

GBSC General Education Core Outcomes and Assessment

Contents

Introduction and General Education Categories	2
General Education Core Outcomes and Assessment	4
Assessment Results and Analysis	7
Outcome 1: Students will demonstrate critical-thinking skills	7
Outcome 2: Students will be able to communicate clearly, responsibly, and with integrity in written and oral forms	13
Outcome 3: Students will be able to demonstrate a knowledge of human cultures	17
Outcome 4: Students will be able to demonstrate an appreciation for cultures other than their own	19
Outcome 5: Students will be able to demonstrate creative thought and action	22
Outcome 6: Students will be able to demonstrate the ability to think logically and reason effectively in addressing quantitative questions, utilizing mathematical methodologies to solve problems	23
Outcome 7: Students will be able to use technological and information literacy skills effectively	25
Outcome 8: Students will be able to demonstrate an understanding of how to use the scientific method to explore the natural world	28
Outcome 9: Students will be able to demonstrate proficiency in the collection, interpretation, and presentation of scientific data	30
Outcome 10: Students will be able to demonstrate how key concepts from the social and behavioral sciences help to identify and address real-world problems.	32
2024–2025 Assessment Summary	34
Assessments Referenced Above	34

Introduction and General Education Categories

The General Education Core Curriculum at God's Bible School and College will expose students to the scope, methods of inquiry and primary content of academic subject areas that form the foundation of an educated Christian's worldview and life and will facilitate skill development in their application to thought and practice. The academic subject areas included are listed below.

- College success
- English composition and communication
- Natural sciences
- Mathematics and technology
- Fine arts and music
- Humanities
- Social and behavioral sciences

Here are links to current courses in each General Education category in the undergraduate Catalog. In most cases students can choose from a range of options, although some degree programs require specific courses that also meet General Education requirements.

- [Diverse Perspective](#)
- [English Communication and Composition](#)
- [Fine Arts and Music](#)
- [Historical Perspective](#)
- [Humanities](#)
- [Information Literacy Perspective](#)
- [Mathematics and Technology](#)
- [Natural Sciences](#)
- [Social and Behavioral Sciences](#)

The number of hours required in each category varies between AA/AAS programs and BA programs. Details are included in the [Catalog](#).

The following specific outcome statements are used to assess student growth in achieving the General Education program goals.

1. Demonstrate critical-thinking skills
2. Communicate clearly, responsibly, and with integrity in written and oral forms
3. Demonstrate knowledge of human cultures
4. Demonstrate an appreciation for cultures other than their own
5. Demonstrate creative thought and action
6. Demonstrate the ability to think logically and reason effectively in addressing quantitative questions, utilizing mathematical methodologies to solve problems
7. Use technology and information literacy skills effectively
8. Demonstrate an understanding of how to use the scientific method to explore the natural world
9. Demonstrate proficiency in the collection, interpretation, and presentation of scientific data
10. Demonstrate how key concepts from the social and behavioral sciences help to identify and address real-world problems

General Education Core Outcomes and Assessment

The table below presents GBSC's General Education Core outcome statements along with assessment methods and targets.

Outcome	Assessment	Target level
1. Demonstrate critical-thinking skills	Course-embedded assessment via critical-thinking rubric	Average senior achievement of 2.75
	Selected Graduate Exit Survey Items	At least 75% for self-reported improvement; 90% for all other items
	Critical Thinking in Everyday Life Scale	Improvement from freshman to senior score (longitudinal) for at least 75% of students
	ETS Proficiency Profile critical-thinking subscore	Improvement from freshman to senior score (longitudinal) for at least 75% of students
2. Communicate clearly, responsibly, and with integrity in written and oral forms	Course-embedded assessment via public-speaking and writing rubrics	Average senior achievement of 2.75
	Selected Graduate Exit Survey Items	At least 75% for self-reported improvement; 90% for all other items
	ETS Proficiency Profile writing subscore	Improvement from freshman to senior score (longitudinal) for at least 75% of students
	Plagiarism tutorial (embedded in course)	100% of students successfully complete
3. Demonstrate a knowledge of human cultures	ETS Proficiency Profile humanities subscore	Improvement from freshman to senior score (longitudinal) for at least 75% of students
	Course-embedded assessment via human cultural knowledge rubric	Average senior achievement of 2.75

