

# MATH 119: ELEMENTARY STATISTICS

FALL SEMESTER, 2021 (8/23/21-12/18/21); SYLLABUS DATE: 8/21/2021

CLASS # 70607

3.0 Units; Mon. and Wed., 6:00-7:25pm (Mesa Remote; in Zoom Room)

**INSTRUCTOR:** Ken Kuniyuki

**Email Address:** [kkuniyuk@yahoo.com](mailto:kkuniyuk@yahoo.com); there is no "i" before the "@".

**Official Address:** [kkuniyuk@sdccd.edu](mailto:kkuniyuk@sdccd.edu) (esp. for official business like applications).

- I usually **check** my email at least once a day, although busy periods may delay responses.
- When asking about **homework (HW)**, tell me what you are thinking about the problem, so I know where to start addressing your question. Please go beyond: "How do you do this problem?" Then, I may just give a hint! **Photos help!**

**Office Hours:** MW 4:30-5:45pm, TTh 5:30-6:45pm in my Zoom Room.

- **Email me** and we can try to set up a Zoom Room meeting during office hours. I will check my email during office hours.

**Zoom Room:** For security reasons, this will only be sent to the email addresses on my roster and wait list. If your email address is not with the district, please email me. This will also be posted on the **Canvas** site.

**MY WEBSITE AT** <http://www.kkuniyuk.com> (or google "precalculus notes");

**MATH 119 SITE:** <http://www.kkuniyuk.com/Math119.html>

- Ready access to the Internet and email will be assumed. Webcams will **not** be required. **I will ask you to submit homework to my Yahoo! email account.**
- I expect to post **homework** assignments; **class notes**; old exams and solutions (for your reference); tips on test-taking and reducing test anxiety (for other classes); and extra links, notes, info, and resources for interested students.
- I will try to help you form **study groups**. Email me.

**THERE IS NO REQUIRED TEXTBOOK. NOTES ARE ONLINE. HW PROVIDED.**

- **Homework (HW)** assignments will be provided on my website. Answers will be given in some class sessions, which will be recorded.
- I use **Microsoft Excel** as statistical software, but you don't need it.

## ADDITIONAL RESOURCES (OPTIONAL)

- I used to use **Triola's** "Essentials of Statistics" text. **Cheap, old editions** are sold on [ebay.com](http://ebay.com) and [amazon.com](http://amazon.com). Weiss and Peck are respected authors, Moore for concepts.
- **My website** has Amazon links to other books and videos. Check [ebay.com](http://ebay.com). The **Schaum's Outline** paperbacks are much cheaper than textbooks, and they have many worked-out problems.

### Free websites with tutorials, statistical calculators, and tools:

- **Stat Trek** at <https://www.stattrek.com>
- **Statistical calculators** at [http://www.tutor-homework.com/statistics\\_tables/statistics\\_tables.html](http://www.tutor-homework.com/statistics_tables/statistics_tables.html)

### Optional software:

- **StatCrunch** at <https://www.statcrunch.com>  
This costs about \$13. You are not required to use it in this class, but you may want to get it if your program requires you to have some exposure to user-friendly statistical software beyond Excel.

### Optional statistics video series (Crash Course Statistics):

[https://www.youtube.com/playlist?list=PLH2l6uzC4UEW3iJO4T0qUeUEp\\_X-f1U7S](https://www.youtube.com/playlist?list=PLH2l6uzC4UEW3iJO4T0qUeUEp_X-f1U7S)

### Optional, cheap book with many worked-out problems:

- **Schaum's Outline of Statistics** by Murray R. Spiegel and Larry J. Stephens; Publisher: McGraw-Hill. Old editions should be fine, but 6<sup>th</sup> edition is © 2017, ISBN-10: 1260011461; ISBN-13: 978-1260011463; Amazon link: [https://www.amazon.com/Schaums-Outline-Statistics-Sixth-Outlines/dp/1260011461/ref=sr\\_1\\_1?keywords=schaum%27s+outline+statistics&qid=1562363963&s=gateway&sr=8-1](https://www.amazon.com/Schaums-Outline-Statistics-Sixth-Outlines/dp/1260011461/ref=sr_1_1?keywords=schaum%27s+outline+statistics&qid=1562363963&s=gateway&sr=8-1)

