

# ELEMENTARY STATISTICS

## WITH SUPPORT (MATH 160 + 060)

Math 160 Section 9978

Math 060 Section 9976

Cuyamaca College, Spring 2019

## What will I need for class?

Classroom Location: Building H, Room 134.

Meeting days/Times: Tuesdays & Thursdays from 6:00pm-8:50pm

### Required Materials

1. Math 160+060 Workbook - available at the Cuyamaca Bookstore for \$26.
2. StatCrunch – available for [6-month online access](#) for \$13.
3. Calculator – A TI-84+ graphing calculator is the recommended calculator. See below for more information on the required calculator.
4. Notebook paper, three-ring binder, pencils, erasers. Also recommended but not required: highlighters and colored pencils/pens.
5. Student ID Card

### Where do I get my Student ID card?

After you have registered, bring a picture ID and your student ID number (you can locate this on WebAdvisor) to either the TechMall E-121 or Admissions and Records at the One Stop, starting the first week of the semester. Your first student ID is free and replacements are only \$5. You will need an ID to check out calculators while in class or to borrow one for the semester from the library.

*“The best advice I can give you is to push aside all of your preconceived notions and past good or bad experiences with math, and just give this class a chance. You’re not going to regret it.”*

*- Elyssa Willets,  
Math 160+060  
Spring 2018*



Required calculator: TI-84+

## Sneak Peek

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# What To Expect in Math 160+060

## The Student-Centered Classroom

Forget what you know about the traditional math classroom where teachers lecture and students diligently take notes while struggling to understand the hieroglyphics materializing before them on the board. Learning math this way may work for some, but for many, the traditional math classroom does not allow students to engage with the course material in a meaningful way. Typically, students do not interact with the lesson until they attempt the homework problems a few days later and even then, when faced with math homework, the student may suddenly prefer to do the dishes that have been sitting in the sink for too long. To improve learning and increase your probability of success, in this course you'll study math in the student-centered classroom – no more typical lectures, robotic note-taking or traditional textbooks.

So what do I mean by a student-centered classroom and how does it differ from the traditional math classroom? In this learning model, the focus of activity shifts from the teacher to the learner. Class time is spent on discussion, collaborative work, and engagement with other brains-on activities. Additionally, during class, teaching and learning is tailored to fit the needs of small groups of students as they work through the activities and review prerequisite skills in a just-in-time approach. Furthermore, this learning model employs a teacher-guided-discovery process that allows me to identify gaps in student understanding and use class time to remediate those gaps. The good news? We'll explore data that demonstrates the student-centered classroom works!

## Math 160 Course Description

4 hours lecture, 4 units

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

## Math 060 Course Description

2 hours lecture, 2 units

A review of the core prerequisite skills, competencies, and concepts needed in statistics. Intended for students who are concurrently enrolled in MATH 160, Elementary Statistics, at Cuyamaca College. Topics include concepts from arithmetic, pre-algebra, elementary and intermediate algebra, and descriptive statistics that are needed to understand the basics of college-level statistics. Concepts are taught through the context of descriptive data analysis. Additional emphasis is placed on solving and graphing linear equations and modeling with linear functions. Pass/No Pass only. Non-degree applicable. Prerequisite: Appropriate placement .

## More on the Calculator

Knowing how to use the calculator is important for your success in class. We will spend a lot of time in class learning how to use this amazing piece of technology, but you will need to practice it outside of class as well. So it is very important that you have a calculator to use in and out of class. The required TI-84+ calculator retails for \$150 at the bookstore. This is expensive! But I have several ideas on how you can save money!

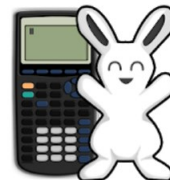
You can find the same calculator but cheaper on [Amazon](#), or check other stores for back-to-school deals like Fry's, Best Buy or Target.

If you have another (maybe older Texas Instruments) calculator, don't go run out and buy a new one! Bring it with you to our first class meeting and chat with your professor about it.

You could borrow a calculator from the Cuyamaca Library **for free** all semester! Bring your student ID card and a copy of your class schedule (WebAdvisor on your phone is fine) to library. The library is Building C on campus. There are a limited number of calculators available and first priority is given to students on financial aid.

### This one is my favorite option!

Do you have an android-based smart phone? There is a free TI-84 graphing calculator app called WabbitEmu (sorry iPhone users – no app for you). Download it and now your smartphone IS a graphing calculator!



