

Crafton Hills College - Outcomes Assessment Report

General Education Outcome: Quantitative Reasoning

Assessed: 2024-2025

Learning Outcomes Statement

Students successfully completing a course in this area will be able to interpret quantitative reasoning and perform mathematical operations in an effort to demonstrate quantitative reasoning skills.

Means of Assessment (Measurement Method)

Students were assessed during either the Fall 2024 or Spring 2025 semesters. Assessments occurred in 224 sections and resulted in a total of 4,458 assessments.

Summary of Evidence

Table 1: Number and Percent of students scoring 3 or Higher on the GEO.

GEO #	General Education Outcome	# 3 or higher	% 3 or higher
7	Students successfully completing a course in this area will be able to interpret quantitative reasoning and perform mathematical operations in an effort to demonstrate quantitative reasoning skills.	3,444	77.25%

List of courses where outcomes were mapped to the GEO (27 Unique Courses).

BUSAD-053	CSCI-200	MATH-200
BUSAD-105	KIN-200	MATH-250
BUSAD-200	LIBR-107	MATH-251
CHEM-101	MATH-102	MATH-252
CHEM-102	MATH-103	MATH-266
CHEM-150	MATH-106	MATH-902
CHEM-151	MATH-110	PSYCH-201
CIS-132	MATH-115	
CIS-136	MATH-141	
CIS-137	MATH-160	

Use of Results/Proposed Actions – Individual Submissions

1	<p>(1) Incorporated applications of trigonometric graphs in group activities. (2) Group presentations on poster boards for trigonometric graphs. (3) More group activities of involving applications of trigonometric equations.</p>
2	<ul style="list-style-type: none"> • SLO 1, 19 were assessed where 47.4% had a rubric score of 3+ • SLO 2, 17 were assessed where 58.8% had a rubric score of 3+ • SLO 3, 16 were assessed where 75% had a rubric score of 3+ <p>This semester presented unique challenges, particularly with the campus closure due to the fires. Despite my efforts to communicate course expectations and keep students on track, there was a noticeable gap between those who stayed on pace and those who fell behind. To address this, I incorporated more time on lab assignments that extended beyond lecture material and integrated statistical technology to reinforce key concepts.</p> <p>In reviewing the Student Learning Outcomes (SLOs), I noticed some significant shifts in student performance:</p> <ul style="list-style-type: none"> • SLO 1: Out of 19 students assessed, 47.4% received a rubric score of 3 or higher. This was a decline from previous semesters, likely due to the initial disruptions in the course. Many students struggled early on, making it difficult for them to build a strong foundation in statistical concepts. • SLO 2: Out of 17 students assessed, 58.8% scored a 3 or higher. This was a notable improvement from the previous semester (13.3%), suggesting that students were better able to grasp continuous and discrete probabilities. I believe the additional lab assignments played a role in this improvement. • SLO 3: Out of 16 students assessed, 75% achieved a rubric score of 3 or higher. This aligns with previous performance, which I attribute to the oral final assessment and the natural increase in student motivation at the end of the semester. <p>Reflecting on these results, I recognize the need to provide additional support early in the course, especially for SLO 1. Moving forward, I plan to implement more low-stakes assessments at the beginning of the semester to identify struggling students sooner. I will also continue incorporating statistical technology in labs, as this approach seemed to help students engage more deeply with the material. Given the potential for unexpected disruptions, I may explore asynchronous review modules or structured recap sessions to help students stay on track.</p>

