

# Online Math 160 Elementary Statistics

## Syllabus Fall 2019 Sections 1325 and 8177 B. Elliott

Dear Elementary Statistics Student-

Welcome to your online math class! I'm looking forward to getting to know each of you throughout the duration of your class. Please be sure the school is updated with your current information (current email address, current name, etc.). If the class materials are open and ready to go, please feel free to begin working in the class materials even before the 1st day of class.

There are a few things that I would like to make sure are clear to everyone. While your class materials (including e-book) are online and your instruction is delivered online through Canvas, **you must come in-person to complete your final exam**. The final exam is the only test you will be taking on campus. Since most students taking this class live locally, most of you will make arrangements with me to take the final exam on October 11th. If you don't live in the local area, or it is not possible for you to take the final exam on **October 11th** you *may* be able to arrange alternate proctoring accommodations in your local area. You would need to work with me to find yourself an approved alternate proctoring center/arrangement near you. You will need to arrange this by the end of the 1st week of class(August 25) so that the instructor(that would be me) will have time to investigate your proposed proctor and either approve or deny your request. **ALL OTHER STUDENTS MUST CONFIRM THAT THEY WILL BE TAKING THE FINAL EXAM** during a two hour time block on October 11th from 8am-1230pm) when they complete the orientation module in Canvas.

**\*\*Students must be *very* self-motivated and self-disciplined to succeed in this class. Success in this class depends on your ability to read and *follow the written directions* in this syllabus, in the announcements posted in your online class materials (by me or by the publisher), and in the emails I send you. **You should NOT take this class if you do not have 3-4 hours a day, 6 days a week to dedicate to this class. Taking this class is like having a part-time job and needs to be treated at such.** This class requires a high level of reading comprehension ability.**

This class has a required online orientation which **MUST BE COMPLETED** by the end of the first week of class. This orientation is the first module inside Canvas. Failure to complete this module by Sunday, August 25<sup>th</sup> will result in you being dropped from the course.

While I can help you with any content related questions or class procedure related questions, technical questions (related to your computer) need to be sent to Canvas Technical Support. You can find the contact information for Canvas support inside your first module in Canvas. If you encounter technical difficulties which you cannot solve immediately (or within 24-hours if there are no assignments due that day), you need to plan to come to campus and use the computers in the STEM center. Although the bulk of your learning can take place individually through your online materials, please do not hesitate to post to the discussion board and ask me if you have questions. You are also encouraged to work or study with other students in the class; students generally do much better when they do not work alone. In addition to all of this help, you are encouraged to come in to the STEM center to get in-person help if you think your question might be difficult to ask online or to understand the solution online. (619 660-4306)

Best of luck in this class!  
- Bryan Elliott

## Welcome

If you invest in financial markets, you may want to predict the price of a stock in six months from now on the basis of company performance measures and other economic factors. As a college student, you may be interested in knowing the dependence of the mean starting salary of a college graduate, based on your GPA. These are just some examples that highlight how statistics are used in our modern society. To figure out the desired information for each example, you need data to analyze. The purpose of this course is to introduce you to the subject of statistics as a science of data. There is data abound in this information age; how to extract useful knowledge and gain a sound understanding in complex data sets has been more of a challenge. In this course, we will focus on the fundamentals of statistics, which may be broadly described as the techniques to collect, clarify, summarize, organize, analyze, and interpret numerical information. This course will begin with a brief overview of the discipline of statistics and will then quickly focus on descriptive statistics, introducing graphical methods of describing data. You will learn about combinatorial probability and random distributions, the latter of which serves as the foundation for statistical inference. On the side of inference, we will focus on both estimation and hypothesis testing issues. We will also examine the techniques to study the relationship between two or more variables; this is known as regression. By the end of this course, you should gain a sound understanding about what statistics represent, how to use statistics to organize and display data, and how to draw valid inferences based on data by using appropriate statistical tools.

