

ACSTA 101: Statistics (3 Credits)
Arrupe College, Spring 2023 (Class Number: 2721)

Course Description: This course provides an introduction to statistical reasoning and techniques in descriptive and inferential statistics and their applications in economics, education, genetics, medicine, physics, political science, and psychology.

Class Website: All necessary information will be available via Sakai, but in the event of an outage, they will also be made available at krystinmg.com/spring2023/stat101

Instructor Information

Name: Krystin Manguba-Glover
(Professor MG)
Office: JFMH 312
Office Phone: 312-915-7966
Email: kmangubaglover@luc.edu

Office Hours:

- Tuesday 3:30-5:30 pm
- Friday 3:30-5:30 pm
- Online via Zoom by appointment

Office hours will be held until the last day of instruction. Arrupe College Math Fellows hold daily math workshops in Maguire Hall 303. Their schedule for the semester is available in Sakai.

Course Materials

MathXL: This is the online platform where you will access homework, practice exams, and other resources. First-time math students will be, or have already been, provided with a 1-year MathXL access code as part of their Arrupe College technology packet. Other non-qualifying students will be instructed on how to pay for a subscription to MathXL with a credit card during the first day of class.

To register for MathXL and enroll in your section of Stat 101 on MathXL, please follow the guidelines provided for you by your professor. You will need an access code and the Course ID below:

- The course name is: ACSTA101 - 002 Spring 2023
- The course ID is: XL4C-1159-1020-1Q62

Optional Textbook: “Elementary Statistics: Picturing the World” by Larson/Farber, seventh edition, Pearson. (ISBN-13: 9780134683416)

Students have the option of purchasing a hard-copy of the text if they wish. Hard-copies of the text will not be available at the bookstore but can be purchased from common online sources. A hard-copy of the text is neither required nor recommended.

Additional Material: A binder or folder is recommended for keeping papers organized. A notebook (or loose-leaf paper) is needed for notes, homework, and quizzes. Students are also expected to have their own graphing calculator, such as a TI-84, to use during assignments, quizzes, and exams. Students must have access to the internet to complete online work for this course. If there is no access to internet at home, students must plan to complete MathXL assignments and quizzes at Arrupe or at another location that provides access to internet.

Homework

Online homework problems will be assigned after each class period and are expected to be completed before the following session. You must write down all work required to complete each problem and submit it to Professor MG in order to receive credit for that assignment. Students who do a homework problem incorrectly will be given the chance to correct their work for full credit. The final day to turn in homework for a given chapter will be the day of that chapter's corresponding exam, except for Unit 3 homework, which is due the last day of class.

It is encouraged that you do practice problems on your own. You may work together on homework but the final product needs to be your own work.

Chapter Quizzes

At the end of each chapter, students will be asked to complete a timed online chapter quiz on MathXL. Quizzes can be taken anywhere where there is internet access. Students may use their notes, textbook, and other learning materials during a quiz, but they **can not** work with others. This includes peers, Math Fellows, tutors, or other answer-providing resources. Similar to homework, written work accompanying each problem must be submitted to Professor MG to receive credit. **(EDIT: The requirement for written work has been removed as of January 27, 2023.)** The last day to complete a chapter quiz and submit the corresponding written work will be the day of that chapter's exam, except for Unit 3 quizzes, which are due the last day of class..

Exams

There will be three written exams given throughout this course: two unit tests and a final. Exams will be given in-class and will be closed book. The final exam will be cumulative. Here are the tentative exam dates:

Unit 1 Exam (Chapters 1-3) : Friday, February 17

Unit 2 Exam (Chapters 4-6) : Friday, March 31

Final Exam: Friday, May 5

While studying for an exam, you should work to understand the concepts being covered, not memorize problems. Showing your understanding on paper is key to receiving a good grade. If you cannot make it to any given exam, you must contact Professor MG before, or within 24 hours after, the exam to determine if you are eligible for a make-up. There are no make-up tests for the final exam.

Grading

30% Homework

20% Chapter Quizzes

15% Unit 1 Exam

15% Unit 2 Exam

20% Final Exam

A grading curve will be applied if necessary. Accurate course grades can be found in Sakai, **not** on MathXL. Final grades will be assigned based on the Arrupe College grading scale:

A+	4.00	97-100	B+	3.33	87-89	C+	2.33	77-79	D+	1.33	67-69	F	0.00	≤ 64
A	4.00	93-96	B	3.00	83-86	C	2.00	73-76	D	1.00	65-66			
A-	3.67	90-92	B-	2.67	80-82	C-	1.67	70-72						

Mask Policy

Although the University does not require masking in the classroom as of May 27, 2022, it is a principle of this class-section that, out of respect for the health of housemates and others in regular contact with members of our community, we will each be required to wear masks over our nose and mouth during the first week of the semester and the first week after Spring Break. Outside of these selected time periods, the decision to wear a mask is up to you.