<p>3</p>	<ul style="list-style-type: none"> • SLO 1, 19 were assessed where 47.4% had a rubric score of 3+ • SLO 2, 17 were assessed where 58.8% had a rubric score of 3+ • SLO 3, 16 were assessed where 75% had a rubric score of 3+ <p>This semester presented unique challenges, particularly with the campus closure due to the fires. Despite my efforts to communicate course expectations and keep students on track, there was a noticeable gap between those who stayed on pace and those who fell behind. To address this, I incorporated more time on lab assignments that extended beyond lecture material and integrated statistical technology to reinforce key concepts.</p> <p>In reviewing the Student Learning Outcomes (SLOs), I noticed some significant shifts in student performance:</p> <ul style="list-style-type: none"> • SLO 1: Out of 19 students assessed, 47.4% received a rubric score of 3 or higher. This was a decline from previous semesters, likely due to the initial disruptions in the course. Many students struggled early on, making it difficult for them to build a strong foundation in statistical concepts. • SLO 2: Out of 17 students assessed, 58.8% scored a 3 or higher. This was a notable improvement from the previous semester (13.3%), suggesting that students were better able to grasp continuous and discrete probabilities. I believe the additional lab assignments played a role in this improvement. • SLO 3: Out of 16 students assessed, 75% achieved a rubric score of 3 or higher. This aligns with previous performance, which I attribute to the oral final assessment and the natural increase in student motivation at the end of the semester. <p>Reflecting on these results, I recognize the need to provide additional support early in the course, especially for SLO 1. Moving forward, I plan to implement more low-stakes assessments at the beginning of the semester to identify struggling students sooner. I will also continue incorporating statistical technology in labs, as this approach seemed to help students engage more deeply with the material. Given the potential for unexpected disruptions, I may explore asynchronous review modules or structured recap sessions to help students stay on track.</p> <p>This semester, I also noticed an improvement in student retention compared to previous semesters. At the census, there were 23 students enrolled, and 19 students completed the course, culminating in the oral final. This suggests that more students stayed engaged and committed to finishing the course despite the challenges. Some factors that may have contributed to this higher retention rate:</p> <ul style="list-style-type: none"> • The integration of statistical technology in lab assignments, which may have increased student engagement and hands-on learning. • The oral final, which though scary to students, seems to motivate them to persist through the end of the semester. • Efforts to provide consistent communication and support, especially during disruptions like the campus closure last semester. <p>Moving forward, I plan to continue incorporating these strategies while exploring additional ways to support student persistence and success, particularly early in the semester when foundational concepts are introduced.</p>
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<p>4</p>	<ul style="list-style-type: none"> • SLO 1, 31 were assessed where 51.6% had a rubric score of 3+ • SLO 2, 30 were assessed where 56.7% had a rubric score of 3+ • SLO 3, 27 were assessed where 70.4% had a rubric score of 3+ <p>This semester presented unique challenges, particularly with the campus closure due to the fires. Despite my efforts to communicate course expectations and keep students on track, there was a noticeable gap between those who stayed on pace and those who fell behind. To address this, I incorporated more time on lab assignments that extended beyond lecture material and integrated statistical technology to reinforce key concepts.</p> <ul style="list-style-type: none"> • SLO 1: Out of 31 students assessed, 51.6% received a rubric score of 3 or higher. While this is a slight improvement from the morning section this semester (47.4%), it still suggests that students struggle early on. I believe implementing more structured early interventions, such as low-stakes quizzes and targeted review sessions, could further improve performance in this area. • SLO 2: Out of 30 students assessed, 56.7% scored a 3 or higher. This result remains fairly consistent from the morning section this semester (58.8%), indicating that while students are making progress in distinguishing between continuous and discrete probabilities, there is still room for improvement. I plan to continue using lab assignments incorporating statistical technology, as this approach has shown promise in reinforcing these concepts. • SLO 3: Out of 27 students assessed, 70.4% achieved a rubric score of 3 or higher. While this is a slight decrease from the morning section this semester (75%), it still reflects relatively strong performance. The oral final continues to be an effective tool in assessing students' conceptual understanding and application of statistical methods. <p>Overall, I see some positive trends but also recognize that early interventions remain critical to student success, particularly for SLO 1. Moving forward, I will focus on refining instructional strategies at the beginning of the semester to ensure students build a solid foundation, while also reinforcing probability concepts throughout the course to improve SLO 2 outcomes.</p> <p>This semester, I also noticed an improvement in student retention compared to previous semesters. At the census, there were 33 students enrolled, and 27 students completed the course, culminating in the oral final. This suggests that more students stayed engaged and committed to finishing the course despite the challenges. Some factors that may have contributed to this higher retention rate:</p> <ul style="list-style-type: none"> • The integration of statistical technology in lab assignments, which may have increased student engagement and hands-on learning. • The oral final, which though scary to students, seems to motivate them to persist through the end of the semester. • Efforts to provide consistent communication and support, especially during disruptions like the campus closure last semester. <p>Moving forward, I plan to continue incorporating these strategies while exploring additional ways to support student persistence and success, particularly early in the semester when foundational concepts are introduced.</p>
<p>5</p>	<p>Additional review sessions should be incorporated into the course, along with increased referrals to the STEM/Tutoring Center. Students who received a D or F typically demonstrated significant weaknesses in mathematics. Among the six students who did not pass the course with a grade of C or better, four faced challenges due to language barriers. This highlights the need for targeted strategies to support students in overcoming difficulties with the English language.</p>

