

Crafton Hills College - Outcomes Assessment Report

General Education Outcome: Quantitative Reasoning

Assessed: 2020-2021

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 2020, Spring 2021, or Summer 2021 semesters. Assessments occurred in 124 sections and resulted in a total of 2,627 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.	2,011	76.55%

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

CHEM-150	CIS-132	FIRET-115	MATH-110H	MATH-265
CHEM-151	CIS-137	MATH-085	MATH-115	RESP-131
CIS-095	CIS-138	MATH-095	MATH-160	RESP-237
CIS-101	CIS-140	MATH-102	MATH-250	
CIS-106	CIS-143	MATH-103	MATH-251	
CIS-111	CIS-190A	MATH-110	MATH-252	

Use of Results/Proposed Actions – Individual Submissions

1	All evaluated SLO's were met. All students successfully passed three performance demonstration competencies related to high risk procedures performed in the field and expected of licensed RCP's. Additional SLO's related to advanced cardiac life support for the adult and pediatric patient. No changes indicated at this time.
2	Continue to develop activities for virtual learning that maximize student engagement. Continue to research best practices for virtual learning. Continue to research and develop authentic discussions that emphasize conceptual understanding over procedure.
3	Continue to promote the use of student services outside of the classroom to reinforce graphical literacy content.
4	Continue with the Crawl, Walk Run philosophy of exposing the cadets to the 90 different manipulative IFSAC skills that they are responsible for. This process starts even before that are enrolled in the program as we send the needed study information out to them as soon as they are accepted into the program. Continue with the new [name] Learning program (Navigate 2 Platform) for the cognitive testing process. After having switched to this new platform we are seeing very good results from the cadets from a cognitive testing process.
5	Dedicate more class time, as well as individual and group practice, to techniques for solving trigonometric equations.
6	For Standard 3, I will adjust my schedule to have students focus on fewer sections when learning about hypothesis testing.
7	Group work had some difficulties as a few students were not participating. But the group members were able to work out conflicts with their resources.
8	Have more practice assignments for the students to have the chance to just practice the problems where it wont affect their grades.
9	I let students take the test twice since distance learning is stressful for the students when they are evaluated. Each test question comes from a test bank so each student takes a similar test to other students and the second attempt at the test is not exactly like the first attempt at the test. Most students take the test twice and reinforces the positive action of continuous effort to improve.
10	I need to provide better examples of scenarios to give students more practice in Sampling Techniques. Also, I need to provide students with more instruction on properly reading problems to determine which type of confidence intervals and hypothesis testing to conduct.
11	I plan on adding more group work with challenge problems. More projects rather than traditional tests, to see if the student can express their knowledge in different ways.
12	I ran out of time to get to more sections in this course. Im am going to concentrate a little less in the first chapter to give me more time in the end to cover more material.
13	I suggest we reach out to failing students early on so that they can withdraw with time. Meaning a professor email them more frequently regarding their grade. Also, encourage students to go to tutoring services.
14	Identify students at risk of failing the class and remind these students, on a daily basis, of my office hours and of tutoring through the Tutoring Center.
15	Include more breakout sessions for the students to work out problems similar to the lessons and homework assignments.

