

Columbus State Community College
Mathematics Department Syllabus
Student Syllabus

Instructor: Colton Gearhart **E-mail:** cgearhart@csc.edu
Office: N/A (Remote Instructor) **Phone:** N/A
Office Hours: By virtual appointment only

Course Number: STAT 1400 **Course Name:** Statistical Concepts for Business
Sem/Yr: Summer 2022 **Course Section:** 001L
Meeting Times: Live Online via Zoom, TR 11:00 am – 1:40 pm
Credit Hours: 3 semester credits (2 lecture and 2 lab hours per week)
Prerequisite: A grade of “C” or higher in MATH 1025 or placement into MATH 1075

DESCRIPTION OF COURSE

This course is designed to introduce students to statistical concepts focusing primarily on business applications. The course contains techniques in descriptive and inferential statistics and includes sampling techniques; data types; experiments; measures of central tendency; measures of dispersion; graphical displays of data; basic probability concepts; binomial and normal probability distributions; sampling distributions and Central Limit Theorem; estimating population parameters and hypothesis tests of population parameters for one and two samples; linear regression and forecasting with exponential smoothing. STAT 1400 is intended primarily for students pursuing an AAS degree in the business programs.

WHAT IS STATISTICS?

Statistics is the art and science of working with data. Big Data is everywhere as websites, social media apps, business, and other entities collect all kinds of information about customers. Statistics looks at data like this in a variety of ways, including graphs and summary statistics and talking about what different populations might look like. In this class, you will learn the language of statistics – the words we use and the meanings behind them as well as the process of statistics. How do we look at this data in ways that help us make decisions and improve well-being? How do we learn from statistical summaries presented by others? In other words, how do we understand what others are attempting to tell us through graphs and statistics? These are some of the ideas you’ll engage with this semester.

COURSE GOALS

- To introduce students to the concepts, methods, and uses of statistics in business situations.
- To develop competence in analyzing data, using the calculator to construct graphs and compute statistics, and interpret the results.
- To analyze data using business software packages and interpret the results.

REQUIRED MATERIALS

- **Essential Statistics**, 3rd Edition William Navidi and Barry Monk, McGraw-Hill Publishing, 2021. **(REQUIRED)** ISBN: 9781260359794. Access to the ebook and homework system is available through Instant Access via Blackboard.
- **A graphing calculator is REQUIRED.** The Texas Instruments' TI-84 (regular, Plus, Silver, etc.) graphing calculator is strongly recommended, fully supported, and approved for use during proctored assessments.
- Other graphing calculators may be permitted. If you own a different calculator, please check with your instructor to see if your calculator will be allowed during their proctored assessments
- **Microsoft Excel is REQUIRED.** This software is available in DH 104, DH107, and off-campus computer labs. It can also be downloaded on your own computer through your Outlook account or accessed through the virtual desktop.

ATTENDANCE POLICY

This section of STAT 1400 meets “live online,” which means we have two sessions per week where everyone is online together in Zoom (linked through Blackboard). By selecting this section, I assume you have that time available each week and you have the necessary technology to engage in the online class sessions. The pace of this class is such that it will not be advisable to miss any sessions. If you know you will be absent, please inform me in advance. When you are absent, it will be your responsibility to look on Blackboard for the uploaded lecture, notes and announcements. While attendance does not factor into your grade, I will record attendance for my own records. You are expected to be an active participant for the entire class. Missing class is NOT an excuse for not being able to submit assignments.

LATE WORK AND MAKE-UP POLICY

No late work will be accepted. Any assignments not completed by the assigned due date without a pre-approved extension will receive a zero. Extensions may be granted on a case-by-case basis at the discretion of the instructor. It is the responsibility of the student to contact the instructor well in advance.

There are two exams in STAT 1400: a Midterm and a Final. Each exam will be available for a set window of 2.5 hours (refer to the Course Calendar). You must take the exam during these times. If you are not able to complete an exam during its scheduled window, please reach out to me so we can work on alternatives.

