

General Education Statistics MATH 145
Online Section 80
Syllabus Spring 2023

Stefanie O'Leary-Johnson, Professor

Email: soleary@lc.edu

Office: CM 217 [CM stands for Commons. My office is above the cafeteria in the Math and Science Building.]

Phone: 618-468-4844

Website: www.stlmath.com

Office hours (CM 217): Monday and Wednesday 8:15 am – 2:00 pm; Tuesday and Thursday 8:15 – 9:00 am

Tutors Available: Online tutoring with Brandy from the Math Resource Center, email bkribs@lc.edu or call 618-468-4118 for more information & in-person hours to be discussed later

This is an online class. That means you will work on your own, using the resources I describe here. For each section, you should complete the Class Notes, including mentioned worksheets, while watching the videos I have posted. Only then should you attempt the MSL homework. There is *no* in-person component of the class besides exams.

We will cover the material with a mix of class notes, ungraded worksheets, and questions. Please feel free to ask questions and pose comments through email. My lessons (via Class Notes) contain lots of examples similar to the homework problems. You will save yourself much stress by studying the notes before you start your homework. Do the homework promptly and thoroughly. Practice will help you immensely.

You will do all of your homework assignments and exams through MyStatLab (MSL). Homework counts for a good deal of your grade so it is crucial that you keep up with the assignments. You can work your homework assignments and exams at any computer with internet access.

You will want a three-ring binder notebook to keep your notes. I have available Class Notes which you should complete while watching the videos provided before doing the graded MSL homework. You will have a MyStatLab (MSL) assignment to complete for each section. You should keep a dedicated spiral notebook for your organized, labeled (online) homework. Do *not* just use scraps of paper as you need it. Keep all work in one place to make it easier to study and ask questions.

Website (www.stlmath.com):

My Website has many resources for you. You will use it to get resources I made or when you need clarification of an announcement or policy. If I refer to “the Website”, I am referring to www.stlmath.com. You can access everything you need from here including the following.

- Class Notes (incl. videos) which work you through definitions and examples
- Tentative exam schedule, a list of the exams, the sections they cover, and tentative dates
- Syllabus, handouts, worksheets, and solutions to some of the worksheets
- Archived worksheets that may help you review or extend certain topics
- Link to the publisher-provided MyStatLab Website

Textbook, Calculator, and MyStatLab:

· *Fundamentals of Statistics*, Michael Sullivan, 2018, sixth edition. We will cover most of chapters 1 – 10. The book is available through MyStatLab (MSL, described later) in electronic form. It is possible to just buy access to MyStatLab and use the electronic book instead of purchasing a paper copy.

· MyStatLab (MSL) is an offshoot of MyMathLab (MML) which you may have used in another math class. MyStatLab (MSL) is virtually identical to MyMathLab (MML) except that it has some statistical capabilities. I often refer to either product as "MyMathLab".

· Your college fees paid for access to MyStatLab (MSL). The MyStatLab Website (<http://www.mymathlab.com>) provides practice problems and tutorials. There will be graded homework assignments from MSL. If you used MSL or MML for a previous class, you can use your previous login (username and password) information. If you do, be sure you have given them your current email address. Below you will see how to get your MSL access code (which tells MSL that you paid for the product) and the course ID which will get you in the right class.

· We are using Red Shelf this semester to get you the MSL access code. This is fairly new to me as it may be to you, so please have patience. There are two ways you can get the access code that tells MSL that you paid for the software. Number 1 option, they may email (to your LC email address) a link to get to your “shelf” where the access code will be. This email will come from RedShelf or BryteWave and it may be in your Spam folder. Number 2 option, set up a BryteWave account on their Website <https://brytewave.redshelf.com>. **You must use your LC email address since that is the one they have on file for you.** Once you have your access code, you still need to visit www.mymathlab.com to enter it. **You must be enrolled by February 15 or you will be locked out and should drop the course.**