### Optional, cheap guide:

- **The Cartoon Guide to Statistics** by Larry Gonick; Publisher: HarperResource, 1993. ISBN-10: 0062731025; ISBN-13: 978-0062731029. Amazon link: [https://www.amazon.com/Cartoon-Guide-Statistics-Larry-Gonick/dp/0062731025/ref=sr\\_1\\_2?keywords=cartoon+guide+to+statistics&qid=1562364498&s=gateway&sr=8-2](https://www.amazon.com/Cartoon-Guide-Statistics-Larry-Gonick/dp/0062731025/ref=sr_1_2?keywords=cartoon+guide+to+statistics&qid=1562364498&s=gateway&sr=8-2)

## ACCOMMODATIONS; DSPS

- Students with disabilities who may need academic accommodations are encouraged to **discuss** their authorized accommodations from Disability Support Programs and Services (DSPS) with their professors **early** in the semester so that accommodations may be implemented as soon as possible.
- The faculty member will work with the DSPS Office to ensure that proper **accommodations** are made for each student. By law, it is up to the DSPS Office to determine which accommodations are appropriate, not the student or the faculty.
- Students with disabilities or medical concerns who may need academic accommodations should notify their professors **immediately**. See the DSPS website at [www.sdmesa.edu/dsps](http://www.sdmesa.edu/dsps)
- If you are involved in professional or college **activities** (e.g., military duty or athletics) that may, for example, hinder your ability to attend class and/or submit homework, let me know **as soon as possible** so that accommodations may be made.

## ADDITIONAL HELP

**Canvas site.** I base my class on my website, not a Canvas site, but a **discussion board** and **NetTutor** can be accessed on Canvas: <https://sdccd.instructure.com/login/canvas>

**Websites!** My website has links that may prove helpful.

**Your fellow students!** Email me. The **Canvas discussion board** may help also.

## TUTORING!

- **Mesa Tutoring and Computing Centers (MT2C): Math & Science Tutoring and Computing:** <http://www.sdmesa.edu/mt2c>
- **NetTutor.** Free online tutoring via **Canvas:** <https://sdccd.instructure.com/login/canvas>
- **Math workshops.**  
<http://www.sdmesa.edu/academics/schools-departments/mathematics-natural-sciences/workshops/index.shtml>
- **STAR/TRIO Tutoring.** One-on-one weekly tutoring for eligible students (low-income, first-generation college, or disabled).  
Email: [startrio@sdccd.edu](mailto:startrio@sdccd.edu). Web: <http://www.sdmesa.edu/star>

**Student resources:** <http://www.sdmesa.edu/student-services/student-services/ss-home-page/Helpful%20Resources%20for%20Students.pdf>

## DEADLINES (SEE THE “VERY TENTATIVE SCHEDULE” AT THE END)

Adding (*); Drops w/no “W”; Refunds	Fri.	Sept. 3	Week 2
Withdrawal deadline (**)	Fri.	Oct. 29	Week 10
Pass / No Pass petition	Tues.	Nov. 30	Week 14

(\*) Tuition and fees must be paid within two (?) days of adding a course, or by this deadline, whichever comes first.

(\*\*) If you do not withdraw from the class by this deadline, I must give you an evaluative grade (like A-F, Pass / No Pass).

## GRADES / ASSIGNMENTS

Your course score will be out of 600 points (600 points = "100%"), divided as such:

**HOMEWORK (“HW”): 500 points (about 83% of course grade)**

-- 100 points for each of 5 submissions

- The **HW assignments** are on my Math 119 website:  
<http://www.kkuniyuk.com/Math119.html>
- Your HW grade will be a combination of **overall completeness** and analyses of your solutions and answers to **selected problems / exercises**.
- I will go over **solutions and answers quickly** in our **HW SESSIONS**, which will be **recorded**. These sessions will be very difficult to understand if you have not studied the material or basically completed the HW. **It is expected that students will be knowledgeable enough to keep up with the HW sessions.**