## Course Information

### **MATHEMATICS 160 – ELEMENTARY STATISTICS**

4 hours lecture, 4 units

#### **Catalog Description**

The use of probability techniques, hypothesis testing, and predictive techniques to facilitate decision-making. Topics include descriptive statistics; probability and sampling distributions; statistical inference; correlation and linear regression; analysis of variance, chi-square and t-tests; and application of technology for statistical analysis including the interpretation of the relevance of the statistical findings. Applications using data from disciplines including business, social sciences, psychology, life science, health science, and education.

#### **Prerequisite**

“C” grade or higher or “Pass” in MATH 096 or 103 or 110 or equivalent

## Student Learning Outcomes

Upon successful completion of the course the student will be able to:

- 1) Use analytical, numerical, and graphical methods to solve statistics problems
- 2) Solve multi-disciplinary application problems and interpret the results in context
- 3) Perform statistical analysis using technology such as SPSS or other equivalent statistical software.

# Instructor Information

## Name:

Bryan Elliott

## Contacting me:

- **General Discussion Boards:** Please post content/procedural questions here. This is where almost all questions should go so everyone hears the questions **and** the answers.
- **Office Hours:**  
Online office hours as well as face-to-face(F2F) available at [www.cuyamaca.edu/people/bryan-elliott/default.aspx](http://www.cuyamaca.edu/people/bryan-elliott/default.aspx)
- **Canvas messaging** should be used to communicate with me. Open up your college Canvas account, click on messaging button on left side

Please use Canvas messaging to send me personal information (e.g. you're sick, you were in a car accident, you were locked out of a test and need access again)  
Please use the class Discussion Boards to ask content (e.g. How do you solve..?) or procedural questions (e.g. What do I do if I miss a deadline?). Also, please let me know if/when you find typos, broken links, etc.

## Expectations of Me:

In this class (especially in the Discussion Boards) I will not behave as the 'Sage on the Stage'. I am here to be a *learning facilitator* for you all. I will be more like the 'Guide on the Side'. We're all here to work together with each other and learn together from each other.

I may not reply to every Discussion Board posting since you and your classmates all have talents, opinions and experiences to bring to the class. I want you all to learn to work together and learn from each other. If I see that several of you are asking the same question, and no one else seems to know the answer, I may respond, give a hint or clarify.

I strive to make this course as interesting and interactive as I can.

## Response Time:

I am generally online in the class materials off and on throughout the day/evening M-Sa.

On weekends I usually have other events throughout the day, but I try to check into the class materials if I can. On Sundays I try to leave work "at the office".

I will do my best to check in to class every day of the week during the session.

Thus, responses from me should be in about 24-48 hours M-F or about 48-72 hours over the weekend while class is in session.

## My Expectations of You in this Class

You will adhere to all of the requirements in the course.

You have read the orientation.

You have read the Syllabus and continue to refer to it on a regular basis (every day, or every other day at the least).

You will stay up-to-date on your Canvas modules and units.

You will participate in every group discussion board assignment and respond to your colleagues in a polite and professional manner.

You have talents, thoughts, and ideas that you will share with the class.

You will 'play nicely' with others in the class.

You will not expect this class to work in the same way that a lecture class works.

You will work on this class a minimum of 3-4 hours per day 6 days a week.

You will seek help as soon as you get stuck or have a question.

## General Expectations of Online Students

**Online classes give students greater freedom of scheduling, but they can require more self-discipline and self-reliance than traditional on-site classes.**

Please understand that it is impossible for me to be online 24/7. Anticipate waiting 24-48 hours for a response to your posting (longer over weekends and holidays). Please remember that I can't read minds, so if you have a question about the class it's your responsibility to seek assistance promptly. **Keep in mind that I do not evaluate excuses; I only evaluate coursework that is submitted on time.** Waiting until the last minute to seek assistance severely limits the kind of help I and others can provide. Waiting for my response does **not** excuse you from completing the assignments.