GRADING

Grading Scale:

- A = 90 – 100%
- B = 80 – 89%
- C = 70 – 79%
- D = 60 – 69%
- E/EN = up to 59%

(Note a “C” is the minimum most students need to “pass” or transfer this course to another institution. Check with your advisor for specific requirements.)

NOTE: I will record a failing grade (of either E or EN) if you earn less than a 60% in the course. I will record the E grade for those students who attempted at least 70% of the coursework, and I will record the EN grade for those students who did not attempt at least 70% of the coursework. CSCC considers both the E and EN grades failing grades.

Grades in this course will consist of five components: **Homework (25%), Labs (10%), Quizzes (15%), Midterm (25%) and a Final (25%).**

- **25% – Homework:** Each Unit we cover will have an associated online assignment through “Connect” (with the exception of Unit 10).
- **10% – Labs:** Weekly Excel labs to practice content of the week utilizing real world data and examples. These will be graded for quality and accuracy.
- **15% – Quizzes:** Weekly proctored quizzes over section content. These will be graded for quality and accuracy.
- **25% – Midterm:** A Midterm covering Units 1 – 5 from weeks 1 – 5 of the course.
- **25% – Final:** A Final covering Units 6 – 10 from weeks 7 – 10 of the course. Note that this is NOT comprehensive and therefore only focuses on content from the second half of the semester.

ONLINE HOMEWORK

For each Unit we discuss in class (with the exception of Unit 10), there is a Connect Homework assignment on the publisher’s website. You purchased access to this online system (Connect) at the beginning of the semester. These assignments consist of a variety of multiple choice, fill-in-the-blank, interactive graphing, etc. questions over the content from the corresponding Unit. Assignments are set up to allow three attempts on each individual question and three attempts on each assignment. You only need to retake questions you get wrong. Only the highest-scoring attempt will be recorded. There will be 9 of these assessments that together account for 25% of the total grade.

WEEKLY EXCEL LAB ACTIVITIES

There will be 10 weekly in-class collaborative Excel Labs scheduled throughout the semester. Labs will be graded for correct analysis. Labs will account for 10% of the total grade.

The main purpose of these labs is to pull course content together to analyze a given dataset in the context of a real-world statistical application. Each week there will be dedicated class time to work on it where we may break into small groups. The hope is to be able to complete a large portion of each lab during our live class session. There may be labs that require some “finishing touches” outside of class time. There is one Lab for each Unit.

QUIZZES

There will be 10 quizzes throughout the semester, one per Unit. Each quiz will cover material from the section covered throughout that Unit. These are proctored, closed-note quizzes that will be graded for quality and accuracy. Each quiz will be taken during the live sessions. Quizzes will account for 15% of the total grade.

MIDTERM AND FINAL

Halfway through the semester, there will be a Midterm that accounts for 25% of the total grade. At the end of the semester, there will be a Final worth 25% of the total grade. Questions will be a mix of short answer and multiple choice. If you have completed the other assignments for the course, you will be prepared for the Midterm and the Final. A set of practice questions will be provided to help students prepare for the Midterm and the Final.

These will both be available on Blackboard during the time periods shown below.

- **MIDTERM** – Testing window is Thursday July 7th from 11:00 am to 1:30 pm.
- **FINAL** – Testing window is Thursday August 11th from 10:00 am to 12:30 pm.

Prior to the Midterm and the Final, there will be an announcement with more specific instructions for how to access and complete these.