- Although you are strongly encouraged to do problems as soon as you can, homework will typically be **due at 11:59pm on the day after the day of the corresponding HW SESSION**, unless the due date is explicitly postponed. For example, if a HW SESSION is on a Wednesday, then the HW will typically be due at the end of Thursday.
- **Expect late HW to be penalized.** Expect late HW to lose about 4% each day after the due date. Email me if there are difficulties. **The last HW must be turned in on time.**

### **HOW TO DO HOMEWORK IN OUR CLASS**

- I expect students to write out (or type) their solutions to problems on paper and then **email** scans or photos to my email address: [kkuniyuk@yahoo.com](mailto:kkuniyuk@yahoo.com)
- You **do not have to copy the given problem statements**, though sometimes it helps students.
- My Yahoo! email account has **unlimited storage capacity**. Don't worry about that!
- Make sure you turn in your solutions to the homework problems in the **correct order** so that there is no confusion and you can get all the points. If you have trouble with some particular problems, you could **leave some space on your papers and come back to them later**.
- **Make sure you clearly separate sections on your homework! Write your first name, last name, and "Math 119" on either a title page or on the upper right corner of the first page.**
- **Put PAGE NUMBERS at the top of your pages. You want credit if you accidentally submit your pages in the wrong order!**
- On your homework, **show work where appropriate**. Points may be deducted from submissions **that are incomplete or illegible, that are systematically copied (aside from me), that are turned in late, that do not adhere to "good form and procedure" as presented in class, or that have insufficient, messy, or unordered work.**

**CLASS PARTICIPATION / ATTENDANCE: 100 points (about 17%)**

- This may involve participation in class (possibly including Zoom chat), office hours, email, HW sessions, in-class activities and exercises, possibly Canvas discussion boards, etc.
- **Attendance will be taken via Zoom. Please turn on the Chat feature on Zoom.** Chat something like “Hi” to me privately during the Zoom session; you can click on my name in the Chat. This will serve as a form of attendance. **Please log in with your correct first name and last name** so that your attendance will be duly noted. **You are welcome to chat publicly**, but please remember that other students will see your name, and we don’t want to flood the public Chat with “Hi”s.
- Your grade in this class will be affected by class participation as follows: **Everyone will get at least 90 points here**, so your class participation score will not harm your letter grade. **The remaining 10 points** will be assigned based on an assessment of your engagement as described above. Also, I may use class participation as a **key factor in determining grade “borderline” cases**.

**The following are guarantees:**

	At least ... out of 600 points			
Course score	540 (90%)	480 (80%)	420 (70%)	360 (60%)
Grade guarantee	A	B or better	C or better	D or better

I do not reverse curve. The grade cutoffs may be lowered.  
Percents might not be rounded up! **Class participation could be critical here.**

The course may be taken on a Pass / No Pass basis, but check your program requirements, first. The petition deadline is **Tues., Nov. 30 (Week 14)**.

## ACADEMIC INTEGRITY

- **Collaboration** outside of class is encouraged, but **systematic copying is forbidden**.
- In the event of **systematic copying**, the instructor may consult with students before assigning points.
- **Online resources** should be used judiciously and only to enhance the students' learning. Grading may be based on solution methods **as presented in class**.
- Homework exercises and grading schemes from prior terms may not apply now.

### **CLASSROOM BEHAVIOR AND STUDENT CODE OF CONDUCT:**

Students are expected to respect and obey standards of student conduct while in class and on the campus. The student Code of Conduct, disciplinary procedure, and student due process (Policy 3100, 3100.1 and 3100.2) can be found in the current college catalog in the section Academic Information and Regulations, and at the office of the Dean of Student Affairs (H-500). Charges of misconduct and disciplinary sanctions may be imposed upon students who violate these standards of conduct or provisions of college regulations.

### Statements from Mesa / Student Services:

#### **San Diego Mesa College Academic Honesty Statement**

San Diego Mesa College values honesty, academic integrity, and community. Our goal is to guide our students in maintaining academic excellence, in addition to fostering a sense of belonging to our campus.