**Online classes require that students have a basic computer skill level.**

Students should be comfortable with using a computer, the web (at least 2 different browsers) and Discussion Boards. Instructors **do not** provide remedial "How-To-Use-A-Computer" or "How to Get your Computer Set Up to Work with Canvas" directions in addition to the intended course content. If you have computer/browser problems, you need to contact Canvas Technical Support immediately

**In terms of time requirements, they can be quite extensive with a 4-unit online class.**

**Please do NOT take this class if you think it will be easier than a traditional, on-site class.**

Math 160 is a three-unit intensive transfer-level mathematics class.

The class is very challenging when taken in a traditional setting, and can be much more demanding when taken online. You'll need to stay focused, take charge of your learning, and work extremely hard to do well.

**Students who tend to do well in online courses are those who are:**

Spending at least 2-3 hours each day 6 days per week working in the class

Experienced college students (i.e. this is not the first college class ever taken)

Self-motivated learners who do not need prompting in order to complete assignments

Committed to learning, and who always make a strong effort to do their absolute best

Actively involved in taking responsibility for their own education

Are able and willing to help other students in the class (via Discussion Boards group projects)

Ask for help from peers (via Discussion Boards group projects) as soon as they encounter difficulty that they are genuinely not able to resolve

Good managers of time and who are able to balance personal responsibilities with class requirements

Able to understand and follow **written** instructions

Good communicators who are able to express their thoughts and communicate their ideas as well as problems with other students in the class

Computer literate and able to learn new software and technology quickly if necessary.

**Traditional student expectations apply as well (for example: no plagiarizing, respect for classmates and instructor, etc.).** You may wish to review [Cuyamaca College's Catalog](#), specifically the section on "[Academic Policies and Procedures](#)." You will be expected to know and follow those policies and procedures at all times.

## Important Dates

1st day of Instruction	Late Add Deadline	Deadline to drop class with no record & receive refund	Deadline to file for Pass/No Pass grading option	Deadline to drop with a "W" grade (withdraw)
8/19	8/23	8/23	8/23	9/27

## Required Materials

### 1. A computer that can access and work inside Canvas

### 2. Graphing Calculator(optional)

There may be some cases where you can use a [Texas Instruments](#) TI-84 graphing calculator. Any TI83 or TI84 calculator would be useful. There are plenty of YouTube tutorials available.

Some of your lab assignments may be completed with the use of a TI-83/84 calculator.

Having said all of that we will be using ..

### 2. A Statcrunch access code.(REQUIRED) Please wait to purchase this until you are prompted to do so inside of Canvas. When this is needed you will be provided instructions on how to obtain and use this.

Statcrunch is an easy to use statistical software platform that we can use to do every type of calculation required in our course.

Again, there are numerous YouTube tutorial videos available for help with StatCrunch.

### 3. A notebook for note taking and working problems

You should treat this class as you would any other math class. Take notes in a notebook while watching lecture videos or while reading the eBook, work practice or homework problems in your notebook before submitting answers, etc. I don't usually check your math notebook. However, I may ask to see it (via fax or .pdf) if you begin to fall behind or start consistently scoring low on Quizzes or Tests.

**THIS CLASS DOES NOT REQUIRE A HARDCOPY TEXTBOOK.** Your required online class materials are all contained within our Canvas shell.

**ACCOMMODATIONS:** A student with a verified disability may be entitled to appropriate academic accommodations. Please contact the instructor and/or the Disabled Students Program and Services Office [DSP&S](#) for further information.

## Participation Requirements

1. **On Campus Attendance for Final Exam** - You must come, in-person to take the final exam. The final exam will be held on **October 11th**. There will be TWO time periods available. The time period will be a 2 hour block between 815am-1230pm. They will more than likely be from 815-1015am and 1030am-1230pm. These are the **ONLY** times available to take the final exam. If you cannot make this time period do **NOT** take this course. Since most students taking this class live locally, most of you will take your final exam at Cuyamaca College. Students *not able* to make it to Cuyamaca College for the Final Exam will need to make prearrangements to take your Final Exam elsewhere (as discussed on the 1st page of the syllabus).
2. **The final exam will be in room H119 on the Cuyamaca College campus.**

Your learning, practicing, homework, and Quizzes can be done from off-campus if you choose. Regardless of what computer you use to do homework, learning, practicing, and Quizzes, you **should be working in this class a minimum of 16-20 hours per week**. If you earned a B or a C in Intermediate Algebra or if it's been a number of semesters since you took the prerequisite class, you need to plan to spend about **twice the minimum** amount of time. If your algebra skills are rusty/weak you will have to work extra to catch up and to keep up.

