



**Division of Mathematics
Mathematics Department**

<https://learning.hccs.edu/programs/mathematics>

Math 1342: Elementary Statistical Methods| Lecture | #12389

Fall 2020 | 16 Weeks (8.24.2020-12.13.2020)

FlexCampus | Virtual, in Canvas via Webex through October 1 | TR 3:30 –4:50 pm

3 Credit Hours | 48 hours per semester

Instructor Contact Information

Instructor:	Kimber Kaushik	Office Phone:	713-718-5733
Office:	Virtual, in Canvas via Webex	Office Hours:	TR: 10 – 11:30 am & 12 – 1 pm
HCC Email:	Kimber.kaushik@hccs.edu		

HCC is offering four ways to learn during the Fall 2020 Semester. Descriptions of each type of courses can be found at: <https://www.hccs.edu/campaigns/college-your-way/>

Flex Campus

Students enrolled in this class have the choice to attend either online or in person at the scheduled dates and times starting (tentatively) on October 6. Once we are able to return to campus, all students have the opportunity to participate in person at times if they want. When a student isn't attending in person, they are required to participate at the scheduled time online. Look for the code FC when reviewing the updated schedule.

Right now, we will meet online on a schedule, via Webex in Canvas.

Instructor's Preferred Method of Contact

Please contact me via the Canvas Inbox. I will respond to emails within 24 hours Monday through Friday; I will reply to weekend messages on Monday mornings.

What's Exciting About This Course

This course will help make sense of the statistics you encounter in other courses, in your current job or future career, and in your day-to-day life.

My Personal Welcome

Welcome to Elementary Statistical Methods. I will present the information in the clearest, most interesting way I know, so that you can grasp the concepts and apply them now and hopefully throughout your life.

As you read and wrestle with new ideas and facts that may challenge you, I am available to support you. The fastest way to reach me is via Canvas Inbox. I can also work with you during our class Question and Answer sessions or one-on-one during office hours. My goal is for you to leave the course with a better understanding of statistics and its role in our society.

Prerequisites and/or Co-Requisites

Prerequisites: A grade of C or better in Math 0310 or its equivalent or an acceptable placement score. A grade of C or better in Math 0314 its equivalent or an acceptable placement score.

Co-Requisites: MATH 0342 is a co-requisite to MATH 1342. Since MATH 0342 is co-requisite with MATH 1342, withdrawing from either MATH 0342 or Math 1342 will necessitate withdrawal from the other as well. Please carefully read and consider the repeater policy in the [HCCS Student Handbook](#).

Canvas Learning Management System

This section of MATH 1342 will use [Canvas \(https://eagleonline.hccs.edu\)](https://eagleonline.hccs.edu) as your access point for all work done in this class. This is where you will find course announcements, PowerPoints, discussions, and tests. You will also use Canvas to enter Connect Math, where you'll find the course eBook, videos and homework assignments.

USE [FIREFOX](#) OR [CHROME](#) AS THE INTERNET BROWSER.

HCC Online Information and Policies

Here is the link to information about HCC Online classes, including the required Online Orientation for all fully online classes: <http://www.hccs.edu/online/>

Scoring Rubrics, Sample Assignments, etc.

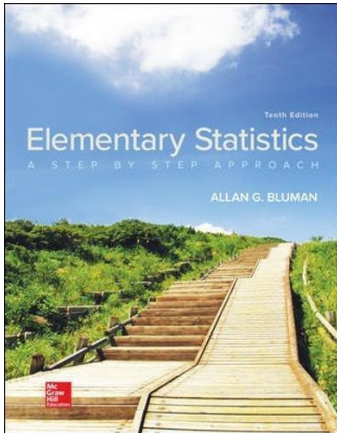
Look in Canvas for the scoring rubrics for assignments, samples of class assignments, and other information to assist you in the course. <https://eagleonline.hccs.edu/login/ldap>

Instructional Materials

Calculator

A scientific or graphing calculator is required.

Textbook and Connect Math



The textbook listed below is **required** for this course:

Elementary Statistics, A Step by Step Approach, 10th Edition,
By Bluman, McGraw-Hill Education

You are NOT required to purchase the hard copy of this textbook, but you ARE required to purchase access to Connect Math.

If you want a hard copy of the book, you can order it packaged with a Connect Math access code at any HCC campus bookstore. (The ISBN is 978-1264094592.)