6	All Math 103 should have a lab connected to it. There are too many students who need 102 or lower review of topics needed for this course.
7	Bring back 095
8	<p>Challenges remain in closing learning gaps related to deeper interpretation of statistical variability. Not taking the time to analyze the graphs hindered their responses.</p> <p>Some students still struggled with finding probabilities using technology. Although using Excel and StatCrunch was highly encouraged and always used during lecture, I had many students wanting to use the formulas, so using technology will be an area to reinforce moving forward.</p> <p>While many showed strong growth using inferential statistics methods with guided examples, some needed additional support interpreting results independently in more complex scenarios.</p>
9	Changing applications and projects.
10	Changing books and adding more real world examples.
11	Continue trying new strategies and incorporate more real-world applications into content to boost engagement and understanding. Will also explore project-based and alternative assessments to give students more meaningful ways to demonstrate learning.
12	<p>Create a learning contract that students will have to sign at the beginning of the semester committing to attendance, effort, and using support resources.</p> <p>Require a short exit ticket before students leave (e.g., a quick problem or reflection on the day's topic) to ensure engagement.</p> <p>Change concept checks to include "how did you solve this?" or "what was the most difficult part?".</p>
13	Created my own lecture videos with built in quizzes instead of youtube videos.
14	During this semester, we increased engagement in active learning such as student collaboration, group work at the whiteboards, exam reflections, etc. I am concerned to see the student performance as it relates to this SLO. Also, I am determined to exploring more ways to increase this SLO performance.
15	During this semester, we increased engagement in active learning such as student collaboration, group work at the whiteboards, exam reflections, etc. I am pleased to see the student performance as it relates to this SLO. Also, I am focused on how to reach the approximately 25% of the students that did not meet this SLO.
16	Embedded Tutor and concept checks are helping.
17	Employ more activities within the classroom and outside when accessible. Students greatly appreciated and positively responded to activities following a lecture/lesson to obtain tactile and kinesthetic knowledge of what was being presented. Additionally allowed for students to interact with one another in meaningful ways. Add career options that are both closer to their specific requests as well as tangible items from guest speakers to provide.

18	<p>Everyone passed. That's a big deal in an online math class and really speaks to the methods used. The engagement with projects helped students succeed because it was interesting, interactive, and relevant. Having projects and flexibility in the course meant that students' success was based on what they actually learned, not on how well they could jump through hoops. The structure prioritized critical thinking and real-world application over busywork, helping students build lasting skills and confidence.</p> <p>Student quotes:</p> <p>"This course has shown me that statistics isn't just about numbers; it's about context, critical thinking, and storytelling... understanding statistics is essential... for any engaged citizen." "I really like the project assignments... It also was a good chance for me to apply what we were learning in class." "I have a new appreciation for statistics and data-driven claims... I was also able to develop confidence in the skills that I learned." "I really love talking about the SSCCC and my work in advocating for students... I learned so much through doing the project." "Now I ask questions like how the data was collected or if there's any bias... I've gained a lot more confidence in the topic." "I realized that statistics is actually a powerful tool that helps us make sense of the world... the language behind informed decisions."</p>
19	Exam scores were low, continue to encourage attending office hours and going to tutoring.
20	Exam scores were lower than usual, will continue to encourage office hours and tutoring.
21	<p>Flexibility is essential, especially for struggling or nontraditional students, but without strong accountability, some fell behind. Students repeatedly said this class helped them see statistics in the media, in healthcare, in policy, in injustice, and recognize when it's being misused. The best classes aren't the ones where students say "this was easy." They're the ones where students say "I think differently now." And that's exactly what they said.</p> <p>Student quotes:</p> <p>"I used to think stats was just hard math. Now I know it's everywhere—news, politics, health, social media." "I did enjoy this class. I feel like it helped me have more of an understanding on the use of analyzing data and charts—and how it's used in the world and how it has an effect on things." "This class made me way more aware of how stats are used and sometimes misused in the media... It's kind of wild how often stats get twisted, so this course helped me become way more skeptical and thoughtful." "This course has significantly transformed my perception of statistics and its role in society... I've come to appreciate its broader impact—how it shapes public policy, influences business decisions, and even affects individual perceptions." "I was expecting a lot more 'book work'... but a lot more ideas were brought up through discussions and projects. It opened up more ideas about how statistics relate to real world problems."</p>