3. **Orientation** - All students must complete an online orientation. The mandatory orientation is the first three modules of the course and can be completed either on your home computer or in the MLC.

**Please begin the orientation once you are registered in the course and have access to Canvas.**

If you do not complete the orientation by the end of the 1st week of classes, you will be dropped for non-attendance.

## Instructor Drop Policy

These policies are in place due to their high correlation with student success.

Because students need to be working as soon as possible in the course, students may be dropped for not completing the mandatory online orientation by the given due date of the end of the first week of class.

Statistics is a subject which requires utilizing and synthesizing previously learned knowledge and concepts. Due to this, at the *instructor's discretion*, students *may* be dropped (up until the last day to drop the class) for non-attendance as described below:

- ❖ **Missing two different Unit Checkpoints**
- ❖ **Any other reason to be determined by your instructor**

Students are responsible for dropping themselves from this class . Do NOT rely on me to drop you if you no longer wish to be in the class.

## Academic Integrity

Academic integrity will be expected from all. Any breach will be dealt with by a zero on the assignment (which can not be made up) or by failing the class. You may wish to review [Cuyamaca College's Catalog](#), specifically the section on "Academic Honesty/Dishonesty." You will be expected to know and follow those tenets as well.

## Steps for working in the course

### ---Interactive Reading

Much of your Math 160 homework will be completed through the *interactive reading* assignments on Canvas. I will not accept late work, and you are not allowed to make up these assignments. However, I will drop your three lowest scores from this category. This category will include things like reading about content, quizzes over the reading, and group discussions regarding the reading. Your instructor will provide graded feedback on at least one (but not all) of the group discussions for each module.

### ---Module Checkpoints

At the end of each Module in Canvas, you will have a *Module Checkpoint*. To accommodate any technical difficulties, you are allowed three attempts on each Module Checkpoint. Again – no late work, and no make-ups, but I will drop your two lowest scores from this category.

### ---Unit Checkpoints

Modules are organized into units on Canvas. At the end of each unit, you will have a *Unit Checkpoint* on Canvas. These unit checkpoints are great practice for the final exam. Again – no late work, and no make-ups, but I will drop your single lowest score from this category.

### ---Labs & Other Activities

Additional assignments will include groupwork using Statcrunch and your TI83 submitted and completed through Canvas, and other activities. No late work and no make-ups, but I will drop your two lowest scores from this category. The labs will be set up as discussion boards inside of canvas. You will be assigned group mates randomly for each Module. Group interaction is required. There will be other group discussions set-up within each learning module. Your instructor will provide graded feedback on at least one (but not all) of the group discussions for each module.

This course is setup inside of Canvas to be an intuitive process. There will be more than one unit due each week. There are approximately 25 modules and 9 units for you to complete during the 8 weeks of the course. At the end of 1-3 modules you will have the opportunity to check what you have learned by completing a unit checkpoint (think of these as unit exams). Within each module you will have assignments, quizzes, group discussion boards. You cannot progress through the modules out of order.

**Modules (including the Unit checkpoints) will always be due on Sunday evenings at 11:59pm.**

**Responses to group discussion posts will be due on Wednesday's following the Sunday the initial response was due.**

**For more information regarding this process please start by logging into Canvas [Canvas Login page](#)**

## Evaluation:

Interactive Reading	20%
Labs & Other assignments	25%
Module Checkpoints	15%
Unit Checkpoints	15%
Final Exam(read below about the final exam)	25%

## Grading Scale

The grades will be calculated as the percentage of the total points possible:

**A=90% - 100%, B=80% - 89%, C=70% - 79%, D=60% - 69%, F=Below 60%**

**I reserve the right to drop your final course grade by one letter grade or more, for insufficient participation on the discussion boards.**

**Official course grades will be posted inside our Canvas course [Link TO Canvas](#)**

## Final Exam

The cumulative final exam will be given **on campus**. The final exam will be given through Canvas and will cover all the materials from the course. You are allowed one 8.5 X 11 sheet of **notes** plus tables which I will provide.