- You will need the course ID to log-in to MyStatLab. Be sure you use the correct one for your class section. **Your course ID is o'leary-johnson61994. You must enroll in the correct section. It is a real pain to correct it if you enroll in the wrong section.** The spelling of my name, including punctuation, is important. You may also need the zip code of the school, 62035.
- **You need a graphing calculator.** The calculators range in price but are very similar in function. The college officially suggests you get the TI-83 or TI-84 (TI stands for Texas Instruments). Most TI-83 instructions on my worksheets will also work for the TI-84. The TI-82, TI-85, and TI-86 are older models but will work fine. If you are not sure about your calculator, show it to me and we will see if it will work. Regardless of calculator type, I am willing to help you with it, but there are no guarantees. I am willing to help you with other non-TI brands as well. Please have your calculator with you when completing Class Notes or homework. You need to get your calculator as soon as possible. You may also want to consult the manual if it's a non-TI brand. **It is *not* acceptable to attempt this class without a graphing calculator.**
- If you do *not* have an actual calculator, it is okay to use an app on your phone or calculator emulator program on your computer.
- We will use the calculator a lot in class. There are calculator worksheets and tutorials on the Website, some of which are assigned while others are optional. I can help but it is your responsibility to learn to use your calculator. Learn it well and it can be of great use to you in this class. Please ask questions when you have issues. The Math Resource Center (CM 233, described later) is also a great place to go for help.

Evaluation/Point Breakdown:

MyStatLab (MSL) Homework Assignments	30% of total
Average of Four Exam Grades (MSL)	70% of total

- The grade scale is A – 90%, B – 80%, C – 70%, D – 60%. Your grade information will be available through MyStatLab (MSL). Your overall grade shown in MSL will be accurate if you keep up with the assignments. (Grades are *not* shown in Blackboard.)
- It is your responsibility to print out Class Notes and Worksheets from the Website. When this is possible, the item will be underlined. Click on it to open it, and then print it. Printers are available in select computer labs around campus. (I will also give you a copy if you visit my office.) Use the extensive videos and other resources available on MyStatLab (MSL) and www.stlmath.com.

· You will see worksheets mentioned in the Class Notes. They are available on www.stlmath.com under Assorted Handouts and Tutorials on your class' page. They are carefully designed to help you tackle hard concepts but will *not* be collected. You should work hard on all (graded and ungraded) worksheets and assignments and ask questions when you have them.

· We will have four exams. The exam component of your grade will be the average of these scores. You are required to take all exams. The exams will be in MSL and available for one whole week. **You are allowed to use your book and notes on the exams. You will schedule an appointment to take the exams in Haskell Testing Center or another alternative location, described later.** You are required to get a score of at least 20% on all relevant homework before taking an exam. That way, you will not accidentally take a test without doing all of the homework first.

· The breakdown of book material on each exam and tentative dates are below. This may change slightly.

Exam	Sections covered	Dates of Availability
1	1.1–1.6, 2.1–2.3, 3.1, 3.2, 3.4, 3.5	Mon., Feb. 20 – Fri., Feb. 24
2	4.1–4.3, 5.1–5.5, 6.1, 6.2	Mon., April 3 – Mon., April 10**
3	7.1–7.3, 8.1, 8.2	Mon., April 24 – Fri., April 28
4	9.1, 9.2, 10.1–10.3*	Mon., May 8 – Fri., May 12

* We will do as much of Exam 4 material as time allows. I will amend this schedule to align with the in-person class. ** Exam 2 has accommodations for Good Friday, April 7 when the college is closed.

· You will take exams in the **Haskell Testing Center** which is located in **Haskell Hall (HK) B-25**. (It is located in the basement of Haskell Hall.) The **Haskell Testing Center's information is found at www.lc.edu/testing**; read this information carefully. **You will need to make an appointment. Their phone number is 468-5232; their email address is testingcenter@lc.edu.** You must show a **photo ID** to take your exam. Make sure you take your non-phone calculator. If you would prefer to take your exam in Edwardsville, Jerseyville, or Carlinville, you will see the information for those alternative locations on their Website. You do *not* need my permission to use one of these alternative testing centers.