If you do not mind using the eBook exclusively, you can purchase the Connect Math access code within Canvas. (The ISBN is 9781260364323.)

Temporary Free Access to E-Book

For temporary free access to Connect Math and the online eBook, go to the Connect Math registration page in the Start Here module of our Canvas class.

Other Instructional Resources

Tutoring

HCC provides free, confidential, and convenient academic support, including writing critiques, to HCC students in an online environment and on campus. Tutoring is provided by HCC personnel in order to ensure that it is contextual and appropriate. Visit the [HCC Tutoring Services](#) website for services provided.

Libraries

The HCC Library System consists of 9 libraries and 6 Electronic Resource Centers (ERCs) that are inviting places to study and collaborate on projects. Librarians are available both at the libraries and online to show you how to locate and use the resources you need. The libraries maintain a large selection of electronic resources as well as collections of books, magazines, newspapers, and audiovisual materials. The portal to all libraries' resources and services is the HCCS library web page at <http://library.hccs.edu>.

Course Overview

This course is intended for students primarily in health sciences and business rather than math or science majors. It consists of concepts, ideas, and applications of statistics rather than a theory course. Topics include histograms, measures of central tendency and variation, probability, binomial and normal distributions, and their applications, confidence intervals, and tests of statistical hypotheses.

Core Curriculum Objectives (CCOs)

Given the rapid evolution of necessary knowledge and skills and the need to take into account global, national, state, and local cultures, the core curriculum must ensure that students will develop the essential knowledge and skills they need to be successful in college, in a career, in their communities, and in life. Through the Texas 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.

- **Critical Thinking:** to include creative thinking, innovation, inquiry, and analysis, evaluation and synthesis of information.
- **Communication Skills:** to include effective development, interpretation and expression of ideas through written, oral and visual communication.
- **Quantitative and Empirical Literacy:** to include the manipulation and analysis of numerical data or observable facts resulting in informed conclusions.

Program Student Learning Outcomes (PSLOs)

Students in the Mathematics Program will:

1. Engage in problem solving strategies, such as organizing information, drawing diagrams and modeling.
2. Use symbolic representations to solve problems. This includes manipulating formulas, solving equations, and graphing lines.
3. Build the foundational mathematical skills that will enable a student to successfully complete a college level mathematics course.

Course Student Learning Outcomes (CSLOs)

Upon completion of MATH 1342, the student will be able to:

1. Explain the use of data collection and statistics as tools to reach reasonable conclusions.
2. Recognize, examine and interpret the basic principles of describing and presenting data.
3. Compute and interpret empirical and theoretical probabilities using the rules of probabilities and combinatorics.
4. Explain the role of probability in statistics.
5. Examine, analyze and compare various sampling distributions for both discrete and continuous random variables.
6. Describe and compute confidence intervals.
7. Solve linear regression and correlation problems.

8. Perform hypothesis testing using statistical methods.

Learning Objectives

Upon completion of MATH 1342, the student will be able to:

1. Demonstrate knowledge of statistical terms.
2. Understand the difference between descriptive and inferential statistics.
3. Identify: types of data, measurement level of variables, and four basic sampling techniques.
4. Construct the relative frequency table from a given set of ungrouped data.
5. Know and use the different graphs: histogram, frequency polygon, ogive, Pareto, and pie to present data.
6. Compute the mean, median, mode, midrange, range, variance, and standard deviation.
7. Identify the various measures of position such as percentiles, deciles, and quartiles.
8. Find the total number of outcomes in a sequence of events using tree diagrams and the multiplication rule.
9. Understand the use of permutation and combination rules.
10. Determine sample spaces and find the probability of an event using classical probability.
11. Find the probability of compound events using addition and/or multiplication rules.
12. Find the conditional probability of an event.
13. Construct a probability distribution for a random variable.
14. Find the mean, variance, and expected value for a probability distribution function.
15. Find the exact probability for X successes in n trials of a binomial experiment.
16. Find the mean, variance, and standard deviation for the binomial distribution.
17. Identify the properties of the normal distribution.
18. Find the area under the normal curve, given various z values.
19. Find probabilities for a normally distributed variable by transforming it into a standard normal variable.
20. Find specific data values for given percentages using the standard normal distribution.
21. Apply the central limit theorem to solve problems involving sample means.
22. Use the normal approximation to compute probabilities for a binomial variable.
23. Find a confidence interval for the mean when σ is known or $n \geq 30$.
24. Determine the minimum sample size for finding a confidence interval for the mean.
25. Find a confidence interval for the mean when σ is unknown and $n < 30$.
26. Find a confidence interval for a proportion.
27. Determine the minimum sample size for finding a confidence interval for a proportion.
28. Find a confidence interval of variances and standard deviations.
29. Understand the definitions used in hypothesis testing.
30. State the null hypothesis and alternative hypothesis.
31. Understand the terms: type I error and type II error, test criteria, level of significance, test statistic.
32. Find the critical values for the z -test, t -test, and chi-square-test.
33. Test hypotheses for: means (large and small sample), proportions, variance, and standard deviation.
34. Draw the scatter plot for a set of ordered pairs.
35. Compute the correlation coefficient and the coefficient of determination.
36. Compute the equation of the regression line by using the least square method.

