



COSUMNES RIVER COLLEGE

OFFICE OF RESEARCH & EQUITY

2021 – 2022 Assessment of Institutional Learning Outcomes

Excerpt from the 2021-2022 Graduate Exit Survey

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Executive Summary

Each year, the Research Office administers its Graduate Exit Survey, which contains a series of questions that ask graduates to self-assess how well they demonstrate the college's Institutional Learning Outcomes (ILOs). The results of the 2021-2022 ILO assessment, as well as a four-year longitudinal analysis of the Institutional Learning Outcomes, are outlined in this report. The respondents to the 2021-2022 Graduate Exit Survey were representative of the 2021-2022 graduating class in terms of gender, race, age group, first generation status, income level, and foster youth status.

2021-2022 Institutional Learning Outcomes Findings

For each of the six ILOs, the average rating for each skill/ability was greater than 4.0. An average rating of 4.0 or higher indicates that graduates feel they are able to demonstrate each ability/skill *Well* or *Very well*. ILO skill 1.5 (the ability to *examine, reflect upon, and evaluate one's own thinking*) received the highest average rating, 4.6. ILO skill 1.3 (the ability to *apply mathematical skills, including algebra, to problem solve for both occupational and personal purposes*) received the lowest average rating, though still at 4.1. Statistical analyses tested for differences across respondent race, gender, age group, income level, first generation status, veteran status, Career & Academic Community (CAC), and primary course modality. Several differences across subgroups were found:

- Hispanic/Latinx students self-rated higher than their peers on ILO 2, *Effective Communication in Professional and Personal Situations*, and ILO 3, *Adaptability*.
- Science, Math, and Engineering (SME) students self-rated lower than their peers on ILO 3, *Adaptability*.
- Students who said they took an equal mix of online and in-person classes self-rated lower than their peers in primarily online or in-person coursework on ILO 6.3, *Exhibit persistence until efforts lead to a successful outcome*.

2018-2022 Longitudinal Institutional Learning Outcomes Findings

Graduates' average self-ratings for each ILO did not change significantly across the past four years of survey administration. However, when aggregating findings across four years, several statistically significant differences for various student demographic groups were found, as outlined below:

- Across four years, male graduates self-rated lower than their peers on ILO 2, *Effective Communication in Professional and Personal Situations*, and ILO 4, *Cultural Understanding, Social Justice, and Equity*.
- Across four years, there are several significant differences by student race/ethnicity on ILOs 1, 2, 3, 4, and 6. Consistent with last year's evaluation, Black/African American graduates and graduates of an Unknown race self-rated lower on ILO 1.3, *Apply mathematical skills, including algebra, to problem solve for both occupational and personal purposes*.
- Consistent with last year's evaluation, graduates with an income below the poverty level self-rated higher on ILO 3, *Adaptability*, ILO 5, *Competence in Social Responsibility and Sustainability*, and ILO 6, *Creativity*.
- Consistent with last year's evaluation, first generation graduates self-rated higher than graduates who were not first generation college students on ILOs 1, 3, 5, and 6.



Background and Methodology

Each year, the Research Office administers its Graduate Exit Survey, which contains a series of questions that ask graduates to self-assess how well they demonstrate the college’s Institutional Learning Outcomes (ILOs). The 2021-2022 Graduate Exit Survey was electronically administered in May 2022 to 1,490 students who either graduated in summer or fall 2021, or petitioned to graduate in spring 2022, with a 14.6% response rate (N=218). The respondents to the 2021-2022 survey were representative of the 2021-2022 graduating class in terms of gender, race, age group, first generation status, income level, and foster youth status. Hispanic students are slightly underrepresented among the respondents, making up 25.91% of graduates and 20.98% of survey respondents, though this underrepresentation is not statistically significant. Differences in the demographic representation of students who received the survey and students who responded is outlined in Table 1 below.

Table 1. 2021-2022 Graduate Exit Survey Demographic Representation

Group	% Respondent Population	% Target Population	Difference in Representation
Gender			
Female	63.30%	61.14%	2.16%
Male	33.94%	36.78%	-2.83%
Unknown / Other	2.75%	2.08%	-0.67%
Race			
African American / Black	11.47%	7.65%	3.82%
Asian	29.36%	27.99%	1.37%
Filipino	5.50%	5.50%	0.00%
Hispanic / Latinx	21.56%	25.91%	-4.35%
Multi-Race	6.88%	7.52%	-0.64%
Pacific Islander	0.92%	0.54%	0.38%
Unknown	3.67%	1.81%	1.86%
White	0.92%	1.74%	-0.83%
Age Group			
24 or Younger	54.59%	55.50%	-0.92%
25 or Older	45.41%	44.50%	0.92%
First Generation Status			
First Generation	71.10%	72.42%	-1.32%
Not First Generation	28.90%	27.58%	1.32%
Income Level			
Below Poverty	28.90%	28.46%	0.44%
Low	27.52%	25.91%	1.62%
Middle and Above	31.65%	34.36%	-2.71%
Unable to Determine	11.93%	11.28%	0.65%
Veteran Status			
Veteran	96.33%	97.32%	-0.99%
Not Veteran	3.67%	2.68%	0.99%
Foster Youth/Former Foster Youth Status			
Foster Youth	1.38%	1.41%	-0.03%
Not Foster Youth	98.62%	98.59%	0.03%



