination and Equal](#)



[Opportunity](#) for a definition of "protected status") are strictly prohibited. Persons who engage in such conduct are subject to discipline up to and including termination or dismissal. For more information, see the [Columbia College Non-Discrimination and Equal Opportunity Policy and Complaint Resolution Procedure](#).

### Columbia College Policy Library

The policies set forth in the Online Policy Library are the current official versions of College policies and supersede and replace any other existing or conflicting policies covering the same subject matter. The Online Policy Library is currently under construction with new policies being added on a frequent basis and the policies currently listed are not comprehensive of every College policy. Questions regarding the Online Policy Library should be directed to the [Office of the General Counsel](#). For more information on policies applicable to students, see [Student Policies](#). For more information on policies applicable to the entire Columbia College community, see [College-Wide Policies](#).