COURSE CALENDAR AND COURSE OVERVIEW

<i>Units of Instruction</i>	<i>Chapter</i>	<i>Lab</i>
1. Basic Ideas	1	Excel Lab 1
2. Graphical Summaries	2	Excel Lab 2
3. Numerical Summaries	3	Excel Lab 3
4. Probability	4	Excel Lab 4
5. Discrete Probability Distributions	5	Excel Lab 5
6. The Normal Distribution, Sampling Distribution and CLT	6	Excel Lab 6
7. Confidence Interval Estimates	7	Excel Lab 7
8. Hypothesis Testing	8	Excel Lab 8
9. Correlation and Regression	11	Excel Lab 9
10. Forecasting – Exponential Smoothing	--	Excel Lab 10

SEE 'Course Overview, Calendar, and Due Dates' section located in the 'Course Information' tab on Blackboard.

- Course Overview document that contains information about which Units are covered on the Midterm and Final.

- Course Calendar gives a tentative day-by-day schedule of when we will cover what topics and when we will have Labs.
- Due Dates outlines when each assignment will be due, subject to change.

NOTE: I may make modifications to the Syllabus, Course Calendar, assignments, etc. based on the needs of the class as a whole. Any changes will be communicated as early as possible.

ACADEMIC INTEGRITY

All students taking courses at Columbus State Community College must familiarize themselves with and uphold the Student Code of Conduct. While this includes the entire Code, students in STAT 1400 should pay particular attention to the sections on plagiarism and cheating. All work you submit for this course must be your own. Copying answers from others (including current or former students and various online resources) or sharing your answers with others so they can copy them is not allowed.

All known violations of the Student Code of Conduct will result in your instructor reporting the violation to the Office of Student Conduct at CSCC. Penalties for such violation vary depending on the nature of the violation and any past history a student has with the Office of Student Conduct.

Columbus State Community College and its employees hold copyright in the exams, lectures, and other course materials. This copyright encompasses student notes and other summaries or reproductions of the College's course materials. These materials are made available to students for their personal use only and may not be distributed for commercial purposes without the College's express written consent. Violation of the College's copyright may result in referral to the Office of Student Conduct and disciplinary action up to and including dismissal.

If you are unsure whether what you are doing is in violation of the Student Code of Conduct, please ask your instructor so they may guide you appropriately.

STATEMENT ON DIVERSITY, EQUITY, AND INCLUSION

The CSCC Mathematics Department faculty value diversity of thought, perspective, and experience, and respect your identities (including but not limited to race, gender identity or expression, class, sexual orientation, religion, and ability). The education, rights, and well-being of all students are encouraged and cultivated. Our goal is to foster and support safe and inclusive learning environments with equitable opportunities for all students to participate, contribute, and succeed.

LAST DAY TO WITHDRAW FROM COURSE

If you should decide to drop this course, but do not officially do so through Records & Registration, a failing grade will be recorded on your transcript. **The last day to drop this course is Thursday, July 14.** No drops will be allowed after that date. Drop forms are available from the Counseling/Advising Center and from Records and Registration.

INSTITUTIONAL LEARNING GOALS

This course addresses the following Columbus State general education goals:

- Critical Thinking
- Quantitative Skills

INSTRUCTIONAL METHODS

Instructional methods may include face-to-face or video lectures or demonstration, face-to-face or virtual discussion, individual or group activities including the use of visual aids, graphing calculators, computers and/or other technologies. Students may be expected to participate in these activities during class and/or outside of class. Instructors may require class participation, collaborative learning, and peer review.

NOTE TO STUDENTS

To master this course material, the Mathematics Department recommends that the student should be prepared to spend an average of 9 hours per week on this course.

ASSESSMENT

Columbus State Community College is committed to assessment (measurement) of student achievement of academic outcomes. This process addresses the issues of what you need to learn in your program of study and if you are learning what you need to learn. The assessment program at Columbus State has four specific and interrelated purposes: (1) to improve student academic achievements; (2) to improve teaching strategies; (3) to document successes and identify opportunities for program improvement; (4) to provide evidence for institutional effectiveness. In class you are assessed and graded on your achievement of the outcomes for this course. You may also be required to participate in broader assessment activities.