Student Success

Expect to spend at least twice as many hours per week outside of class as you do in class studying the course content. Additional time will be required for written assignments. The assignments provided will help you use your study hours wisely. Successful completion of this course requires a combination of the following:

- Reading the textbook
- Attending class in person and/or online
- Completing assignments
- Participating in class activities

There is no short cut for success in this course; it requires reading (and probably re-reading) and studying the material using the course objectives as a guide.

Instructor and Student Responsibilities

As your Instructor, it is my responsibility to:

- Provide the grading scale and detailed grading formula explaining how student grades are to be derived
- Facilitate an effective learning environment through learner-centered instructional techniques
- Provide a description of any special projects or assignments
- Inform students of policies such as attendance, withdrawal, tardiness, and making up assignments
- Provide the course outline and class calendar that will include a description of any special projects or assignments
- Arrange to meet with individual students before and after class as required

As a student, it is your responsibility to:

- Attend class in person and/or online
- Participate actively by reviewing course material, interacting with classmates, and responding promptly in your communication with me
- Read and comprehend the textbook
- Complete the required assignments and exams
- Ask for help when there is a question or problem
- Keep copies of all paperwork, including this syllabus, handouts, and all assignments
- Be aware of and comply with academic honesty policies in the HCCS Student Handbook

Assignments, Exams, and Activities

Remote Exam Proctoring (Remote Invigilation)

The Math Department is requiring the remote proctoring of major examinations (including the Final Exam) representing at least 45% of the course grade to ensure the integrity of the assessment process and to prevent acts of academic dishonesty.

In this course, in addition to a reliable internet connection, you will be required to have hardware that meets the following minimal requirements:
a) a functioning webcam and microphone, and

b) a computer with operating system that is capable of running the Respondus LockDown Browser and Respondus Monitor.

Assignments have been developed that will enhance your learning. To better understand a topic, you will be given assignments on key information that you will need to remember for your success in this class and later when you encounter statistics in your daily life and career. Students will be required to successfully complete the following:

Textbook Reading Assignments

I suggest you read the course textbook, available in electronic form in Connect Math. You might find it easier to understand the text if you fill in the student guided notes as you read.

Videos

I highly recommend that you view the video tutorials and video examples that I post in Connect Math. These videos review vocabulary, concepts and methods in probability and statistics. Note that although your grades on video assignments in Connect Math will not affect your course average, you will benefit by watching each video closely.

Homework

You'll complete your homework assignments in Connect Math. You can improve your grade on each homework assignment by trying missed problems again and taking "quick retakes."

In-Class Activities

In-classes activities consist of a variety of approaches, including games, worksheets, projects, videos, and group work.

Unit Reviews

To prepare for each unit test, complete the associated unit review in Connect Math. If you score at least 80% on a unit review, you'll earn five bonus points on the associated unit test.

Unit Tests

There will be three unit tests, each worth 15% of your course grade. All testing will take place online, not in person at the Katy Campus.

The Unit One Test will be administered in Canvas, using the LockDown Browser and Respondus Monitor (which requires a WebCam). You will have one attempt to take the 90-minute test.

The Unit Two Test and Unit Three Test will be administered in Connect Math. For each test, you will have 90 minutes to complete the test, and you can take one "quick retake."

I will replace your lowest unit test grade with your final exam grade if your final exam grade is higher.

Discussions

Throughout the semester, you'll post to discussions in Canvas. Posts will be graded for accuracy, but you'll have the opportunity to improve your grade on each post by addressing my comments. Once you contribute your discussion post, I encourage you to respond to at least one of your classmates' posts.