16	<p>It is difficult to determine if the students actually scored at these SLO's levels, since everything is being accomplished/completed outside of class, in the now online environment. I can not always tell weather they are getting help via online support or phone apps available to help in mathematics or not.</p> <p>I would proposed that the math department has a specific set of SLO's questions for the different courses offered. A prebuilt SLO's quiz that is given at the end of the semester for every instructor implement in their class.</p>
17	<p>Live zoom lectures, synchronized lectures, were present for students. The fast paced-class with distance-learning is a challenge live lectures may facilitate. This techniques was employed to prevent the loss of students over the time of the semester. The different totals above represent three tests in the term where the highest total represented the first test.</p>
18	<p>More engagement from the students. 7 of my students just stopped doing any work and failed the class. Weekly check ins and reminders of assignments might help this.</p>
19	<p>My class was much smaller this time around which made it easier to make sure everyone was on the same page. Again for SLO 1 and 3 there were two students who did not attempt the assessment so they ended up with 0s. I was very happy with the results of the students who did take the assessment. I had maybe two students who were mostly learning on their own or by watching recordings but the rest were regularly showing up to my lectures and coming in to office hours to get additional help when needed.</p> <p>With less people we had more opportunities to go over questions and clarify any confusing topics. I would like to do better with SLO 3 which is definitely the toughest part of the class. I noticed that many students understood the many techniques and identities we use but were unsure of when to use them. I would like to reinforce the tell tale signs of when to use which identity in the future.</p>
20	<p>Need to elevate the goal to 70% or above</p>
21	<p>Need to make student more engagement on some specific topics in this class.</p>
22	<p>Need tutor support for this class</p>
23	<p>Next time I teach this class, I need to spend more time with mathematical modeling. This seemed to be challenging to most of the students in the class. Students definitely seemed to apply for the most part correct strategies in order to solve and manipulate algebraic expression and equations.</p>
24	<p>Provide additional videos and support for confidence intervals and hypothesis testing that focus on calculation as well as interpreting results.</p>
25	<p>Review SLO for improvements.</p>
26	<p>Satisfied with results, no need for changes at this time. Will continue to apply completion of performance competencies as SLO's for this course.</p>
27	<p>Target at -risk students sooner and suggest interventions like the tutoring center and my office hours. Make sure the resources available are clear to all students. Use Starfish more in addition to reaching out to individuals directly. Encourage study groups outside of class.</p>
28	<p>The math department will review the results.</p>
29	<p>The results will be discussed in a departmental meeting.</p>
30	<p>The student will recognize and apply appropriate techniques to solve and graph with regard to the course outline.</p>

31	The technique of skeletal handouts of the lecture seemed to work at the beginning of the term however more strategies seem necessary for the end of term especially at this remote/distance learning environment.
32	The toughest section seemed to be the sketching and graphing of trigonometric functions. This was definitely a tough section to do remotely and especially tough to assess since sketching the graphs was not an easy task. I hope to do better when returning to the class room. I can note that for SLO 1 and 3 there were 4 students who did not attempt the assessment in each case which is inflating those numbers. But regardless I do hope to improve on the graphing section by having students do more graphing on their own rather than just me show and explain the graphs.
33	There was a large number of students that did not take the final. I think this was specific to COVID. Student understanding (3 and 4 level) was high for those that did take the final.
34	There were more students than usual that did not take the final exam. In general, the ratio to 4-3-2 was very successful.
35	There were no students for this class. It would not let me submit with 0 values.
36	This class needs to be taught in-person whenever possible.
37	This course is a Work Experience Program and offers students Work Experience with Clients, and obtain business experience. The challenges this semester were with clients as we lost 3 clients due to COVID-19 and other related business impacts.
38	This course was remote due to COVID. The students that stayed engaged did very well. However, about 25% of the class "disappeared" after spring break. Need to find a way to keep students engaged even after a break.
39	This was a completely online course which means they did not work in lab in person. The one SLO that was not met was one that pertains mainly to lab. I'm not too worried about that. I will simply emphasize more analysis in the next semester.
40	This was a very dedicated group of students who would all attend a live 8 am zoom class. They were very vocal and asked a lot of questions (mostly algebra). This groups thrived working in a group setting and would complete test reviews in breakout sessions.
41	To be discussed in a departmental meeting.
42	To improve SLOs: - Communicate with the students on a regular basis - Conduct practice and revision tests for better learning outcomes - Pinpoint their mistakes to identify their weaknesses and strengths
43	To improve SLOs: - Conduct debates, use Discussion Board. - Encourage students to ask questions.
44	Try to get more students to persevere and complete the course since 10 students in this section choose to not take the final.
45	Try to get more students to persevere and complete the course since 3 students in this section choose to not take the final,
46	Try to get more students to persevere and complete the course since 7 students in this section choose to not take the final.
47	Update course to include digital spreadsheet, shared document editing, tools similar to Excel.