[We expect a student to affirm the following:]

As a student at San Diego Mesa College, I am committed to producing my own work in connection with all lecture and laboratory assessments and assignments, and will refrain from any activity to include copying, cheating, plagiarizing, utilizing outside resources, or any form of academic misconduct. I will only use external sources when approved by faculty, and I will properly acknowledge these external sources. I understand failure to comply with these standards will be considered a violation of the Student Code of Conduct under Board Policy 3100 and may result in student disciplinary action.

We thank our students in advance for adhering to these community standards.

*Students are expected to be honest and ethical at all times in the pursuit of academic goals. Students who are found to be in violation of Administrative Procedure 3100.3 Honest Academic Conduct, will receive a grade of zero on the assignment, quiz, or exam in question and may be referred for disciplinary action in accordance with Administrative Procedure 3100.2, Student Disciplinary Procedures.*

## PREPARATIONS FOR CLASS / CALCULATOR INFO:

- You will need **Internet and email** access.
- Copies of **homework** assignments  
**We will discuss the homework during HW SESSIONS.**  
**We may have time to discuss homework after class.**
- **A scientific (not graphing) calculator - you will need one for the course.**  
Some sections at City, Mesa, and Miramar (and at Cuyamaca and Grossmont) are more graphing calculator-based; check the online schedule.  
Many scientific calculators are like graphing calculators as far as WYSIWYG (What You See Is What You Get) entry goes. The Sharp EL733A is a good business calculator; the HP 30S has a large display; and the TI-30X IIS (which I have and which I can help you with) can also be good, though it relies on menus.
- **Some paper and a pencil or pen: for notetaking and in-class exercises**

## RESPONSIBILITY TO ADD, DROP, OR WITHDRAW

**It is the student's responsibility to drop all classes in which they are no longer attending. Students who remain enrolled in a class beyond the published withdrawal deadline, as stated in the class schedule, will receive an evaluative letter grade in this class. If you decide to withdraw from this course, you are reminded to do so by **Fri., Oct. 29**. To avoid a mark from appearing on your transcript, remember to drop by **Fri., Sept. 3**.**

Petitions to add, drop, or withdraw after the deadline will not be approved without proof of circumstances beyond the student's control which made him/her unable to meet the deadline. Lack of money to pay fees is not considered an extenuating circumstance. Students anticipating difficulty in paying fees before the add deadline should check with the Financial Aid Office about sources of funds or other alternatives for which they may be eligible. **Expect "late" adds, drops, and withdrawals to no longer be accepted.**

Please discuss your plans to withdraw from class with your instructors. They may have other options for you that may allow you to continue in class.

## INSTRUCTOR ABSENCE (DISTRICT POLICY)

If neither the instructor nor a substitute appears at the beginning of the scheduled class time, students shall wait 15 minutes; if neither the instructor nor a substitute appears within those 15 minutes, students may "leave the classroom."

## DO YOU NEED THIS CLASS?

Make sure that you check [www.assist.org](http://www.assist.org) to see that your major requirements for transfer have not changed. Bear in mind that the site needs updating.

## OFFICIAL STUFF WE CAN SKIP 😊

### PREREQUISITES

- MATH 96 or Milestone M50 OR
- MATH 92 or Milestone M40 OR
- MATH 109 OR
- Students with Milestone M30 must enroll in Mathematics 119X (MATH 119 and 15A combination), or they may elect to enroll in MATH 92 or MATH 96 or MATH 96X

### COURSE DESCRIPTION

This course covers descriptive and inferential statistics. The descriptive portion analyzes data through graphs, measures of central tendency and dispersion. The inferential statistics portion covers statistical rules to compute basic probability, including binomial, normal, Chi-squares, and T-distributions. This course also covers estimation of population parameters, hypothesis testing, linear regression, correlation and ANOVA. Emphasis is placed on applications of technology, using software packages, for statistical analysis and interpretation of statistical values based on data from disciplines including business, social sciences, psychology, life science, health science and education. This course is intended for transfer students interested in statistical analysis.