2021 – 2022 Institutional Learning Outcomes Analysis

Survey respondents are asked to self-assess how well they demonstrate the college’s Institutional Learning Outcomes. Table 2 below displays the average rating per skill/ability identified within each of the six ILOs. For each of the ILOs, the average rating for each skill/ability was greater than 4.0. An average rating of 4.0 or higher indicates that graduates feel they are able to demonstrate each ability/skill *Well* or *Very well*. ILO skill 1.5 (the ability to *examine, reflect upon, and evaluate one's own thinking*) received the highest average rating, 4.6. ILO skill 1.3 (the ability to *apply mathematical skills, including algebra, to problem solve for both occupational and personal purposes*) received the lowest average rating, though still at 4.1. See table one below for the average rating of each ILO.

Table 2. 2021-2022 Institutional Learning Outcomes, Average Ratings

Institutional Learning Outcomes (ILOs)	Mean	Number of Respondents
ILO Survey Items' Likert Scale: 1= Not at all, 2: Not very well, 3=Somewhat, 4=Well, 5=Very well		
ILO 1: Relevant Knowledge, Quantitative Reasoning, and Critical Habits of Mind		
1.1: Solve complex problems	4.3	163
1.2: Conduct basic research: collect, evaluate, and analyze relevant facts and information	4.5	163
1.3: Apply mathematical skills, including algebra, to problem solve for both occupational and personal purposes	4.1	163
1.4: Employ qualitative evaluation measures	4.2	161
1.5: Examine, reflect upon, and evaluate one's own thinking	4.6	163
1.6: Adapt to new circumstances, challenges, and pursuits	4.5	162
ILO 2: Effective Communication in Professional and Personal Situations		
2.1: Utilize principles of critical thinking and logic to inform, persuade, or otherwise participate in discourse	4.4	163
2.2: Write and verbally communicate in a clear, well-organized manner appropriate to the purpose, audience, and setting	4.5	163
2.3: Demonstrate analytical and discerning listening and reading practices	4.4	163
2.4: Employ graphic, creative, aesthetic, or non-verbal forms of expression	4.2	162
ILO 3: Adaptability		
3.1: Incorporate what is learned to make positive personal and professional changes	4.4	163
3.2: Use technology effectively for career, information, academic, and personal purposes	4.4	163
3.3: Demonstrate ability to update skills to accommodate rapid change in society's technological landscape	4.3	163
ILO 4: Cultural Understanding, Social Justice, and Equity		
4.1: Appreciate artistic expression, aesthetics, languages, and traditions across cultures	4.3	163
4.2: Participate in society with respect, empathy, and appreciation for human diversity	4.5	163
4.3: Be mindful of divergent perspectives accompanied by awareness of personal prejudices and biases when considering issues	4.5	162
4.4: Demonstrate empathy, civility, and equitable conflict resolution	4.4	162
ILO 5: Competence in Social Responsibility and Sustainability		
5.1: Recognize the individual's responsibility in local, national, and global matters	4.3	162



Institutional Learning Outcomes (ILOs)	Mean	Number of Respondents
ILO Survey Items' Likert Scale: 1= Not at all, 2: Not very well, 3=Somewhat, 4=Well, 5=Very well		
5.2: Address, through ethical reasoning, issues of social, political, and environmental well-being in the workplace, the greater community, the government, and the world	4.4	162
ILO 6: Creativity		
6.1: Employ inspiration and imagination in synthesizing existing ideas and material to generate original work such as novel solutions to problems, alternatives to traditional practices, and other innovations	4.3	163
6.2: Extend or challenge current understanding or expression through experimentation and divergent thinking	4.3	162
6.3: Exhibit persistence until efforts lead to a successful outcome	4.4	160

Differences in ILO Ratings Across Demographic Groups

Statistical analyses tested for differences across respondent race, gender, age group, income level, first generation status, veteran status, Career & Academic Community (CAC), and primary course modality¹. Several differences across subgroups were found and outlined in this section. Note that some differences that appear great may not be significant due to low sample size.

Race/Ethnicity

There were statistically significant differences in respondents' self-ratings by race for the following ILO skills, such that Hispanic/Latinx students self-rated higher than their peers.

- ILO 2.1, *Utilize principles of critical thinking and logic to inform, persuade, or otherwise participate in discourse* ($F(8, 154) = 2.39, p < 0.05$)
- ILO 2.2, *Write and verbally communicate in a clear, well-organized manner appropriate to the purpose, audience, and setting* ($F(8, 154) = 2.79, p < 0.01$)
- ILO 2.4, *Employ graphic, creative, aesthetic, or non-verbal forms of expression* ($F(8, 153) = 2.10, p < 0.05$)
- ILO 3.1, *Incorporate what is learned to make positive personal and professional changes* ($F(8, 154) = 2.96, p < 0.01$)
- ILO 3.3, *Demonstrate ability to update skills to accommodate rapid change in society's technological landscape* ($F(8, 154) = 2.80, p < 0.01$)

¹ These are the available variables with subgroups of 10 or more students.