22	For this class, I used a lot more group activities, posters, and take-home assessments than before. I also found creative assignments to use in class, such as solving equations to solve a maze, or evaluating logarithms to correctly color a picture. These assignments engaged the students and helped them stay focused and attentive through the long semester.
23	Having students practice their measurement skills each week greatly improved the outcome of the lab practical exam (SLO #3). Lab final multiple choice section (SLO #5) scores still low, more emphasis on reviewing those formulas next semester.
24	I can see room for improvement, specifically on SLO 2. I will work on focusing on that a bit more. I see that SLO 3 went pretty well because we spend a lot of time on those topics near the end of course. I also think I could find better ways of testing some of these on the final exam for next time.
25	I have no idea what else can be done to get the students to complete their projects.
26	I plan to support struggling students by identifying their specific challenges, providing personalized academic and emotional support, and collaborating with parents and staff to ensure their long-term success. Also, I plan to integrate more peer review research assignments into the course moving forward.
27	<p>I should try to assess SLO 1 earlier in the semester on the first exam rather than on the final exam while the content is fresher in the students' memories. I can also give more in-class practice where the students summarize and create graphs for various data.</p> <p>Probability can sometimes be a difficult concept for students to understand. Perhaps I can emphasize how probability is used in real-life to increase students' achievement on SLO 2 topics. Also give them more in-class practice on these topics.</p> <p>Lastly, the students may need more practice with advanced hypothesis testing topics such as regression, goodness of fit, and ANOVA problems (SLO 3). I can also spend more time in class reviewing these topics, so the students are better prepared to do them when they appear on the final.</p>
28	I think the students need more practice with summarizing data and identifying sampling techniques (SLO 1). These tend to be the easier topics, so I may review them more with the students in the future prior to the exam so that they'll be better prepared.
29	I tried new strategies for hypothesis testing, trying to get students to understand the "big picture" first and then apply it to different contexts. Students struggled more than usual. Absences this semester were at an all time high though. In the future, I hope try additional strategies when teaching and re-teaching hypothesis testing.
30	I tried new strategies suggested at the beginning of the semester in the Zoom meetings, which were effective for many students. In the future, I will try to implement more of the strategies.
31	<p>I tried to incorporate more class time for homework so students could work together and help each other with concepts and procedures. I believe it worked well and will incorporate it in the future as well.</p> <p>The biggest issue faced was students late to class or absent (high school seniors)</p>
32	I tried to incorporate more class time for homework so students could work together and help each other with concepts and procedures. It seemed to work well, the biggest issue was students late to class or absent missing material and falling behind.

33	I will add instructional video materials to appropriate compare/contrast strategies to better understand hypothesis testing, and the connection between test statistics and p-values as it relates to appropriate distributions for proportions, means and standard deviations.
34	I will spread exams out more in future semesters.
35	I will try to make my class zero cost to avoid book saver problem in the future.
36	In the future I would try new strategies.
37	It was the first time I had imbedded tutor for my online class which was very successful. I have plan to have my office hours in person for my online class in the future and that might help students who are learning better in person rather than online.
38	MAke sure I give a greater effortto those students who fall behind or who seem to be struggling
39	Making stats fun and understandable and be able to apply statistical understanding to their everyday life
40	Maybe an extra assignment that must be done when they miss class.
41	Might assess final exam using presentation next time.
42	My challenge was the class was at 8 am and it appears to be to early for many of the students to attend. Daily quizzes did not seem to help attendance. Probably add a video to an assignment for students that miss classes.
43	n/a
44	NA
45	Need 095 back
46	Need to offer on campus proctored testing for online classes as an option.
47	New content will be added along with new strategies to reach struggling students.
48	One student started the class, submitted a video assignment and after several intentional interventions to get the student back on track, the student stop submitting work. I will explore new strategies to keep all students engaged, making sure they are aware of the grading for nonresponsiveness. The video was a new strategy to not only get students connected, but used to the idea of creating videos and mock interviewing using Zoom. I used scaffolding to ask guiding questions of students to copy and paste into a mock resume, cover letter and even asked real-world library interview questions that they had to answer in a video. I provided the opportunity for students to reflect on their responses and which questions they felt lost or stuck on. I will continue to review this course for POQR review readiness, revisit the SLOs and make adjustments as needed to the SLOs and/or course content. Only one student was non-responsive, so I feel I did better at intentional interventions to keep students up with the pace of this short-term course. As I work with the Library Advisory group consisting of local Librarians, Library technicians and Library Directors, I will create a panel for mock interviewing that can be recorded so students can watch and listen to the panel of experienced library professionals and practice interview techinques as they continue to build their library experience.
49	Overall this was a strong class with only a few students who struggled in math. Typically students who struggle with math, struggle in CHEM 151. This was a good group of students mathwise.