· The homework due dates are set for the Tuesday after the week you should be working on each section. You can work the homework as much as you want up through the final due date (technically, they are due at midnight of the due date). All homework assignments are available after the “due date”. However, a 50% deduction will apply for all problems done after the due date. You only want to take advantage of this occasionally to maintain a good grade but that leeway is there is case you fall behind. **There is a strict deadline for late work from chapters 1-3 discussed later.** There are no opening dates for homework, so you can try any homework as early as you want.

· For each chapter covered, you will see a Review Homework Assignment designed to help you study for the exams. Those will be due on the last day the related exam is available. That will allow you to practice those review assignments up through when you take the exam.

· Homework will take some time to complete, so make sure you give yourself plenty of time. Plan on doing a little homework every day. **Keep in mind you do *not* need to do an assignment in one shot. You can start it one day and finish it another. In fact, you can go back and redo problems you missed to get full credit.** The MyStatLab (MSL) Website offers tons of help on the problems including the **Ask My Instructor** button, which lets you email me a short message along with the exact problem you are working on. Use this to ask specific questions about a problem. My office hours are also available to you.

· MyStatLab (MSL) has provided videos that you can watch through the Multimedia Library (menu item). You may find they fill in holes left by the Class Notes. However, they are *not* mandatory and do *not* count toward your grade. The Class Notes focus on the material in the homework. You definitely want to complete the Class Notes (watching the videos I have provided) on www.stlmath.com before you attempt the MSL homework. Be sure to email me questions.

· **Keep in mind that the “Overall grade” in the MSL Gradebook does *not* include assignments that you have *not* started. The grade will look considerably higher than what you are actually earning if you have zeros on assignments.** At the end of the semester, when I figure your course grade, your grade may drop significantly when it figures those zeros into your score. Do *not* let a high overall score (or worse, a low C) in MSL fool you into not working hard to the end. To correct for this inaccuracy, there is a strict deadline in week 10. **After March 21, you will *not* be able to complete any late homework assignments from chapters 1-3.**

· **The final date of submission for MSL homework is Friday, May 12.** You will *not* be able to change your MSL grade after that date. The MSL site can be bogged down at the end of the semester which makes doing homework the last week of class very frustrating. Do *not* wait ‘til the last minute to do it.

Attendance and makeup policies:

· We are *not* holding in-person classes as this is an online class. It is your responsibility to complete Class Notes while watching the videos provided on www.stlmath.com and then complete MSL homework assignments and tests. Any given week, you should maintain a schedule so that you are studying the sections that are due the upcoming Monday. Work the MSL homework as you complete sections of Class Notes so the material is fresh in your mind. The exam schedule will necessitate working on the Notes and MSL homework early in those weeks so that you have time for the Chapter Review assignments and exam.

· You are required to come to campus (or alternative location) for exams as explained earlier.

· If you miss an exam, I will automatically send a make-up exam to the Haskell Testing Center by the end of the day. You will have **one school week** to take the exam. If you need an extension, talk to me. If you have not taken it or talked to me within this period, you will receive a 0. The last exam *cannot* be missed as the last day it is available is the last day of the semester.

MyStatLab (Quick Tutorial):

Below you will find a sample homework assignment in MML. You can select any problem in the set to work on. This is particularly useful when you are returning to a set to correct mistakes. Notice a check mark or an X indicates if you got it right or wrong (not shown on this example). Once you click in the answer space, an appropriate palette that allows you to enter fractions, radicals, exponents, etc. exactly as you would write them will appear. You are often expected to use the palette to enter your answers in the correct form. On the lower left-hand side, you will notice help topics that includes videos, completed examples, and other resources at your disposal. There is help available (and an option to print) under the Settings icon in the upper right if you have trouble with the interface as opposed to the math.