Table 3. 2021-2022 Institutional Learning Outcomes, Average Ratings, Race

Institutional Learning Outcomes (ILOs)	African American	Asian	Filipino	Hispanic / Latinx	Multi-Race	Native American	Pacific Islander	Unknown	White
ILO Survey Items' Likert Scale: 1= Not at all, 2: Not very well, 3=Somewhat, 4=Well, 5=Very well									
ILO 2: Effective Communication in Professional and Personal Situations									
2.1: Utilize principles of critical thinking and logic to inform, persuade, or otherwise participate in discourse	4.5 (20)	4.38 (42)	4.00 (8)	4.70 (37)	4.42 (12)	3.00 (1)	4.57 (7)	3.00 (1)	4.40 (35)
2.2: Write and verbally communicate in a clear, well-organized manner appropriate to the purpose, audience, and setting	4.60 (20)	4.29 (42)	3.88 (8)	4.70 (37)	4.33 (12)	3.00 (1)	4.71 (7)	5.00 (1)	4.49 (35)
2.4: Employ graphic, creative, aesthetic, or non-verbal forms of expression	4.00 (20)	3.98 (41)	3.62 (8)	4.51 (37)	4.00 (12)	4.00 (1)	4.43 (7)	5.00 (1)	4.34 (35)
ILO 3: Adaptability									
3.1: Incorporate what is learned to make positive personal and professional changes	4.40 (20)	4.40 (42)	3.62 (8)	4.76 (37)	4.08 (12)	4.00 (1)	4.71 (7)	5.00 (1)	4.34 (35)
3.3: Demonstrate ability to update skills to accommodate rapid change in society's technological landscape	4.35 (20)	4.29 (42)	3.75 (8)	4.70 (37)	3.92 (12)	3.00 (1)	4.57 (7)	5.00 (1)	4.20 (35)

Career & Academic Community (CAC)

There were statistically significant differences in the ratings of graduates by CAC, such that Science, Math, and Engineering (SME) students self-rated lower than their peers on all items in ILO 3, *Adaptability*. Note that some differences that appear great may not be significant due to low sample size. For a full breakdown of ILO ratings by CAC, see Appendix 1.

- ILO 3.1, *Incorporate what is learned to make positive personal and professional changes* (F(9,153) = 2.13, p < 0.05)
- ILO 3.2, *Use technology effectively for career, information, academic, and personal purposes* (F(8, 154) = 2.42, p < 0.05)
- ILO 3.3, *Demonstrate ability to update skills to accommodate rapid change in society's technological landscape* (F(9, 153) = 2.36, p < 0.05)

Table 4. 2021-2022 Institutional Learning Outcomes, Average Ratings, CAC

Institutional Learning Outcomes (ILOs)	ACDT	AFNR	AME	BCS	ELS	GE	HHS	SBS	SME
ILO Survey Items' Likert Scale: 1= Not at all, 2: Not very well, 3=Somewhat, 4=Well, 5=Very well									
ILO 3: Adaptability									
3.1: Incorporate what is learned to make positive personal and professional changes	4.59 (17)	4.00 (4)	4.47 (15)	4.32 (40)	4.20 (5)	4.75 (4)	4.59 (17)	4.63 (49)	4.05 (22)
3.2: Use technology effectively for career, information, academic, and personal purposes	4.86 (7)	4.25 (4)	4.60 (15)	4.32 (40)	5.00 (5)	4.25 (4)	4.65 (17)	4.55 (49)	3.95 (22)
3.3: Demonstrate ability to update skills to accommodate rapid change in society's technological landscape	4.71 (7)	4.25 (4)	4.60 (15)	4.32 (40)	5.00 (5)	4.25 (4)	4.65 (17)	4.55 (49)	3.95 (22)



Course Modality

- ILO 6.3, *Exhibit persistence until efforts lead to a successful outcome* ($F(2, 157) = 5.43, p < 0.01$)
 - Students who said they took an equal mix of online and in-person classes self-rated lower on this item than their peers with primarily online or primarily in-person coursework

Table 5. 2021-2022 Institutional Learning Outcomes, Statistically Significant Differences by Primary Course Modality

Institutional Learning Outcomes (ILOs)	Mostly Online	Mostly In-Person	Online & In-Person
ILO Survey Items' Likert Scale: 1= Not at all, 2: Not very well, 3=Somewhat, 4=Well, 5=Very well			
ILO 6: Creativity			
6.3: Exhibit persistence until efforts lead to a successful outcome	4.54 (72)	4.74 (19)	4.25 (69)

2018 – 2022 Longitudinal Institutional Learning Outcomes Analysis

Graduates' average self-ratings for each ILO did not change significantly across the past four years of survey administration. Table 3 below shows the average ratings for each ILO for 2018-2019 through 2021-2022. A downward trend for ILO 3.1 that was previously found to be significant was found to not be significant this year.