50	Pretty happy with the results, had a lot of good feedback from students. I could be a bit more strict in assessment (e.g. not allowing exam corrections), but I also like the approach of allowing corrections, because it allows students to learn from their mistakes.
51	Refining how content is delivered in an online setting may help the outcomes.
52	Review math more and work on students developing a stronger foundation of math and chemistry
53	<p>Statement 1: This represents the first exam where all the students are fresh and ready for the whole term. There was a practice exam and all the lectures are on video on canvas for student review.</p> <p>Statement 2: They either did very well or very bad. This caught me by surprise. There was a practice exam and all the lectures are on video on canvas for student review. This was the second exam.</p> <p>Statement 3: This is the last exam before the final.</p> <p>For all three exams the students were able to use 1/4 page cheat sheet. The cheat sheet focused the students on what they did not know and write it down for the exam. There was also an opportunity to move their past exam scores up. They correct all their errors on the exam with new sheet of paper and also make up a similar problem and do it correctly. They staple it to their old exam and turn it in when they take the next exam. If they pass the next exam, then I look at the test corrections from the previous exam. This forces the students to re-exam their mistakes and also remember they must pass the next exam.</p>
54	Student success in statistics isn't only measured by grades, but also by students' persistence, confidence, and ability to see themselves as capable problem-solvers. Through continued reflection, instructional redesign, and campus collaboration, I remain committed to improving the overall course experience for students while continuing to increase my course retention and success rates.
55	Students are very under-prepared. Refining on how the content is delivered may help.
56	Students are still underprepared but additional refining of the delivery of the course content has and will help.
57	Students are under-prepared, refining how the content is delivered may help.
58	Students need more time to comprehend the needed skills to be successful.
59	Students need more time to gain the needed skills to be successful.
60	students who did not succeed (grade of D) did not participate in extra credit opportunities. need improvement on how to engage these students more.

<p>61</p>	<p>Successes: Students demonstrated strong engagement and consistently high performance throughout the course. The application of real-world examples in lessons appeared to resonate, resulting in greater comprehension and practical skill development.</p> <p>Challenges: Identifying Learning Gaps A few students had difficulty keeping up with deadlines, suggesting potential issues with time management or understanding the pacing of the course.</p> <p>Assessment Alignment: While overall performance was high, some assessments may not have fully captured the depth of students' understanding. Adjustments to assessment types could better measure critical thinking and problem-solving.</p> <p>Future Plans: Strategies to Try Enhanced Interactivity Incorporate more live problem-solving sessions or gamified quizzes to sustain engagement and clarify complex topics in real-time. Use adaptive learning platforms to personalize the pace and difficulty of content for individual students.</p> <p>Improved Assessments: Develop assessments that include case studies and project-based tasks, where students can demonstrate not only their computational skills but also their ability to apply them in business contexts. Introduce self-assessment opportunities to help students reflect on their learning and identify areas for improvement.</p> <p>Recommendations for Future Courses: Continue offering optional advanced problems to challenge top-performing students. Include tutorials or resources focusing on time management and effective online learning strategies. Gather student feedback more frequently to tailor strategies during the course.</p> <p>By building on the successes and addressing these challenges, the class can continue to thrive and deliver even better outcomes in the future.</p>
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62	<p>Successes: Students showcased growth in understanding key management principles, including leadership styles, organizational structures, and decision-making processes. This was reflected in their ability to connect theories to real-world examples during discussions and assignments.</p> <p>Adding Content: Added case studies from current events to make the course content more relevant and relatable. These case studies encouraged students to analyze contemporary business challenges. Integrated multimedia resources, like videos of successful business leaders discussing management philosophies, which enhanced learning and sparked class discussions.</p> <p>Challenges: Identifying Learning Gaps Some students struggled to grasp abstract concepts like strategic planning or organizational culture, suggesting the need for more hands-on examples or visual aids. A few students found it challenging to transition from theoretical discussions to applying those concepts in practical scenarios.</p> <p>Participation Consistency: Encouraging consistent participation in discussion boards was challenging for some students, especially in the reply to another student section.</p> <p>Assessment Alignment: While performance was generally strong, some assessments might not have fully captured leadership and strategic thinking skills. This points to an opportunity to diversify assessment formats.</p> <p>Content and SLO Adjustments: Introduce reflective journals where students document their thought processes and growth in understanding management principles. Use project-based assessments where students create mock business plans or propose solutions to managerial problems.</p> <p>Recommendations for Future Courses: Continue using real-world case studies but consider diversifying industries to give students a broader perspective. Offer time management and study skill resources to help students stay consistent in participation and engagement. Use periodic surveys to gather feedback on what teaching methods and content students find most valuable.</p> <p>By reflecting on these successes and challenges and implementing the suggested strategies, the Principles of Business Management class can further enhance student learning and engagement in future semesters.</p>
63	Switching to an OER book and changing the method of assessment.
64	Switching to OER and different methods of assessment.