Credit - Degree Applicable

Transfer Credit: UC,CSU

CSU GE: B4. Mathematics/Quantitative Reasoning

DIST GE: A2. Communications & Analytical Thinking

IGETC: 2. Mathematics

### COURSE LEARNING OUTCOMES (MATH 119 COURSE CLOs)

- #1 - Given a variety of situations, students will identify the appropriate hypothesis test.
- #2 - Utilize the correct procedure to conduct a hypothesis test and communicate in words the result of the hypothesis test.

### PROGRAM LEARNING OUTCOMES (DEPARTMENTAL / MATH)

“Students who complete the Mathematics program will be able to.....”

- 1) Problem Solving: Apply appropriate mathematical definitions, properties, techniques, and/or technology to a variety of problem solving situations.
- 2) Interrelatedness of Concepts: Demonstrate knowledge of the interrelatedness of several mathematical concepts.
- 3) Communication and Reasoning: Demonstrate the ability to communicate mathematical reasoning both in the context of solving a problem and in the reasonableness of a solution.

### STUDENT LEARNING OBJECTIVES

**Technology-based statistical analyses are implemented throughout the entire course.**

1. Organize qualitative and quantitative data into meaningful charts and graphs.
2. Evaluate measures of location, central tendency and variation of data and probability distribution
3. Analyze data by implementing various scales of measurements and formalize results based on statistical procedures.
4. Evaluate probabilities using a variety of computational methods.
5. Analyze various discrete and continuous probability density functions, and use these to generate cumulative probability distribution functions, emphasizing the expected value and variance of the corresponding random variables.
6. Apply the appropriate probability distribution functions including the binomial, the normal, the Chi-Squared and the t-distributions, to calculate probabilities of random variable values in prescribed ranges.
7. Identify the standard methods of obtaining data and identify advantages and disadvantages of each.
8. Apply the Central Limit Theorem to sampling distributions.
9. Calculate confidence intervals using test statistics to determine the level of significance of the mean, the variance, and the sample proportion.
10. Formulate hypothesis tests discussing the differences between Type I and Type II errors.
11. Perform hypothesis tests for various random variables including means, one and two-sample proportions, and variance.
12. Evaluate correlation to determine the corresponding linear regression between two sets of data.
13. Apply ANOVA analysis of estimation and inference, and interpret corresponding statistics.



## **STUDENT SERVICES SUPPORT:** **SAN DIEGO MESA JOURNEYS TOOL**

The San Diego Mesa Journeys tool (<http://www.sdmesa.edu/mesa-journeys/>) provides free access to over 30+ support programs and services to help you succeed. The “Your Mesa Journey” tool is a short survey asking various questions about your demographics and educational goals. Based on your responses, the application will then provide you a list of recommended programs and services that may help you with your educational journey here at Mesa College. Please complete it today at: <http://www.sdmesa.edu/mesa-journeys/>

## **NOTES / CLASS CONTACTS**

# INTERNET TECHNOLOGY

- **ZOOM:** <https://zoom.us>

**Zoom Room.** For security reasons, this will only be sent to the email addresses on my roster and wait list. If your email address is not with the district, please email me: [kkuniyuk@yahoo.com](mailto:kkuniyuk@yahoo.com) .... This will also be posted on the **Canvas** site.

**Appointments.** Please do not contact me through Zoom outside of class time without an email appointment - I may be speaking with other students! I will check my email during office hours: MW 4:30-5:45pm, TTh 5:30-6:45pm.

**Consent to being recorded.** If you speak or chat publicly in class, then it is assumed that you are giving **consent** to being recorded. Sometimes, I will turn off the recording feature. I do not intend to publish public chats, though that it is not out of the question.

## **In-class Zoom etiquette.**

- **Please log in shortly before the designated class start times.**
- Students may choose to have their video and audio on or off. I recommend “video off” - it may help with people’s connection; we don’t have to see you. I expect to share my screen.
- Please **“Mute”** yourself unless you wish to speak. Otherwise, the slightest sound could shift the camera to you. I may mute the entire class.
- Feel free to **“Chat”** publicly or privately (to me or other students). Feel free to type “Pause” or “?” if you would like me to stop and address a question.
- **Remember to privately chat something like “Hi” to me during a Zoom session for attendance purposes.**
- I will address more questions between the short YouTube videos I play in class.