Table 6. Longitudinal Institutional Learning Outcomes, Average Ratings

Institutional Learning Outcomes (ILOs)	2018-2019	2019-2020	2020-2021	2021-2022
ILO Survey Items' Likert Scale: 1= Not at all, 2: Not very well, 3=Somewhat, 4=Well, 5=Very well				
ILO 1: Relevant Knowledge, Quantitative Reasoning, and Critical Habits of Mind				
1.1: Solve complex problems	4.3 (232)	4.3 (353)	4.2 (269)	4.3 (163)
1.2: Conduct basic research: collect, evaluate, and analyze relevant facts and information	4.3 (231)	4.3 (348)	4.3 (269)	4.5 (163)
1.3: Apply mathematical skills, including algebra, to problem solve for both occupational and personal purposes	4.1 (232)	4.0 (353)	4.0 (269)	4.1 (163)
1.4: Employ qualitative evaluation measures	4.2 (232)	4.1 (349)	4.1 (267)	4.2 (161)
1.5: Examine, reflect upon, and evaluate one's own thinking	4.5 (231)	4.5 (351)	4.5 (268)	4.6 (163)
1.6: Adapt to new circumstances, challenges, and pursuits	4.5 (231)	4.4 (351)	4.4 (265)	4.5 (162)
ILO 2: Effective Communication in Professional and Personal Situations				
2.1: Utilize principles of critical thinking and logic to inform, persuade, or otherwise participate in discourse	4.4 (231)	4.3 (354)	4.3 (267)	4.4 (163)
2.2: Write and verbally communicate in a clear, well-organized manner appropriate to the purpose, audience, and setting	4.5 (232)	4.4 (352)	4.4 (267)	4.5 (163)
2.3: Demonstrate analytical and discerning listening and reading practices	4.5 (229)	4.3 (354)	4.4 (266)	4.4 (163)
2.4: Employ graphic, creative, aesthetic, or non-verbal forms of expression	4.2 (230)	4.2 (353)	4.2 (263)	4.2 (162)
ILO 3: Adaptability				
3.1: Incorporate what is learned to make positive personal and professional changes	4.5 (231)	4.4 (353)	4.3 (265)	4.4 (163)



Institutional Learning Outcomes (ILOs)	2018-2019	2019-2020	2020-2021	2021-2022
ILO Survey Items' Likert Scale: 1= Not at all, 2: Not very well, 3=Somewhat, 4=Well, 5=Very well				
3.2: Use technology effectively for career, information, academic, and personal purposes	4.4 (231)	4.4 (351)	4.4 (266)	4.4 (163)
3.3: Demonstrate ability to update skills to accommodate rapid change in society's technological landscape	4.3 (229)	4.3 (353)	4.2 (265)	4.3 (163)
ILO 4: Cultural Understanding, Social Justice, and Equity				
4.1: Appreciate artistic expression, aesthetics, languages, and traditions across cultures	4.4 (231)	4.3 (353)	4.3 (266)	4.3 (163)
4.2: Participate in society with respect, empathy, and appreciation for human diversity	4.5 (231)	4.5 (354)	4.5 (266)	4.5 (163)
4.3: Be mindful of divergent perspectives accompanied by awareness of personal prejudices and biases when considering issues	4.5 (231)	4.5 (354)	4.5 (266)	4.5 (162)
4.4: Demonstrate empathy, civility, and equitable conflict resolution	4.5 (231)	4.5 (352)	4.5 (266)	4.4 (162)
ILO 5: Competence in Social Responsibility and Sustainability				
5.1: Recognize the individual's responsibility in local, national, and global matters	4.3 (230)	4.3 (354)	4.3 (266)	4.3 (162)
5.2: Address, through ethical reasoning, issues of social, political, and environmental well-being in the workplace, the greater community, the government, and the world	4.3 (227)	4.3 (354)	4.3 (264)	4.4 (162)
ILO 6: Creativity				
6.1: Employ inspiration and imagination in synthesizing existing ideas and material to generate original work such as novel solutions to problems, alternatives to traditional practices, and other innovations	4.2 (230)	4.2 (353)	4.2 (266)	4.3 (163)
6.2: Extend or challenge current understanding or expression through experimentation and divergent thinking	4.2 (230)	4.2 (353)	4.3 (265)	4.3 (162)
6.3: Exhibit persistence until efforts lead to a successful outcome	4.4 (228)	4.3 (351)	4.4 (264)	4.4 (160)

Differences in Aggregated Longitudinal ILO Ratings Across Demographic Groups

Several findings from the past four ILO Assessments also are reflected in the aggregate across 2018-19 through 2021-22.