FINANCIAL AID REPORTING REQUIREMENTS

All instructors are asked to report student attendance and engagement at various points throughout the semester in accordance with federal financial aid guidelines. If you are not participating, or have stopped participating, you may be administratively dropped from the course if this is the case.

Reporting windows for Autumn and Spring terms are roughly Weeks 4 and 10. The reporting window for Summer term is roughly Week 4. To be Counted as Participating: The student has established regular, consistent pattern of course participation (as demonstrated by completed course assignments, participation in classroom/practicum activities or participation in online discussion boards - which are all indicators of active engagement).

TUTORING RESOURCES

The following are ways of obtaining free tutoring:

- You can always access tutoring by logging in to your Blackboard course and clicking the small green “n” at the top right of your screen. That “n” stands for “NetTutor,” where you can go to get course-specific tutoring from trained professionals.
- The Learning Resource Center (DH room 313) during the posted hours. **You will be required to sign in and out using your CougarID number.** Tutoring is also available at the Dublin, Westerville, and Reynoldsburg branch locations. LRC hours at these locations change each semester. For additional information, please visit: <http://www.csc.edu/academics/departments/math/tutoring.shtml>.
- Peer Tutoring – sign up for Peer Tutoring in WD 1095. This is not always an option, as it depends on the availability of a student volunteer who has taken STAT 1450. Sometimes this is only one peer tutor per semester, and their schedules are limited.
- Depending upon availability, a walk-in tutoring session may be held on Saturdays from 9am–1pm. Contact Peer Tutoring at 287-2474 for additional information.
- Online Tutoring - You can post a question to our Math Tutoring Forum on Blackboard OR setup an appointment for a live one-on-one online tutoring session via the web. To find out more, sign into Blackboard and look for “**Math Tutoring**” in the “**My Organizations**” section.

COUNSELING SERVICES

As a student you may experience a range of issues that can cause barriers to learning, such as strained relationships, increased anxiety, alcohol/drug problems, feeling down, difficulty concentrating, and/or lack of motivation. These mental health concerns or stressful events may lead to diminished academic performance or reduce your ability to participate in daily activities. Services are available to assist you with addressing these and other concerns you may be experiencing. Counseling Services are FREE of charge for all enrolled students. Counseling Services at Columbus State are only offered at the College’s downtown Columbus campus. If you are attending classes in Delaware or at a Regional Learning Center and are in search of counseling services closer to home, a list of community providers can be found at the Counseling Services website below. To schedule an appointment or to learn more about mental health services at Columbus State or in your local community, contact Counseling Services at 614-287-2818. You may also obtain more information by visiting the Counseling Services office located in NH Room 010 or via the web at: www.csc.edu/services/counseling.

STUDENT ADVOCACY

Team members in Student Advocacy are dedicated to helping students resolve issues so they can stay focused on achieving academic and personal success. A keyway we provide help is to connect students to College and community resources. We also offer tips on how to best access and utilize these resources and services.

Below is a partial list of common areas of need for students and some key resources for support. This list does not encompass all possible needs and resources; the information and links are provided for your convenience and should not be considered an endorsement of any resource referenced. For individual assistance, contact a Peer Advocate. You can also visit www.csc.edu/services/essential-needs/.

Hands on Central Ohio
Job & Family Services
Legal Aid Society of Columbus
Food
Housing
Utilities

Child Care
Health Care Coverage
Mental Health
Transportation
Financial Literacy/Wellness
Employment

ELECTRONIC DEVICES IN THE CLASSROOM

As a courtesy to your fellow classmates and instructor, please turn off your cell phone, beeper, or anything else that might cause a disturbance during class. The use of any electronic device capable of wireless communication (phone, computer, pager, etc.) is **strictly prohibited** during any proctored assessment (test, quiz, etc.)

COLLEGE SYLLABUS STATEMENTS

You can find Columbus State Community College required College Syllabus Statements on College Policies and Student Support Services at www.cscs.edu/academics/syllabus.shtml or on the College website – Quick Links – “Syllabus Statements”.