Final Exam Review

To prepare for the final exam, complete the Final Exam Review in Connect Math. You'll earn five bonus points on the final exam if you score at least 80% on the Final Exam Review.

Final Exam

You are required to take a cumulative final exam, worth 30% of your course grade. The final exam will be administered in Canvas, using the LockDown Browser and Respondus Monitor. You will have one attempt to take the 2-hour exam, which will contain 30 multiple-choice questions. Like each unit test, you must finish the final exam and submit it in one sitting.

Grading Formula

Your course average will be calculated as follows:

- 10%: Discussion average
- 10%: Homework average
- 5%: In-Class Activities
- 45%: Unit Test average
- 30%: Final Exam

You'll find your average for the Connect Math assignments, your discussion grades and your overall course average on the Grades page in Canvas. You'll find your grades for individual assignments in Connect Math in the Connect Math Gradebook.

Grade	Overall Percentage
A	90% +
B	80%-89%
C	70%- 79%
D	60%-69%
F	<60%

Incomplete Policy

In order to receive a grade of Incomplete ("I"), a student must have completed at least 85% of the work in the course. In all cases, the instructor reserves the right to decline a student's request to receive a grade of Incomplete.

HCC Grading Scale can be found on this site under Academic Information:
<http://www.hccs.edu/resources-for/current-students/student-handbook/>

Course Calendar

Test dates are subject to change.

Date	Test
Tue, 8/54	Class begins
Tue, 9/8	Last day to drop the course without a grade
Thu, 9/24	Unit One Test (Chapters 1 - 3)
Available starting Tue, 10/27	Unit Two Test (Chapters 4 & 5)
Fri, 10/30	Last day to withdraw from the course
Available starting Tue, 11/24	Unit Three Test (Chapters 6 & 7)
Tue, 12/8	Final Exam (Chapters 1 – 8 only)

Syllabus Modifications

I reserve the right to modify the syllabus at any time during the summer session and will promptly notify you in writing (via Canvas Inbox and Announcements) of any such changes.

Instructor's Practices and Procedures

Missed Assignments

If you miss one unit test, I'll replace the 0 grade with the grade you make on the final exam.

Academic Integrity

Any student caught cheating during a test will receive a zero.

All forms of academic dishonesty including, but not limited to cheating, plagiarism, and collusion are serious offenses. Possible consequences for academic dishonesty include a grade a 0 or F in the particular assignment, failure in the course, and/or recommendations for probation or dismissal from the institution.

Here's the link to the HCC information about academic integrity (Scholastic Dishonesty and Violation of Academic Scholastic Dishonesty and Grievance):

<http://www.hccs.edu/about-hcc/procedures/student-rights-policies--procedures/student-procedures/>

Attendance Procedures

You need to regularly log into Canvas to access Connect Math, read the unit modules, check announcements, and contribute and respond to class discussions. Please register for Connect Math as soon as possible so you don't fall behind on course assignments.

I will take roll at the beginning of each virtual class. If you do not attend before September 8, I will mark you as "Never Attended," and HCC will withdraw you from the course. If you miss

more than four classes, I may withdraw you after first attempting to reach you. **The last day to withdraw is Friday, October 30, 2020.**

Student Conduct

Please treat everyone in class kindly and with respect.

Instructor's Course-Specific Information

You will need a hand-held graphing or scientific calculator in this class. Don't use the calculator on your smart phone since phone use during test-taking will be considered cheating.

Electronic Devices

Any use of such devices for the purposes other than student learning is strictly prohibited unless authorized as an appropriate ADA accommodation from the ADA Counselor.

Mathematics Program Information

- HCC Math Student Organizations: Mu Alpha Theta: Application:
<https://www.hccs.edu/resources-for/current-students/stem--science-technology-engineering--mathematics/stem-clubs/mu-alpha-theta-application/>

HCC Policies

Here's the link to the HCC Student Handbook <http://www.hccs.edu/resources-for/current-students/student-handbook/> In it you will find information about the following:

- Academic Information
- Academic Support
- Attendance, Repeating Courses, and Withdrawal
- Career Planning and Job Search
- Childcare
- disAbility Support Services
- Electronic Devices
- Equal Educational Opportunity
- Financial Aid TV (FATV)
- General Student Complaints
- Grade of FX
- Incomplete Grades
- International Student Services
- Health Awareness
- Libraries/Bookstore
- Police Services & Campus Safety
- Student Life at HCC
- Student Rights and Responsibilities
- Student Services
- Testing
- Transfer Planning
- Veteran Services

Campus Carry Link

Here's the link to the HCC information about Campus Carry:
<http://www.hccs.edu/departments/police/campus-carry/>

HCC Email Policy

When communicating via email, HCC requires students to use the Canvas Inbox or the HCC email system to protect privacy. If you have not activated your HCC student email account, you can go [to HCC Eagle ID](#) and activate it now.