Rounding errors are possible if you do too much rounding early in a problem so do *not* round your answer until the very end. Be careful to follow the instructions on how to enter your answers. Specifically, they will denote how to round and what form your answer should be in. The instructions may vary from problem to problem. After you complete a problem, you must click “Check Answer”. Make sure you Save your work (top) before exiting.

Use the Ask My Instructor option (possibly under Get More Help on bottom) to report problems with grading or to ask specific questions about a problem. It is easy to get frustrated with an online tool like MML. Be sure to reach out with questions when they first occur.

The screenshot shows the MyStatLab interface for a homework assignment. The browser address bar shows 'mylab.pearson.com'. The page title is 'Do Homework - Section 13.2 Homework - Google Chrome'. The main header is 'Homework: Section 13.2 Homework' with a 'Save' button on the right. Below the header is a 'Question list' on the left with 'Question 5' selected. The main content area shows 'Question 5, 13.2.17' with the instruction 'Factor the trinomial completely.' and the expression $22 + 23m + m^2$. Below this is a multiple-choice question: 'Select the correct choice below and, if necessary, fill in the answer box to complete your choice.' with options A. $22 + 23m + m^2 = \square$ (Type your answer in factored form.) and B. The polynomial is prime. A 'Save' button is located above the question. Below the question is a palette for inputting answers, including buttons for fractions, radicals, and other mathematical symbols. At the bottom of the page are buttons for 'Help me solve this', 'View an example', 'Get more help -', 'Clear all', 'Skill builder', and 'Check answer'. Annotations with arrows point to various parts of the interface: 'Problem selection area' points to the question list; 'Various settings including accessibility, printing, and help with the MML interface under the Settings icon' points to the gear icon; 'Save before you quit.' points to the 'Save' button; 'Palette for inputting certain answers will appear here when needed.' points to the answer input palette; 'Click Check Answer or press ENTER key after inputting answer above. If you get it wrong three times, it changes the question slightly (Similar Question).' points to the 'Check answer' button; and 'Various tools to help with the math are shown here. This may look different depending on what is available. Ask My Instructor may be under Get More Help.' points to the bottom navigation bar.

Problem selection area

Various settings including accessibility, printing, and help with the MML interface under the Settings icon

Save before you quit.

Palette for inputting certain answers will appear here when needed.

Click Check Answer or press ENTER key after inputting answer above. If you get it wrong three times, it changes the question slightly (Similar Question).

Various tools to help with the math are shown here. This may look different depending on what is available. Ask My Instructor may be under Get More Help.

Miscellaneous details:

· I want you to feel comfortable with me and the class. If there is anything I can do to help you, please tell me. If I use the wrong pronoun (her versus him) in addressing you or mispronounce your name, please forgive me and tell me what you want to be called. If you are ever made to feel uncomfortable in the class or at school in general, please bring the issue to my attention.

· The handouts on the Website are in PDF format; you will need the Adobe Acrobat Reader to read these. The Reader is available online at www.adobe.com -- just follow the links to download the latest Acrobat Reader. It is free of charge. There are optional worksheets listed at the bottom of the “Assorted Handouts and Tutorials” portion of the Website. Use them for extra practice.

· If you need to contact me, phone, email me, or talk to me before or after class. I may send emails to either your LC email account or the email account you give to MSL. If you do *not* use your LC email account frequently, please get in the habit or set it up to forward your mail to an account you do use. Email is inherently insecure; meaning if someone wanted to, they could read our emails. Be aware of this when you and I correspond.

· The **Math Resource Center (MRC, located in CM 233)** is available for in-person tutoring Monday through Thursday 8:00 am – 4:30 pm (when the college is not under virtual teaching). In addition, there is online tutoring available Monday through Friday. Contact bkribs@lc.edu or call 618-468-4118 to set that up for yourself. Their Website is www.lc.edu/mrc where you can find other information and a button to get immediate, online tutoring.