Gender

There is a significant difference by gender for the following ILOs, such that male students scored the items lower than female peers. Table 4 displays each of these ILOs disaggregated by respondent gender.

- ILO 2.1 (F(2, 1011) = 3.79, $p < 0.05$)
- ILO 2.2 (F(2, 1010) = 3.34, $p < 0.05$)
- ILO 2.3 (F(2, 1008) = 4.55, $p < 0.05$)
- ILO 4.1 (F(2, 1009) = 4.37, $p < 0.05$)
- ILO 4.2 (F(2, 1010) = 6.03, $p < 0.01$)
- ILO 4.3 (F(2, 1009) = 3.14, $p < 0.05$)
- ILO 4.4 (F(2, 1007) = 4.11, $p < 0.05$)



Table 7. 2018-2021 Institutional Learning Outcomes Average Ratings, Gender

Institutional Learning Outcomes (ILOs)	Female	Male	Unknown/ Unreported
ILO Survey Items' Likert Scale: 1= Not at all, 2: Not very well, 3=Somewhat, 4=Well, 5=Very well			
ILO 2: Effective Communication in Professional and Personal Situations			
2.1: Utilize principles of critical thinking and logic to inform, persuade, or otherwise participate in discourse	4.39 (669)	4.28 (328)	4.06 (18)
2.2: Write and verbally communicate in a clear, well-organized manner appropriate to the purpose, audience, and setting	4.46 (667)	4.36 (329)	4.06 (18)
2.3: Demonstrate analytical and discerning listening and reading practices	4.42 (668)	4.28 (327)	4.35 (17)
ILO 4: Cultural Understanding, Social Justice, and Equity			
4.1: Appreciate artistic expression, aesthetics, languages, and traditions across cultures	4.40 (667)	4.24 (328)	4.28 (18)
4.2: Participate in society with respect, empathy, and appreciation for human diversity	4.55 (668)	4.43 (328)	4.06 (18)
4.3: Be mindful of divergent perspectives accompanied by awareness of personal prejudices and biases when considering issues	4.53 (667)	4.44 (328)	4.22 (18)
4.4: Demonstrate empathy, civility, and equitable conflict resolution	4.54 (666)	4.41 (327)	4.28 (18)

Race/Ethnicity

When excluding groups with a sample size below 10 students, there is a significant difference by race for the following ILOs:

- ILO 1.1 (F(8, 1008) = 2.29, $p < 0.05$)
 - Filipino students self-rated lower than their peers
 - Students of an Unknown race self-rated lower than their peers
- ILO 1.3 (F(8, 1008) = 3.76, $p < 0.001$)
 - Asian students self-rated higher than their peers
 - African American students self-rated lower than their peers
 - Students of an Unknown race self-rated lower than their peers
- ILO 1.5 (F(8, 1004) = 2.11, $p < 0.05$)
 - Hispanic/Latinx students self-rated higher than their peers
- ILO 2.2 (F(8, 1005) = 2.66, $p < 0.01$)
 - Asian students self-rated lower than their peers
- ILO 3.1 (F(8, 1003) = 2.44, $p < 0.05$)
 - Hispanic students self-rated higher than their peers
- ILO 3.3 (F(8, 1001) = 2.61, $p < 0.01$)
 - African American students self-rated higher than their peers
 - Hispanic students self-rated higher than their peers
- ILO 4.2 (F(8, 1005) = 2.65, $p < 0.01$)
 - African American students self-rated higher than their peers
 - Hispanic students self-rated higher than their peers
 - Multi-race students self-rated higher than their peers



- ILO 4.3 (F(8, 1004) = 2.04, $p < 0.05$)
 - Hispanic students self-rated higher than their peers
 - Multi-race students self-rated higher than their peers
- ILO 4.4 (F(8, 1002) = 2.16, $p < 0.05$)
 - African American students self-rated higher than their peers
 - Hispanic students self-rated higher than their peers
- ILO 6.3 (F(8, 994) = 2.18, $p < 0.05$)
 - African American students self-rated higher than their peers
 - Hispanic students self-rated higher than their peers

Table 8. 2018-2021 Institutional Learning Outcomes Average Ratings, Race/Ethnicity