Housing and Food Assistance for Students

Any student who faces challenges securing their foods or housing and believes this may affect their performance in the course is urged to contact the Dean of Students at their college for support. Furthermore, please notify the professor if you are comfortable in doing so.

This will enable HCC to provide any resources that HCC may possess.

Office of Institutional Equity

Use the link below to access the HCC Office of Institutional Equity, Inclusion, and Engagement (<http://www.hccs.edu/departments/institutional-equity/>)

disAbility Services

HCC strives to make all learning experiences as accessible as possible. If you anticipate or experience academic barriers based on your disability (including long and short term conditions, mental health, chronic or temporary medical conditions), please meet with a campus Abilities Counselor as soon as possible in order to establish reasonable accommodations. Reasonable accommodations are established through an interactive process between you, your instructor(s) and Ability Services. It is the policy and practice of HCC to create inclusive and accessible learning environments consistent with federal and state law. For more information, please go to <http://www.hccs.edu/support-services/disability-services/>

Title IX

Houston Community College is committed to cultivating an environment free from inappropriate conduct of a sexual or gender-based nature including sex discrimination, sexual assault, sexual harassment, and sexual violence. Sex discrimination includes all forms of sexual and gender-based misconduct and violates an individual's fundamental rights and personal dignity. Title IX prohibits discrimination on the basis of sex-including pregnancy and parental status in educational programs and activities. If you require an accommodation due to pregnancy please contact an Abilities Services Counselor. The Director of EEO/Compliance is designated as the Title IX Coordinator and Section 504 Coordinator. All inquiries concerning HCC policies, compliance with applicable laws, statutes, and regulations (such as Title VI, Title IX, and Section 504), and complaints may be directed to:

David Cross
 Director EEO/Compliance
 Office of Institutional Equity & Diversity
 3100 Main
 (713) 718-8271
 Houston, TX 77266-7517 or Institutional.Equity@hccs.edu
<http://www.hccs.edu/departments/institutional-equity/title-ix-know-your-rights/>

Office of the Dean of Students

Contact the office of the Dean of Students to seek assistance in determining the correct complaint procedure to follow or to identify the appropriate academic dean or supervisor for informal resolution of complaints.

<https://www.hccs.edu/about-hcc/procedures/student-rights-policies--procedures/student-complaints/speak-with-the-dean-of-students/>

College - Level Math Courses

Chair of Math	Susan Fife	SW Campus	713-718-7241	Stafford, Scarcella, N108
- Admin. Assistant	Tiffany Pham	SW Campus	713-718-7770	Stafford, Scarcella, N108
- Admin. Assistant	Christopher Cochran	SW Campus	713-718-2477	Stafford, Scarcella, N108
Math Assoc. Chair	Jaime Hernandez	CE Campus	713-718-7772	San Jacinto Building, Rm 369
Math Assoc. Chair	Mahmoud Basharat	NW Campus	713-718-2438	Katy Campus Building, Rm 112
Math Assoc. Chair	Emmanuel Usen	NE Campus	713-718-8062	Northline, Rm 324

Developmental Math Courses

Chair of Dev. Math	Marisol Montemayor	SE Campus	713-718-7153	Felix Morales Building, Rm 124
- Admin. Assistant	Carmen Vasquez	SE Campus	713-718-7056	Felix Morales Building, Rm 124
Dev. Math Assoc. Chair	Hien Nguyen	SE Campus	713-718-2440	Felix Morales Building, Rm 124
Dev. Math Assoc. Chair	Jack Hatton	SW Campus	713-718-2434	Stafford, Learning Hub, Room 208

For issues related to your class, please first contact your instructor.
 If you need to contact departmental administration, then contact the appropriate Associate Chair.
 If further administrative contact is necessary, then contact the appropriate Department Chair.