Academic Integrity

My assumption is that all students enrolled in this course are sincere in their commitment to ethical academic inquiry and growth through participation in a rigorous and cooperative learning community. Academic misconduct is an offense against Arrupe College and Loyola University Chicago. For a fuller articulation of Loyola's academic integrity policy, see

www.luc.edu/academics/catalog/undergrad/reg_academicintegrity.shtml

Acts of misconduct include but are not limited to:

- Cheating: The use or attempted use of any unauthorized assistance in taking a test or exam, or any other assignment.
- Fabrication: Deliberate falsification in completing an assignment.

A grade of zero will be assigned to a test or assignment where there is evidence of academic misconduct; this includes using a phone, smart watch, or other communication device when directed not to do so.

Math Homework Apps do more harm than good. If you rely on an app or website to find the answers to homework problems, it is unlikely that you will be able to successfully answer those same questions on a test. If you are struggling with homework, please come and talk to me. Arrupe has many resources for you to help you find ways to master the material. We want you to be successful in this course and into the future. Success comes with hard work, which takes time and practice.

Student Accessibility Center (SAC)

Loyola University provides reasonable accommodations for students with disabilities. Any student requesting accommodations related to a disability or other condition is required to register with Student Accessibility Center (SAC), located in Sullivan Center, Suite 117. Professors receive the accommodation notification from SAC via Accommodate. Students are encouraged to meet with their professor individually in order to discuss their accommodations. All information will remain confidential. Please note that in this class, software may be used to record class lectures in order to provide equal access to students with disabilities. Students approved for this accommodation use recordings for their personal study only and recordings may not be shared with other people or used in any way against the faculty member, other lecturers, or students whose classroom comments are recorded as part of the class activity. Recordings are deleted at the end of the semester.

For more information about registering with SAC or questions about accommodations, please contact SAC at 773-508-3700 or SAC@luc.edu

Equal Access to Education

Loyola University offers a range of resources to meet student needs and to ensure that all Arrupe students have equal access to education.

- Wellness Center: Our physical and mental wellbeing impacts our ability to do academic work. Loyola’s Wellness Center offers students a range of physical and mental health services, mostly for free. See <http://www.luc.edu/wellness/>
- Arrupe’s social workers, Nicole Sumida and Ernest Fernandez, are located in Maguire 216 and 218. You can also reach them by phone or email (nsumida@luc.edu, efernandez1@luc.edu, or 312-915-8945)

Title IX Services

Under Title IX federal law, “no person in the United States shall, on the basis of sex, be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any education program or activity receiving federal financial assistance.” If you or someone you know has been sexually harassed or assaulted, please use one or more of the following resources:

- The Community Coalition on Gender-Based Violence (<https://www.luc.edu/coalition/>)
- Loyola Sexual Assault Advocacy Hotline 773.494.3810 (The hotline is open Monday - Friday, 8am to 4:30pm and 24 hours on the weekend when school is in session.)
- Anonymous EthicsLine Reporting Hotline (www.luc.edu/ethicsline or 855-603- 6988)
- Campus Safety (773-508-6039)
- Center for Student Assistance & Advocacy: www.luc.edu/csaa
- The Title IX coordinator: Timothy Love; Office (773) 508-7766; tlove@luc.edu

Loyola University Chicago faculty are committed to supporting our students and upholding gender equity laws as outlined by Title IX. Therefore, if a student chooses to confide in a member of Loyola’s faculty or staff regarding an issue of gender-based misconduct, that faculty or staff member is obligated to tell Loyola’s Title IX Deputy Coordinator. The Title IX Deputy Coordinator will assist the student in connecting with all possible resources for support and reporting both on and off campus. Please visit <https://www.luc.edu/equity/titleixequitylaws/titleix/> for more information regarding the University’s response to notifications of gender or sexuality-based misconduct.

Notice of Reporting Obligations for Responsible Campus Partners

As an instructor, I am considered a Responsible Campus Partner (“RCP”) under Loyola’s Comprehensive Policy and Procedures for Addressing Discrimination, Sexual Misconduct, and Retaliation (located at www.luc.edu/equity). While my goal is for you to be able to share information related to your life experiences through discussion and written work, I want to be transparent that as a RCP I am required to report certain disclosures of sexual misconduct (such as sexual assault, sexual harassment, intimate partner and/or domestic violence, and/or stalking) to the University’s Title IX Coordinator. As an instructor, I also have a mandatory obligation under Illinois law to report disclosures of or suspected instances of child abuse or neglect.