Institutional Learning Outcomes (ILOs)	African American	Asian	Filipino	Hispanic / Latinx	Multi-Race	Native American	Pacific Islander	Unknown	White
ILO Survey Items' Likert Scale: 1= Not at all, 2: Not very well, 3=Somewhat, 4=Well, 5=Very well									
ILO 1: Relevant Knowledge, Quantitative Reasoning, and Critical Habits of Mind									
1.1: Solve complex problems	4.32 (107)	4.24 (269)	4.02 (58)	4.36 (243)	4.24 (67)	4.00 (3)	4.18 (11)	3.9 (20)	4.25 (239)
1.3: Apply mathematical skills, including algebra, to problem solve for both occupational and personal purposes	3.77 (108)	4.16 (268)	4.00 (58)	4.04 (243)	3.96 (67)	3.33 (3)	4.27 (11)	3.30 (20)	4.00 (239)
1.5: Examine, reflect upon, and evaluate one's own thinking	4.53 (107)	4.40 (266)	4.52 (58)	4.61 (243)	4.58 (67)	4.67 (3)	4.55 (11)	4.30 (20)	4.48 (238)
ILO 2: Effective Communication in Professional and Personal Situations									
2.2: Write and verbally communicate in a clear, well-organized manner appropriate to the purpose, audience, and setting	4.51 (108)	4.28 (268)	4.35 (57)	4.47 (241)	4.46 (67)	3.67 (3)	4.55 (11)	4.55 (20)	4.48 (239)
ILO 3: Adaptability									
3.1: Incorporate what is learned to make positive personal and professional changes	4.46 (107)	4.35 (267)	4.23 (57)	4.55 (241)	4.33 (67)	4.33 (3)	4.64 (11)	4.20 (20)	4.35 (239)
3.3: Demonstrate ability to update skills to accommodate rapid change in society's technological landscape	4.40 (107)	4.18 (267)	4.23 (57)	4.42 (240)	4.10 (67)	4.0 (3)	4.55 (11)	4.05 (20)	4.28 (238)
ILO 4: Cultural Understanding, Social Justice, and Equity									
4.2: Participate in society with respect, empathy, and appreciation for human diversity	4.58 (108)	4.41 (268)	4.37 (57)	4.62 (241)	4.69 (67)	4.33 (3)	4.36 (11)	4.55 (20)	4.43 (239)
4.3: Be mindful of divergent perspectives accompanied by awareness of personal prejudices and biases when considering issues	4.55 (108)	4.42 (268)	4.42 (57)	4.60 (240)	4.67 (67)	4.33 (3)	4.45 (11)	4.45 (20)	4.42 (239)
4.4: Demonstrate empathy, civility, and equitable conflict resolution	4.55 (107)	4.40 (267)	4.37 (57)	4.62 (240)	4.54 (67)	4.67 (3)	4.45 (11)	4.60 (20)	4.43 (239)
ILO 6: Creativity									
6.3: Exhibit persistence until efforts lead to a successful outcome	4.51 (104)	4.26 (265)	4.19 (57)	4.46 (240)	4.43 (67)	4.33 (3)	4.36 (11)	4.40 (20)	4.38 (236)



Income Level

Across four years, graduates with an income below the poverty level and students with a Low income self-rated higher on ILO 3, *Adaptability*, 5, *Competence in Social Responsibility and Sustainability*, and 6, *Creativity*. Table 6 displays the average score for each of the respondent income levels.

- 3.1 (F(3, 1008) = 3.33, $p < 0.05$)
 - Students with an income below the poverty level self-rated higher
- 3.2 (F(3, 1007) = 3.91, $p < 0.01$)
 - Students with an income below the poverty level self-rated higher
 - Students with a Low income self-rated higher
- 3.3 (F(3, 1006) = 4.29, $p < 0.001$)
 - Students with an income below the poverty level self-rated higher
 - Students with a Low income self-rated higher
- 5.1 (F(3, 1008) = 2.95, $p < 0.05$)
 - Students with an income below the poverty level self-rated higher
 - Students with a Low income self-rated higher
- 5.2 (F(3, 1008) = 2.68, $p < 0.05$)
 - Students with an income below the poverty level self-rated higher
- 6.1 (F(3, 1008) = 2.98, $p < 0.05$)
 - Students with an income below the poverty level self-rated higher
 - Students with a Low income self-rated higher
- 6.2 (F(3, 1006) = 2.73, $p < 0.05$)
 - Students with an income below the poverty level self-rated higher
 - Students with a Low income self-rated higher
- 6.3 (F(3, 1008) = 2.73, $p < 0.05$)
 - Students with an income below the poverty level self-rated higher

Table 9. 2018-2021 Institutional Learning Outcomes Average Ratings, Income Level

Institutional Learning Outcomes (ILOs)	Below Poverty	Low	Middle and Above	Unable to Determine
ILO Survey Items' Likert Scale: 1= Not at all, 2: Not very well, 3=Somewhat, 4=Well, 5=Very well				
ILO 3: Adaptability				
3.1: Incorporate what is learned to make positive personal and professional changes	4.50 (300)	4.42 (242)	4.34 (370)	4.29 (100)
3.2: Use technology effectively for career, information, academic, and personal purposes	4.45 (299)	4.47 (241)	4.33 (371)	4.23 (100)
3.3: Demonstrate ability to update skills to accommodate rapid change in society's technological landscape	4.34 (298)	4.37 (241)	4.24 (371)	4.07 (100)
ILO 5: Competence in Social Responsibility and Sustainability				
5.1: Recognize the individual's responsibility in local, national, and global matters	4.39 (300)	4.37 (242)	4.24 (370)	4.21 (100)
5.2: Address, through ethical reasoning, issues of social, political, and environmental well-being in the workplace, the greater community, the government, and the world	4.40 (299)	4.38 (241)	4.26 (368)	4.22 (99)
ILO 6: Creativity				