· The last day for a full refund is January 27. The last day to withdraw with a grade of W is April 24 (to avoid a D or F). The last day of the semester is May 12.

· **Accommodations:** If you need an accommodation based on the impact of a disability, inform your instructor as soon as possible. You can request accommodations at www.lc.edu/access or contact the Center for Access and Accommodations at (618) 468-4121 or access@lc.edu. Center for Access and Accommodations is located in Caldwell 2320.

· **Counseling:** Counseling is by appointment and on an emergency walk-in basis. Visits are confidential, free of charge, and include counseling for crisis intervention, brief therapy, academic issues, test anxiety, community resources, and referrals. Contact Center for Access and Accommodations in Caldwell Hall 2320 (618-468-4211).

· **Veteran Services:** We support our veteran and service member students and their families by providing a Veteran Services Department and a Veterans’ Resource Center. This department supplements the assistance provided by Enrollment, Advising and Financial Aid. You can confidentially discuss academic or personal issues. Referrals will

be made as needed to campus and/or community assistance. Contact Veteran Services in Baldwin Hall 2418 (618-468-5500).

· **Diversity Statement:** At Lewis and Clark Community College, we are seriously committed to supporting diversity and inclusion in our classrooms and community. We proactively strive to construct a safe and inclusive environment by respecting each other's dignity and privacy. We treat one another fairly and honor each member's experiences, beliefs, perspectives, abilities, and backgrounds, regardless of race, religion, language, immigration status, sexual orientation, gender identification, ability status, socio-economic status, national identity, or any other identity markers. Bullying, hateful ideas, violent language, belittling, racial slurs, and other disrespectful or "othering" language or behavior will not be tolerated. We behave and communicate respectfully toward one another, both directly and indirectly, both inside and outside the classroom. A diverse and inclusive campus is our strength, and we want all who are part of our campus community to feel safe and respected.

If you ever have any concerns about the classroom climate, please reach out to Mya Lawrence, Director of Diversity, Equity, and Inclusive Excellence, CW 4329, 618-468-6030, mylawrence@lc.edu

· **Academic Continuity Statement:**

In the event of a major campus emergency, course requirements, deadlines and grading percentages are subject to change when necessitated by revised course delivery, semester calendar or other circumstances. Information about changes in this course can be obtained on www.stlmath.com or by contacting my email address: soleary@lc.edu or office phone 618-468-4844. If the course is not able to meet face-to-face, students should immediately check email. Students are also encouraged to continue the readings and other assignments as outlined on this syllabus or subsequent syllabi.

· **L&C Policy on Academic Honesty: Definition: Cheating:** Intentionally using or attempting to use unauthorized materials, information or study aids; use of any unauthorized assistance, resources, materials or electronic/cellular devices with or without photographic capability in taking quizzes, tests or examinations and the acquisition, without permission, of a test or other academic material belonging to Lewis & Clark Community College, to any department, or to any staff.

Definition: Plagiarism: Plagiarism at LCCC will *not* be tolerated. Plagiarism includes the reproduction of ideas, words or statements of another person as ones' own without acknowledgement or use of an agency engaged in the selling of term papers or other academic materials. If instructor has reason to believe students are in violation of this policy, students will be notified and appropriate action will be taken.

· **LCCC Plagiarism statement:** Assignments that have been copied from another student or another source will *not* be scored. "Academic dishonesty including, but not limited to, cheating, plagiarism, and forgery, violates the STUDENT CONDUCT CODE and will lead to disciplinary action up to and including expulsion". The following website will

give you in-depth information on the definition of plagiarism and more:
<http://www.plagiarism.org/article/what-is-plagiarism> Please visit this site if you need clarification.

· **Unauthorized Collaboration:** Unauthorized collaboration among students will *not* be tolerated. Unauthorized collaboration is defined as intentionally sharing or working together in an academic exercise when such actions are not approved by the course instructor. Academic exercises include but are not limited to all face-to-face and/or online classroom assignments, activities, exams, quizzes, worksheets, online discussion questions, term papers, case studies, projects, research, or any other requirement assigned by the instructor for which students receive individual grades. If the instructor has reason to believe students share or work together collaboratively on such academic exercises, the student(s) will be notified and at the minimum, receive a zero on the assignment.