The purpose of these reporting requirements is for the University to inform students who have experienced sexual/gender-based violence of available resources and support. Such a report will not generate a report to law enforcement (no student will ever be forced to file a report with the police). Furthermore, the University’s resources and supports are available to all students even if a student chooses that they do not want any other action taken. Please note that in certain situations, based on the nature of the disclosure, the University may need to take additional action to ensure the safety of the University community. If you have any questions about this policy, you may contact the Office for Equity & Compliance at equity@luc.edu or 773-508-7766.

If you wish to speak with a confidential resource regarding gender-based violence, I encourage you to call The Line at 773-494-3810. The Line is staffed by confidential advocates from 8:30am-5pm M-F and 24 hours on the weekend when school is in session. Advocates can provide support, talk through your options (medical, legal, LUC reporting, safety planning, etc.), and connect you with additional resources as needed. More information can be found at luc.edu/coalition or luc.edu/wellness.

****Contents of this syllabus are subject to change. Any changes will be announced and shared with students via the class website and/or email.****

Tentative Schedule

* indicates a suggested due date

#	Date	Topic	Due
1	Tues, Jan 17	Welcome to ACSTA 101 Sections 1.1-1.3: Introduction to Statistics	
2	Fri, Jan 20	Section 2.1: Frequency Distributions and Their Graphs Section 2.2: More Graphs and Displays	1.1-1.3* Ch.1 Q*
3	Tues, Jan 24	Section 2.3: Measures of Central Tendency	2.1-2.2*
4	Fri, Jan 27	Section 2.4: Measures of Variation	2.3*
5	Tues, Jan 31	Section 2.5: Measures of Position	2.4*
6	Fri, Feb 3	Section 3.1: Basic Concepts of Probability and Counting	2.5* Ch.2 Q*
7	Tues, Feb 7	Section 3.2: Conditional Probability and the Multiplication Rule	3.1*
8	Fri, Feb 10	Section 3.3: The Addition Rule	3.2*
9	Tues, Feb 14	Unit 1 (Chapters 1-3) Review	3.3* Ch.3 Q*
10	Fri, Feb 17	Unit 1 Exam Last day to submit Unit 1 homework Last day to submit Chapter 1-3 quizzes	1.1-3.3 Unit 1 Qs
11	Tues, Feb 21	Section 4.1: Probability Distributions	
12	Fri, Feb 24	Section 4.2: Binomial Distributions	4.1*
13	Tues, Feb 28	Section 5.1: Introduction to Normal Distributions and the Standard Normal Distribution	4.2* Ch.4 Q*
14	Fri, Mar 3	Section 5.2: Normal Distribution: Finding Probabilities Section 5.3: Normal Distribution: Finding Values	5.1*
		March 6–March 10: Spring Break	
15	Tues, Mar 14	Section 5.4: Sampling Distributions and the Central Limit Theorem	5.2-5.3*
16	Fri, Mar 17	Section 6.1: Confidence Intervals for the Mean (σ Known)	5.4* Ch.5 Q*
17	Tues, Mar 21	Section 6.2: Confidence Intervals for the Mean (σ Unknown)	6.1*
18	Fri, Mar 24	Section 6.3: Confidence Intervals for Population Proportions	6.2*
19	Tues, Mar 28	Unit 2 (Chapters 4-6) Review	6.3* Ch.6 Q*
20	Fri, Mar 31	Unit 2 Exam Last day to submit Unit 2 homework Last day to submit Chapter 4-6 quizzes	4.1-6.3* Unit 2 Qs
21	Tues, Apr 4	Section 7.1: Introduction to Hypothesis Testing	
		April 7: Good Friday	
22	Tues, Apr 11	Section 7.2: Hypothesis Testing for the Mean (σ Known)	7.1*
23	Fri, Apr 14	Section 7.3: Hypothesis Testing for the Mean (σ Unknown)	7.2*
24	Tues, Apr 18	Section 7.4 :Hypothesis Testing for Proportions	7.3*
25	Fri, Apr 21	Section 9.1: Correlation	7.4* Ch.7 Q*
26	Tues, Apr 25	Section 9.2: Linear Regression	9.1*

#	Date	Topic	Due
27	Fri, Apr 28	Final Exam Review Last day to submit Unit 3 homework Last day to submit Chapter 7 quiz	7.1-9.2 Ch.7 Q
	Fri, May 5	Cumulative Final Exam at 10:00 am	