Institutional Learning Outcomes (ILOs)	Below Poverty	Low	Middle and Above	Unable to Determine
ILO Survey Items' Likert Scale: 1= Not at all, 2: Not very well, 3=Somewhat, 4=Well, 5=Very well				
6.1: Employ inspiration and imagination in synthesizing existing ideas and material to generate original work such as novel solutions to problems, alternatives to traditional practices, and other innovations	4.26 (300)	4.24 (242)	4.09 (370)	4.15 (100)
6.2: Extend or challenge current understanding or expression through experimentation and divergent thinking	4.29 (300)	4.31 (242)	4.15 (368)	4.16 (100)
6.3: Exhibit persistence until efforts lead to a successful outcome	4.44 (294)	4.41 (242)	4.33 (368)	4.23 (99)

First Generation Status

Across four years, first generation students self-rated higher than their non-first generation peers on several skills in ILOs 1, 3, 5, and 6. Table 7 displays the average scores for each of these ILOs disaggregated by first generation status.

- 1.1 (F(1, 1015) = 14.41, $p < 0.001$)
- 1.3 (F(1, 1015) = 14.38, $p < 0.001$)
- 1.6 (F(1, 1007) = 4.34, $p < 0.05$)
- 3.1 (F(3, 1008) = 6.65, $p < 0.05$)
- 3.3 (F(3, 1006) = 4.29, $p < 0.001$)
- 5.1 (F(3, 1010) = 6.00, $p < 0.05$)
- 5.2 (F(3, 1005) = 4.25, $p < 0.05$)
- 6.1 (F(3, 10010) = 8.04, $p < 0.01$)

Table 10. 2018-2021 Institutional Learning Outcomes Average Ratings, First Generation Status

Institutional Learning Outcomes (ILOs)	First Generation	Not First Generation
ILO Survey Items' Likert Scale: 1= Not at all, 2: Not very well, 3=Somewhat, 4=Well, 5=Very well		
ILO 1: Relevant Knowledge, Quantitative Reasoning, and Critical Habits of Mind		
1.1: Solve complex problems	4.39 (300)	4.20 (717)
1.3: Apply mathematical skills, including algebra, to problem solve for both occupational and personal purposes	4.18 (299)	3.94 (718)
1.6: Adapt to new circumstances, challenges, and pursuits	4.51 (296)	4.41 (713)
ILO 3: Adaptability		
3.1: Incorporate what is learned to make positive personal and professional changes	4.49 (299)	4.36 (713)
3.3: Demonstrate ability to update skills to accommodate rapid change in society's technological landscape	4.38 (297)	4.24 (713)
ILO 5: Competence in Social Responsibility and Sustainability		
5.1: Recognize the individual's responsibility in local, national, and global matters	4.41 (299)	4.27 (713)
5.2: Address, through ethical reasoning, issues of social, political, and environmental well-being in the workplace, the greater community, the government, and the world	4.41 (297)	4.30 (710)
ILO 6: Creativity		
6.1: Employ inspiration and imagination in synthesizing existing ideas and material to generate original work such as novel solutions to problems, alternatives to traditional practices, and other innovations	4.30 (298)	4.14 (714)



Appendix 1: ILO Ratings by Career and Academic Community (CAC)

2021-2022 Institutional Learning Outcomes Ratings by CAC

Institutional Learning Outcomes (ILOs)	ACDT	AFNR	AME	BCS	ELS	GE	HHS	SBS	SME
ILO Survey Items' Likert Scale: 1= Not at all, 2: Not very well, 3=Somewhat, 4=Well, 5=Very well									
ILO 1: Relevant Knowledge, Quantitative Reasoning, and Critical Habits of Mind									
1.1: Solve complex problems	4.75 (8)	4.00 (4)	4.20 (15)	4.28 (40)	4.00 (5)	4.50 (4)	4.44 (16)	4.29 (49)	4.14 (22)
1.2: Conduct basic research: collect, evaluate, and analyze relevant facts and information	4.88 (8)	4.25 (4)	4.27 (15)	4.45 (40)	3.80 (5)	4.50 (4)	4.62 (16)	4.59 (49)	4.18 (22)
1.3: Apply mathematical skills, including algebra, to problem solve for both occupational and personal purposes	4.62 (8)	4.50 (4)	3.93 (15)	4.18 (40)	3.60 (5)	4.00 (4)	3.94 (16)	3.98 (49)	4.27 (22)
1.4: Employ qualitative evaluation measures	4.33 (6)	4.25 (4)	3.93 (15)	4.25 (40)	3.20 (5)	4.00 (4)	4.25 (16)	4.18 (49)	4.18 (22)
1.5: Examine, reflect upon, and evaluate one's own thinking	4.88 (8)	4.50 (5)	4.67 (15)	4.50 (40)	4.60 (5)	4.25 (4)	4.56 (16)	4.67 (49)	4.36 (22)
1.6: Adapt to new circumstances, challenges, and pursuits	4.57 (7)	4.00 (4)	4.60 (15)	4.38 (40)	4.20 (5)	4.50 (4)	4.56 (16)	4.65 (49)	4.23 (22)
ILO 2: Effective Communication in Professional and Personal Situations									
2.1: Utilize principles of critical thinking and logic to inform, persuade, or otherwise participate in discourse	4.71 (7)	4.50 (4)	4.33 (15)	4.42 (40)	4.60 (5)	4.50 (4)	4.47 (17)	4.53 (49)	4.23 (22)
2.2: Write and verbally communicate in a clear, well-organized manner appropriate to the purpose, audience, and setting	4.57 (7)	4.00 (4)	4.47 (15)	4.20 (40)	4.80 (5)	4.75 (4)	4.65 (17)	4.63 (49)	4.32 (22)
2.3: Demonstrate analytical and discerning listening and reading practices	4.57 (7)	4.25 (4)	4.20 (15)	4.28 (40)	4.60 (5)	4.75 (4)	4.53 (17)	4.51 (49)	4.18 (22)
2.4: Employ graphic, creative, aesthetic, or non-verbal forms of expression	4.71 (7)	3.75 (4)	4.60 (15)	4.00 (39)	4.40 (5)	4.25 (4)	4.47 (17)	4.14 (49)	4.00 (22)
ILO 3: Adaptability									
3.1: Incorporate what is learned to make positive personal and professional changes	4.59 (17)	4.00 (4)	4.47 (15)	4.32 (40)	4.20 (5)	4.75 (4)	4.59 (17)	4.63 (49)	4.05 (22)