## Math 160 Grade

Your semester grade will be based on the different categories listed below.

- Interactive Reading & Quizzes: 20%
- Module Checkpoints: 10%
- Unit Checkpoints: 10%
- Labs & Others: 20%
- Exams: 20%
- Final Exam: 20%

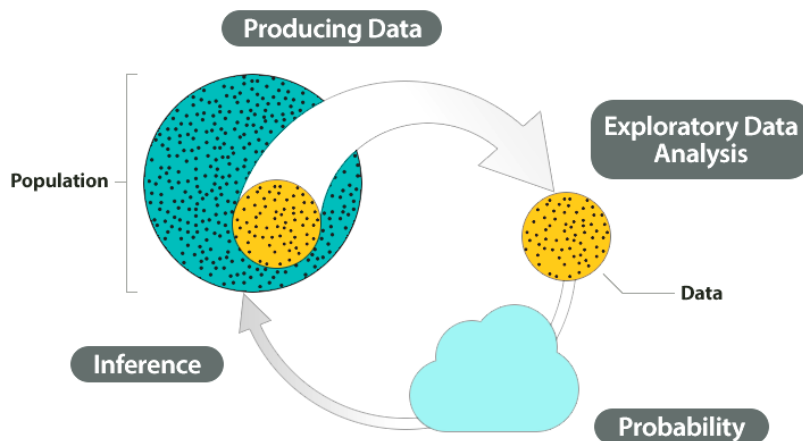
The grading scale will be as follows: A = 90% and above, B = 80-89%, C = 70-79%, D = 60-69%, F = below 60%.

## Math 060 Grade

Eighty percent of this grade is based on your Math Interludes work (flipped activities, homework, and quizzes). I will drop your three lowest Math Interludes scores. The 060 final exam constitutes 20% of this grade.

## Academic Accommodations

Academic accommodations are available for students with disabilities. Please identify yourself to me and to Disabled Students Programs & Services staff so that the appropriate accommodations can be ensured. If you suspect you have a learning disability or need services for any other type of disability, contact the Disabled Students Programs & Services (DSPS) Office, A-113, at the Student Services One-Stop Center or call (619) 660-4239.



### The Big Picture in Statistics

## What You Will Learn in Math 160+060

### Math 160 Student Learning Outcomes:

Upon successful completion of this course, students will be able to:

1. Summarize data graphically and numerically.
2. Use descriptive statistics (measures of central tendency, variation, relative position, and levels/scales of measurement) to describe a population and compare populations when appropriate.
3. Identify the sample space of an experiment or random trial.
4. Find and interpret the expected value and standard deviation of a Random variable.
5. Recognize the sampling distribution as a distribution of a sample statistic, the mean of the sampling distribution as the population mean, and the standard error of the sampling distribution as the standard deviation for the population (the Central Limit Theorem).
6. Construct and interpret confidence intervals.
7. Use hypothesis tests and inference (including t-tests for one and two populations and Chi-square test) to determine if a result is statistically significant for discrete (binomial) and continuous (normal) distributions.
8. Perform statistical analysis using technology such as SPSS, EXCEL, Minitab, or StatCrunch.

### Math 060 Student Learning Outcomes:

Upon successful completion of this course, students will be able to:

1. Formulate questions that can be addressed with data, then organize, display, and analyze relevant data to address these questions and communicate results.
2. Apply numerical and algebraic reasoning and computational skills to support statistical analysis.
3. Construct, use, and interpret mathematical models, specifically linear functions to represent and communicate relationships in quantitative data.

# Be Present! Ask For Help!

## Attendance Matters!

In this class we function as a team – teaching and learning together in small groups that are frequently reorganized during each class period. Consequently, throughout the semester you'll become increasingly vested in the success or failure of your classmates and vice versa. As a result, when you arrive to class late or return after an absence, your group mates will try to “catch you up” rather than moving forward with the lesson, and the entire group will fall behind. So your on-time presence in each and every class matters. Your deep and committed engagement in teaching and learning matters.

The college policy states that a student may be dropped from the course for excessive absences or tardiness. I understand that life unexpectedly gets in the way of class on occasion. So if you know you are going to be absent or late or have to leave early, please email me to let me know ahead of time. If I don't hear from you and you are absent for more than two classes in a row, you may be dropped from the class. If you quit attending class, you should not assume that I will drop you. Should you choose to drop, ultimately it is your responsibility to officially withdraw.