### Required Materials:

- ❖ VALID Picture ID(college Id, Drivers License, Passport)
- ❖ TI-83/84 Calculator

### Final Exam Date:

October 11th for 2 hours between 815am and 1230pm

If you are unable to take the final exam at the scheduled time above(unless you are having it proctored off campus). Please do not take the class as there will be no other time periods available.

### Proctoring the Final Exam:

If you are unable to take the final at the Cuyamaca campus you will need to find a local public library, College, or local business such as Sylvan Learning Center to provide this service (and pay for the service if there is a charge).

The service must be able to:

1. Provide you with a computer that can access the final exam through the Colleges Canvas page
2. Arrange a time so that you can complete the final on or before Friday, October 11<sup>th</sup> at 5:00PM
3. Monitor you while you are taking the final

I must approve your choice of a proctor. So, by **Sunday, August 25<sup>th</sup>** you must provide me with a contact name, phone number, physical address, and email address at the proctoring service where you will take the final exam. Please send the information to me via email with "Math 160 Final Exam" in the subject line.



## Making the Grade

In order to pass this class with a grade of C or higher, the student must:

- **Earn a D or better on the final exam**, and
- Have an overall grade in the class of at least 70%.

For example, if a student has an overall grade of 92% before taking the final exam, and earns an F on the final exam which drops the overall grade down to 84%, the highest grade the student could earn for the class would be a D.

## Course Content

The course is organized into units. Here is a list of the Units we are scheduled to cover.

Introduction to Statistics, Summarizing Data Graphically and Numerically, Examining Relationships: Quantitative Data, Relationships in Categorical Data with Intro to Probability, Probability and Probability Distributions, Types of Statistical Studies and Producing Data, Linking Probability to Statistical Inference, Inference for One Proportion, Inference for Means, Chi-Squared Tests

## Tentative Schedule (Subject to change)

<i>Week</i>	<i>Due Date</i>	<i>Unit</i>	<i>Modules covered</i>	
1	8-25	1,2	1-3, 4-7	Orientation, & Descriptive Statistics
2	9-1	3	8	Categorical Data
3	9-8	4 & 5	9-10, 11-13	Intro to Probability, and Experimental Design
4	9-15	6	14-16	Intro to inference
5	9-22	7	17-19	inference for 1 proportion
6	9-29	8 & 9	20-23, 24	Inference for means, ANOVA
7	10-6	10 & 11	25, 26-27	Chi-Squared tests, and paired data
8	10-11	Final Exam	Review	

### \*\*\* Important Notice\*\*\*

The modules will be closed after the due date given in the tentative schedule above. However, if you want to work on the missed modules (without receiving any credit) please email me. For this reason, it is VERY IMPORTANT that you stay ON SCHEDULE.

**You may not receive any points after the due date for work completed in the modules**

## Need Help? Tutoring

To support your efforts to succeed in this class, it is highly recommended that you utilize the free math tutoring services available in the STEM center in the H-building. All Supervised Tutoring sections are FREE. You can make half-hour one-on-one appointments with tutors. Just call or stop by the front desk of the STEM center (619-660-4396 located on the 1<sup>st</sup> floor of the H-building) to set up your appointment. Understand that the will require you to enroll in a course to utilize the services. This course will be of no charge to you and is just a way for the service to track its usage. You must have a student ID to utilize this service.

This course adheres to the policies outlined in the Cuyamaca College catalogue. For further information, please refer to the support contact numbers listed in the first module of our Canvas course.

This information may also be found in the first Module of the course

\*\*\*Any information given here may change at the discretion of the instructor at any time.