- **YOUTUBE**

**Lecture videos and most in-class recordings** will be posted on my YouTube channel; go to **“Playlists”**: <https://www.youtube.com/channel/UCpftfxKG-zvG3SaXeCiivHA>

I hope to organize the YouTube links better on my class website:

**MATH 119 SITE:** <http://www.kkuniyuk.com/Math119.html>

**HW sessions** will be posted. Other student communications might not.

- **CANVAS:** <https://sdccd.instructure.com/login/canvas>

**Student discussion boards** and **NetTutor** are available.

I do not intend to use Canvas much. **I intend to email grade information.**

## MATH 119 VERY TENTATIVE SCHEDULE (version 1)

(May be changed arbitrarily; keep checking email!)

L = Lesson Number; HW = Discuss student questions about homework

FALL 2021; Week # (Holidays / Deadlines)	MONDAY	WEDNESDAY
1	8/23 (Day 1) L1 / L2 / Polls!	8/25 (Day 2) L3 / L4 / L5
2 <b>Add; Drop w/no W; Refund (Fri., 9/3)</b>	8/30 (Day 3) L6 / L7	9/1 (Day 4) L8 / L9 (start)
3 Holiday (Mon., 9/6)	9/6 <b>HOLIDAY</b>	9/8 (Day 5) L9 (finish) / L10
4	9/13 (Day 6) HW (discussing it)	9/15 (Day 7) <b>HW 1 - SESSION</b>
5	9/20 (Day 8) L11	9/22 (Day 9) L12 / L13
6	9/27 (Day 10) L14 / L15	9/29 (Day 11) L16 / L17
7	10/4 (Day 12) L18	10/6 (Day 13) HW (discussing it)
8	10/11 (Day 14) <b>HW 2 - SESSION</b>	10/13 (Day 15) L19 / L20
9	10/18 (Day 16) L21 / L22 (start)	10/20 (Day 17) L22 (finish) / L23
10 <b>"W" deadline (Fri., 10/29)</b>	10/25 (Day 18) HW (discussing it)	10/27 (Day 19) <b>HW 3 - SESSION</b>
11	11/1 (Day 20) L24 / L25	11/3 (Day 21) L26 / L27 / L28 (start)
12 Holiday (Thurs., 11/11)	11/8 (Day 22) L28 (finish) / L29	11/10 (Day 23) L30 / L31
13	11/15 (Day 24) L32	11/17 (Day 25) HW (discussing it)
<b>No classes this week!</b>	<b>NO CLASS</b>	<b>NO CLASS</b>
14 <b>Pass / No Pass deadline (Tues., 11/30)</b>	11/29 (Day 26) <b>HW 4 - SESSION</b>	12/1 (Day 27) L33 / L34
15	12/6 (Day 28) L35 / L36 / L37 / L38	12/8 (Day 29) L39 / L40 / L41 / L42 / L43 (start)
16 <b>Semester ends (Sat., 12/18)</b>	12/13 (Day 30) L43 (finish) / HW (discussing it)	12/15 (Day 31) <b>HW 5 - SESSION</b>

**MATH 119: Elementary Statistics; Class #70607; 3 units; MW 6:00-7:25pm; Mesa Remote Ken Kuniyuki; [kkuniyuk@yahoo.com](mailto:kkuniyuk@yahoo.com) or [kkuniyuk@sdccd.edu](mailto:kkuniyuk@sdccd.edu) (official)**

**YouTube:** <https://www.youtube.com/channel/UCpftfxKG-zvG3SaXeCiivHA>

**Zoom Room:** See my email or the Canvas site.

**Office Hours:** MW 4:30-5:45p, TTh 5:30-6:45p in my Zoom Room (by appointment).

**Website (with complete syllabus):** [www.kkuniyuk.com](http://www.kkuniyuk.com) or google "Precalculus Notes"