## You Won't Need Your Cell Phone

To promote a learning environment where each group member is fully engaged in teaching and learning, cell phone use during the lesson is prohibited. However, in addition to our regular breaks, I will offer short 1-minute "text breaks" during class. So, occasionally you will be able to satisfy your need to read or send a text.

## STEM Tutoring Center

To support your efforts to succeed in this class, it is highly recommended that you utilize the free tutoring services available in the STEM Center or Academic Resource Center (ARC). The hours of both centers are located online. 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 1st floor of Building H) to set up your appointment. You will need your student ID to do this.

## Meet The Teacher!

Rachel Polakoski

Pronouns: she, her, hers

Answers to: Professor,  
Teacher, Instructor, Mrs. P

Email:  
rachel.polakoski@gcccd.edu

Student Hours (H-115):  
Tuesdays & Thursdays from  
5:00pm-6:00pm, or by  
appointment.

## Other Academic Notes

Any information in this syllabus is tentative and may change at the discretion of the instructor at any time. This course adheres to the policies outlined in the Cuyamaca College catalog. For further information, see Academic Policies stated in the catalog.

Cuyamaca College students are bound by the Student Code of Conduct. In this course, cheating, plagiarism, fraud and/or lying may result in a grade of “F” for the assignment/test with no make-up work permitted. Any of these infractions may also result in formal disciplinary action by the Associate Dean of Student Affairs as described in the Student Code of Conduct.



# Assessments

## Interactive Reading

Much of your homework will be completed through the interactive reading assignments on Canvas. Additionally, each week, you may have an in-class quiz covering the interactive reading materials on Canvas. I will drop your three lowest scores from this category.

## Module Checkpoints

At the end of each Module in Canvas, you will have a Module Checkpoint. Think of these checkpoints as take-home quizzes that you complete online. To accommodate any technical difficulties, you are allowed three attempts on each Module Checkpoint. I will drop your two lowest scores from this category.

## Unit Checkpoints

Modules are organized into units on Canvas. After every three or four modules, you will have a Unit Checkpoint on Canvas. Think of these checkpoints as take-home exams that you complete online. Also, the unit checkpoints are great practice for each in class exam and the final exam. I will drop your single lowest score from this category.

## Labs & Other Assignments

Additional assignments will include StatCrunch labs (completed on StatCrunch and Canvas), in-class group work, pop quizzes, and other activities. I will drop your two lowest scores from this category.

## Math Interludes (Math 060)

Math Interludes are made up of the foundational math skills necessary to be successful in Statistics. These flipped lessons will be completed at home. Some of the lessons and homework may be collected or the instructor will give a pop quiz on the material. I will drop your three lowest Math Interlude Scores (not including the final). Your grade within the Math Interludes category makes up your grade in Math 060. An overall grade of 70% or higher earns a Pass in Math 060. An overall grade of below 70% earns a No Pass in Math 060.

## Exams

Expect 3 to 6 exams. I will drop your lowest exam scores (not including your final exam). Make-up exams are not allowed for unexcused absences. If you know you are going to be absent for an exam, please talk to the professor to schedule a time to take it.

## Final Exam

You will have a Math 060 final exam covering eight Math Interludes lessons in this class. You will also have a Math 160 final exam covering the statistics units Modules/Units in Canvas. The final exam is mandatory and may not be dropped. If you do not take the final, you will receive a failing grade in the course. You must earn at least a D on the final exam and a minimum overall grade of 70% to pass Math 160 and Math 060 with a C or better. **The comprehensive final date for Math 060 is Tuesday, May 28th from 6:45pm-8:45pm. The comprehensive final date for Math 160 is Thursday, May 30th from 7:15pm-9:15pm.**

## Late Work Policy

In general, I do not accept late work. I drop lowest scores from each grading category so that if you unexpectedly miss a class or two due to an emergency, your grade will not be harmed. If you know that you are going to be absent, please talk to your professor to see if you are going to miss something and to see if it is possible to turn it in early or take it ahead of time.

## Important Dates

Regular Day & Evening  
Classes Begin – 1/28

Last day to drop without “W” &  
apply for a refund – 2/8

Holidays (Campus is closed) –  
2/15, 2/16 & 2/18

Last day to apply for P/NP –  
3/1

Last day to apply for Spring  
2019 Degree/Certificate – 3/8

Spring Break (Campus is  
closed) – 3/25-3/30

Last day to drop semester  
length class – 4/26

Holiday (Campus is closed) –  
5/27

Final Exams – 5/28-6/3

Cuyamaca Commencement –  
6/6