Outcome	Assessment	Target level
4. Demonstrate an appreciation for cultures other than their own	Selected Graduate Exit Survey Items	At least 75% for self-reported improvement; 90% for all other items
	Course-embedded assessment via diversity-appreciation rubric	Average senior achievement of 2.75
	Openness to Diversity and Challenge Scale	Improvement from freshman to senior score (longitudinal) for at least 75% of students
5. Demonstrate creative thought and action	Selected Graduate Exit Survey Items	At least 75% for self-reported improvement; 90% for all other items
	Creative Behavior Inventory with slight revision	Improvement from freshman to senior score (longitudinal) for at least 75% of students
6. Demonstrate the ability to think logically and reason effectively in addressing quantitative questions, utilizing mathematical methodologies to solve problems	ETS Proficiency Profile math subscore	Improvement from freshman to senior score (longitudinal) for at least 75% of students
	Course-embedded assessment via quantitative-literacy rubric	Average achievement of 2.75 or higher for students who pass math courses
7. Use technology and information literacy skills effectively	Project SAILS assessment	GBSC students' average Project SAILS score will be higher than the test's all-institution average score
	Course-embedded assessment via technology-use rubric	Average senior achievement of 2.75
	Selected Graduate Exit Survey Items	At least 75% for self-reported improvement; 90% for all other items

Outcome	Assessment	Target level
8. Demonstrate an understanding of how to use the scientific method to explore the natural world	Scientific Process Flowchart Assessment administered as pre- and post-course assessment in science courses	At least 75% of students completing the assessment show improvement
	Selected Graduate Exit Survey Items	At least 75% for self-reported improvement; 90% for all other items
9. Demonstrate proficiency in the collection, interpretation, and presentation of scientific data	ETS Proficiency Profile natural sciences subscore	Improvement from freshman to senior score (longitudinal) for at least 75% of students
	Test of Scientific Literacy Skills	Improvement from freshman to senior score (longitudinal) for at least 75% of students
10. Demonstrate how key concepts from the social and behavioral sciences help to identify and address real-world problems	ETS Proficiency Profile social sciences subscore	Improvement from freshman to senior score (longitudinal) for at least 75% of students
	Course-embedded assessment via social and behavioral sciences competency rubric	Average senior achievement of 2.75
	Selected Graduate Exit Survey Items	At least 75% for self-reported improvement; 90% for all other items

Assessment Results and Analysis

General Education Outcome 1: *Students will demonstrate critical-thinking skills*

Measures: Course-embedded assessment via critical-thinking rubric, Selected Graduate Survey items, Critical Thinking in Everyday Life Scale, ETS Proficiency Profile critical-thinking subscore

- Course-embedded assessment via critical-thinking rubric (average senior achievement of 2.75)

Current average senior achievement = 3.08 (n=155).

Table 1.
Course-embedded Critical Thinking Assessment Data

Year	2021-2022 (n=59) 10,6,20,18	2022-2023 (n=189) 58,54,25,52	2023-2024 (n=167) 62,43,26,36	Cumulative Averages (n=480)
Freshmen	2.90	3.00	2.47	2.72
Sophomores	2.33	2.81	2.77	2.73
Juniors	3.35	2.84	3.00	2.95
Seniors	2.83	3.21	3.19	3.08

- Self-report of improvement on Graduate Survey (target at least 75% of graduates report improvement)

Table 2a.
Graduate Exit Survey data

Item	% endorsing preferred response*			
	2021-2022 (n=40)	2022-2023 (n=29)	2023-2024 (n=65)	Cumulative (n=388)
My critical thinking skills improved	97%	93%	95%	96%

*Preferred responses = strongly agree; agree

- Supporting Graduate Survey item (target at least 90% of graduates answer with the preferred response)

Table 2b.