Institutional Learning Outcomes (ILOs)	ACDT	AFNR	AME	BCS	ELS	GE	HHS	SBS	SME
ILO Survey Items' Likert Scale: 1= Not at all, 2: Not very well, 3=Somewhat, 4=Well, 5=Very well									
3.2: Use technology effectively for career, information, academic, and personal purposes	4.86 (7)	4.25 (4)	4.60 (15)	4.32 (40)	5.00 (5)	4.25 (4)	4.65 (17)	4.55 (49)	3.95 (22)
3.3: Demonstrate ability to update skills to accommodate rapid change in society's technological landscape	4.71 (7)	4.25 (4)	4.60 (15)	4.32 (40)	5.00 (5)	4.25 (4)	4.65 (17)	4.55 (49)	3.95 (22)
ILO 4: Cultural Understanding, Social Justice, and Equity									
4.1: Appreciate artistic expression, aesthetics, languages, and traditions across cultures	4.57 (7)	4.00 (4)	4.33 (15)	4.08 (40)	4.80 (5)	4.75 (4)	4.41 (17)	4.59 (49)	4.05 (22)
4.2: Participate in society with respect, empathy, and appreciation for human diversity	4.71 (7)	4.25 (4)	4.53 (15)	4.30 (40)	5.00 (5)	4.75 (4)	4.41 (17)	4.65 (49)	4.36 (22)
4.3: Be mindful of divergent perspectives accompanied by awareness of personal prejudices and biases when considering issues	4.71 (7)	4.50 (4)	4.53 (15)	4.35 (40)	5.00 (5)	4.50 (4)	4.59 (17)	4.60 (48)	4.32 (22)
4.4: Demonstrate empathy, civility, and equitable conflict resolution	4.57 (7)	4.00 (4)	4.20 (15)	4.25 (40)	5.00 (5)	4.75 (4)	4.65 (17)	4.54 (48)	4.36 (22)
ILO 5: Competence in Social Responsibility and Sustainability									
5.1: Recognize the individual's responsibility in local, national, and global matters	4.57 (7)	4.00 (4)	4.27 (15)	4.13 (39)	4.40 (5)	4.25 (4)	4.35 (17)	4.47 (49)	4.27 (22)
5.2: Address, through ethical reasoning, issues of social, political, and environmental well-being in the workplace, the greater community, the government, and the world	4.43 (7)	4.00 (4)	4.29 (14)	4.12 (40)	4.80 (5)	4.50 (4)	4.47 (17)	4.57 (49)	4.32 (22)
ILO 6: Creativity									
6.1: Employ inspiration and imagination in synthesizing existing ideas and material to generate original work such as novel solutions to problems, alternatives to traditional practices, and other innovations	4.43 (7)	4.00 (4)	4.27 (15)	4.22 (40)	4.60 (5)	4.50 (4)	4.47 (17)	4.35 (49)	4.18 (22)
6.2: Extend or challenge current understanding or expression through experimentation and divergent thinking	4.43 (7)	4.00 (4)	4.47 (15)	4.20 (40)	4.60 (5)	4.50 (4)	4.62 (16)	4.27 (49)	4.14 (22)
6.3: Exhibit persistence until efforts lead to a successful outcome	4.57 (7)	4.00 (4)	4.60 (15)	4.26 (38)	5.00 (5)	4.50 (4)	4.59 (17)	4.49 (49)	4.29 (21)