· **Facilitation of Academic Dishonesty:** Permitting or attempting to help another to violate the academic honor code; Alteration or sabotage of another student's work, such as tampering with or modifying any online or written assignments including but not limited to quizzes, exams, worksheets, term papers, case studies, projects, research, discussion board entries, etc. If the instructor has reason to believe students facilitate academic dishonesty, the student(s) will be notified and appropriate action will be taken.

· **Virtual Meeting Policy:** By participating in our live events, you are acknowledging awareness that, depending on your involvement, your name, voice, comments, and likeness may be recorded and shared with other L&C students and faculty. If you are uncomfortable participating with these acknowledgements, please contact your course instructor for alternate arrangements.

· **Stef's additional comment:** In the case we go virtual, feel free to *not* allow Zoom to use your video camera and to use an alias. If you do use an alias, please tell me in a private chat or email so I know who you really are. I want you to be comfortable in my class. Tell me if you need anything.

· **Blackboard:** We will *not* be using Blackboard. You will spend most of your time in MML or www.stlmath.com.

· **What Students can expect from Online Instructors**

Students can expect their instructor to:

1. respond to questions/problems within 48 hours.
2. log into the course 5 out of 7 days a week; and
3. provide continued grade statuses throughout the semester using either a calculated column in the grade book or a report sent through email.

WORKING SYLLABUS
GENERAL EDUCATION STATISTICS
Fundamentals of Statistics, 6th ed., Michael Sullivan, III

- | | | | |
|-----|---|------|--|
| 1.1 | Introduction to the Practice of Statistics | 7.1 | Properties of the Normal Distribution |
| 1.2 | Observational Studies Versus Designed Experiments | 7.2 | Applications of the Normal Distribution |
| 1.3 | Simple Random Sampling | 7.3 | Assessing Normality |
| 1.4 | Other Effective Sampling Methods | | |
| 1.5 | Bias in Sampling | 8.1 | Distribution of the Sample Mean |
| 1.6 | The Design of Experiments | 8.2 | Distribution of the Sample Proportion |
| | | | |
| 2.1 | Organizing Qualitative Data | 9.1 | Estimating a Population Proportion |
| 2.2 | Organizing Quantitative Data: | 9.2 | Estimating a Population Mean |
| 2.3 | Graphical Misrepresentations of Data | | |
| | | | |
| 3.1 | Measures of Central Tendency | 10.1 | The Language of Hypothesis Testing |
| 3.2 | Measures of Dispersion | 10.2 | Hypothesis Tests for a Population Proportion |
| 3.4 | Measures of Position and Outliers | 10.3 | Hypothesis Tests for a Population Mean |
| 3.5 | The Five-Number Summary and Boxplots | | |
| | | | |
| 4.1 | Scatter Diagrams and Correlation | | |
| 4.2 | Least-Squares Regression | | |
| 4.3 | The Coefficient of Determination | | |
| | | | |
| | | | |
| 5.1 | Probability Rules | | |
| 5.2 | The Addition Rule and Complements | | |
| 5.3 | Independence and the Multiplication Rule | | |
| 5.4 | Conditional Probability and the General Multiplication Rule | | |
| 5.5 | Counting Techniques | | |
| | | | |
| | | | |
| 6.1 | Discrete Random Variables | | |
| 6.2 | The Binomial Probability Distribution | | |

Course Objective:

Students will learn descriptive and inferential statistics to better inform their lives. We examine the collection, organization, and interpretation of qualitative and quantitative data. We use graphical and numerical descriptive methods along with sampling distribution theory. We will learn about using sample data to infer about populations while assigning confidence to our measures. Students will learn to use calculators and computers to perform statistical operations.