Graduate Exit Survey data

Item	% endorsing preferred response*			
	2021-2022 (n=39)	2022-2023 (n=29)	2023-2024 (n=65)	Cumulative (n=189)
I demonstrate critical thinking ability, including the ability to differentiate between uncompromisable absolutes and peripheral matters.	87%	97%	88%	89%

**Preferred response = This is more true in my life*

- Critical Thinking in Everyday Life Scale (improvement from freshman to senior score [longitudinal] for at least 75% of students)

No longitudinal data is yet available for this measure. Initial data has been collected beginning in the spring 2021 semester.

Table 3.

Critical Thinking in Everyday Life Scale Cross-sectional

Response	ALL (n=160)	SENIORS only (n=43)
Always*	942 (21%)	173 (20%)
Often*	1825 (41%)	365 (42%)
Sometimes	1265 (28%)	243 (28%)
Rarely	352 (8%)	68 (8%)
Never	64 (1%)	10 (1%)
Preferred Responses	62%	62%

**Preferred responses*

Table 4.
Critical Thinking in Everyday Life Scale

Item	% endorsing Preferred response*					
	2021-22		2022-23		2023-24	
	FR (n=14)	SR (n=12)	FR (n=61)	SR (n=12)	FR (n=46)	SR (n=14)
I think of possible results before I take action.	71%	83%	72%	100%	89%	79%
I get ideas from other people when having a task to do.	43%	42%	54%	36%	54%	64%
I develop my ideas by gathering information.	50%	75%	70%	55%	70%	100%
When facing a problem, I identify options.	79%	83%	74%	91%	85%	71%
I can easily express my thoughts on a problem.	36%	50%	46%	55%	57%	36%
I am able to give reasons for my opinions.	71%	75%	66%	73%	74%	86%
It is important for me to get information to support my opinions.	79%	83%	77%	100%	74%	71%
I usually have more than one source of information before making a decision.	57%	75%	49%	64%	63%	64%
I plan where to get information on a topic.	29%	33%	38%	27%	30%	36%
I plan how to get information on a topic.	29%	42%	44%	18%	39%	36%
I back my decisions by the information I got.	64%	83%	67%	82%	70%	86%
I listen to the ideas of others even if I disagree with them.	93%	83%	84%	100%	91%	86%
I compare ideas when thinking about a topic.	79%	92%	75%	64%	72%	50%
I keep my mind open to different ideas when planning to make a decision.	93%	83%	77%	91%	70%	64%
I am aware that sometimes there are no right or wrong answers to a question.	50%	50%	67%	73%	72%	57%
I can easily tell what I did was right or wrong.	64%	67%	66%	82%	76%	50%
I am able to tell the best way of handling a problem.	14%	25%	44%	8%	39%	29%
I make sure the information I use is correct.	79%	67%	80%	91%	78%	86%

**Preferred response = always; often*

- ETS Proficiency Profile critical-thinking subcore (improvement from freshman to senior score [longitudinal] for at least 75% of students)

At this time, only cross-sectional (not longitudinal) data is available.

Table 5.

ETS Proficiency Profile Critical Thinking Subscore

Item	GBSC average	GBSC n=	National average (all institutions)
Critical thinking subscore FRESHMAN	109.89	n= 472	108.70
Critical thinking subscore SENIORS	113.75	n= 199	110.60
Critical thinking subscore ALL	111.03	n= 671	109.60

An independent t-test of GBSC senior critical thinking subscores and all institutional senior subscores shows that the difference is considered to be extremely statistically significant.