65	Switching to OER.
66	<p>The focus on cultural competency in teaching mathematics and flexibility for due dates seems to be working pretty well. Students seemed to be very happy with the content and presentation in the course. What many students expected to be a simple content refresher turned out to be something much more meaningful. Not only did they strengthen their understanding of math concepts, they also learned how to teach those concepts in ways that are engaging, inclusive, and culturally responsive. They realized that effective math teaching goes far beyond explaining concepts—it involves empathy, responsiveness, and relevance. Several students noted how the course helped them reframe math as a tool for empowerment and connection, especially for students who have been historically marginalized or who struggle with the subject. They were surprised by how much they grew, not just in pedagogy but in confidence and classroom presence. Many came to understand how personal stories, culture, and real-world experiences make math more engaging and meaningful. Inclusivity became a central theme, with students emphasizing the importance of adapting to different learning needs and cultural backgrounds. Several shared that they've already begun applying course strategies in their current roles, helping them support students in more thoughtful and equitable ways.</p> <p>Some quotes from students:</p> <p>"This course has truly shifted my perspective on what it means to teach mathematics." "I now feel more passionate about teaching math because I view it as an opportunity to give students what I rarely had." "This course really opened my eyes to the importance of creating an inclusive classroom." "This class has taught me that students all learn differently—and that their cultural background affects how they learn." "I've already started using what I've learned in my workplace."</p>
67	There were some of the students in the online course that did not take the SLO quiz, but majority of the class took and met the SLO. I have added videos, interactive activities, and additional videos to each lecture to help students understand the material, along with emphasizing to the student to use the tools Pearson provides. I have seen an improvement in students meeting the SLOs.
68	There were students who had never been asked to think past what is written. It is nothing other than they need more experience with this type of thinking and with maturity they will start to improve with this. There is nothing that I would change, it is just an overall learning process and some learn faster than others. Overall, I think the class did well.
69	This course can also be offered as in-person class.
70	This course is a 2-unit class and it can be shortened.
71	This course was offered as an 8-week course. It could be lengthened.
72	This semester I used worksheets and videos to help instruct the course this semester, which seemed to really help students when taking notes. They could focus on the steps and process for solving the problems. They didn't have to spend time writing everything down. I want to give more time in class for review handouts and group work. Mybe have them do more work coming up to the board and solving problems for the class.

73	<p>This was my first time teaching Calculus at a community college. To help improve the performance of my students, I tried two things: 1) I spent the first several weeks of class reviewing algebra and precalculus materials; and 2) Using mastery exams for the main portion (60%) of the students grades. Mastery exams test students on an objective list of learning targets, where each time they take an exam, they have a chance of passing that target. Students are graded on a pass/fail basis for each question, but are given the opportunity to try to pass again on the subsequent exam, and are counted to have mastered that target as long as they eventually pass the corresponding question on that learning target. (See https://teaching.unl.edu/resources/alternative-grading/mastery-grading/ for more info on mastery grading). I feel this gave students the opportunity to show eventual mastery of the material, and have the chance to re-study and review material that they saw they needed more work on, thus ultimately improving performance in the class. Next time I teach, though, I will spend less time on review of algebra/precalculus, as we ended up having to rush the material at the end. I also took a little to long to get the specifics of how mastery grading would work for the semester. But since I have now done it once, I will be able to use what I made this semester to implement it again.</p>
74	<p>This was my first time teaching this specific course. I tried some strategies that worked but not all of the students absorbed it all, so I will definitely work on it next time. Particularly graphing seems to be the SLO students did worst on, so I will try to focus more on the graphing next time if I can.</p>
75	<p>Throughout the term, I implemented new instructional strategies, including more interactive group work and differentiated assignments, which helped engage a broader range of learners. These strategies contributed to the successes seen in the top-performing students. I also introduced additional content to support core concepts, particularly in response to observed learning gaps in foundational skills. While this benefited many students, the presence of several Cs and a D suggests some students still struggled with comprehension and retention.</p> <p>In the future, I plan to continue experimenting with teaching methods, especially formative assessments to better monitor ongoing understanding.</p>
76	<p>try new strategies by introducing real life problems. In the future I will continue to update these real-life problems to make the course more interesting and relevant to the students as they focus on the statistical material.</p>
77	<p>Trying new real world applications.</p>
78	<p>Trying to make stats more relatable and fun, rather than misunderstood and used for pushing agendas</p>
79	<p>two students stopped showing up to class. three students struggled with the material and need a better solid understanding of the pre-requirement course. The rest of the students were well rounded,</p>
80	<p>Use more accessible technology like excel. Allow student's to work on the problem on the board.</p>
81	<p>Used Learning Catalytics at MyLabMath. Works good and students liked it. Will use more in the next semester.</p>
82	<p>Used Learning Catalytics at MyLabStat. Works good and students liked it. Will use more in the next semester.</p>

83	<p>While many students showed significant growth and deep engagement, it's important to note that the lowest-performing students (earning Fs or barely passing) often did not submit assignments, were inconsistent throughout the term, despite extensions and support, or attempted to cram major learning at the end, which undermined comprehension. If we offer flexibility in deadlines, then we also need to set clear expectations about student responsibility throughout the system. Several students struggled with follow-through when there were no immediate consequences for falling behind.</p> <p>Students overwhelmingly reported a shift in their perception of statistics, from seeing it as a dry math subject to recognizing it as a tool for equity, critical thinking, and real-world decision-making. They explored social justice issues, interpreted media claims more critically, and gained confidence with complex ideas like confidence intervals and regression. As one student put it, "Statistics helps us make sense of the world especially when we need truth, not just feelings."</p> <p>The focus on relevance over exams and flexibility over punishment let students lean into learning when they were ready; and for many, that worked. They rewatched videos, redid assignments, and had the space to ask for help without fear. Many expressed surprise at how accessible and meaningful the content became, especially with the support of videos, feedback, and peer insights. A recurring theme was growth through struggle, whether with concepts like linear regression or tasks like creating video presentations. Students appreciated the real-world applications: from homelessness and healthcare to social media's impact on mental health and racial inequities in resume callbacks.</p> <p>Student quotes:</p> <p>"This course taught me that statistics can be used as a valuable tool to solve issues we have as a society."</p> <p>"Statistics helps us make sense of the world—especially since there's a lot of information to process which we need to believe based on truths and not feelings."</p> <p>"I thought statistics was going to be extremely hard to understand, but with the videos and help from peers, it was easier to understand."</p> <p>"Confidence intervals were hard at first... After doing more practice problems, and learning from my mistakes, it clicked."</p> <p>"I read on forums and text boards about the topics and followed those methods until I felt I had a strong backing for it."</p> <p>"I really enjoyed the pace of the class—each lesson built on the one before it in a way that made learning smoother."</p> <p>"This course made me realize how important it is to recognize misleading graphs and identify how to evaluate statistics."</p> <p>"I had not taken math in over 10 years. This course was overall very enjoyable to take."</p>
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	<p>“Doing a project on a topic that I was unaware of existing... was very fun to do.”</p> <p>“This was my second attempt at this course... it was very clear that your end goal was for us to learn and succeed and not just drown in the workload at hand.”</p>
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