Analysis/Discussion

- Course-embedded critical thinking scores improve from freshman to senior year. Additionally, senior scores are above the expected level of 2.75; they are at 3.19. Sophomore scores used to be the lowest overall, but now they gradually increase from freshman to senior year.
- In 2023–2024, 95% of graduates endorsed the preferred response (Graduate Exit Survey, up from 93% the year before) to “My critical thinking skills improved.” Overall, seniors self-reported that 96% improved their critical thinking skills during their time at GBSC. These results suggest that graduates believe their critical thinking skills improved during their time at GBSC, which is a positive trend.
- A second question on the Graduate Exit Survey addresses students’ critical thinking ability at the end of their time at GBSC. The first 3 years of collecting data are insignificant (only 1 or 2 students responded in those years). Therefore, there are mainly 3 years of data, and students reported that their ability to think critically and differentiate between uncompromisable absolutes and peripheral matters was 97% in 2022–2023 and 88% in 2023–2024. The target level is 90%. Of 189 students who took the survey in the last three years, 89% endorsed the preferred response, which is almost at the target level.
- So far, no longitudinal data has been collected on the Critical Thinking in Everyday Life Skills survey, as it has only been administered starting in the spring of 2021. Up to this point, 62 senior and 160 total student responses have been collected. The average preferred response rate for freshmen is 63%; seniors is also 63% (up from 60%). An independent t-test does not show this to be statistically significant. The most common

response is “often” (41% all students; 42% seniors), showing that students tend to engage in critical thinking regularly.

Since the goal is for students to report improvement on this assessment, this percentage does not determine if students are graduating with improved critical thinking skills during their time at GBSC. It is interesting to note the items that show significantly low senior scores (less than 40% of often or always – these same scores also significantly decrease between freshmen and seniors):

- “I get ideas from others when I have a task to do”: 36% seniors (down from 54% freshmen)
 - “I plan where to get information on a topic”: 27% (down from 38% freshmen)
 - “I plan how to get information on a topic”: 18% (down from 44% freshmen)
 - “I am able to tell the best way of handling a problem”: 8% (down from 44% freshmen)
- In fall of 2023, faculty were asked to rate the usefulness of each item in assessing critical thinking skills. This feedback is part of current discussion by the Assessment Committee. Though, the committee approved removing two items from previous reporting:
 - “I put my ideas in order of importance”
 - “I developed a checklist to help me think about an issue.”
 - Removal of these two items resulted in 4.33% improvement to average overall scores.
- The highest reporting areas between freshmen and seniors in 2022–2023 are:
 - “I think of possible results before I take action”: 100% seniors (72% freshmen)
 - “When facing a problem, I identify options”: 90% (74% freshmen)
 - “It is important for me to get information to support my opinions”: 100% (77% freshmen)
 - “I listen to the ideas of others even if I disagree with them”: 100% (84% freshmen)
 - “I keep my mind open to different ideas when planning to make a decision”: 90% (77% freshmen)
 - “I make sure the information I use is correct”: 90% (freshmen 80%)
- ETS skills subscores (critical thinking, reading, writing, and mathematics) are reported on a 100–130 score scale
 - GBSC seniors score significantly higher in critical thinking than the average students.
 - Seniors: GBSC average is 113.75, significantly higher than the national average of 110.60.
 - Difference: +3.15 points
 - Comparing GBSC average senior scores with national averages shows that the difference is considered to be extremely statistically significant.
 - Senior scores are also significantly higher than freshmen scores, indicating that GBSC effectively develops students' critical thinking skills.
 - Freshmen: GBSC average is 109.89, higher than the national average of 108.70.
 - Difference: +1.19 points
 - All GBSC students taking the ETS Proficiency Profile (freshmen and seniors) score significantly higher than the national average for critical thinking.
 - All Students: GBSC average is 111.03, higher than the national average of 109.60.

- Difference: +1.43 points
- GBSC students consistently outperform the national average in critical thinking across all groups, with seniors showing the largest gap (+3.15 points).
- Comparing GBSC subscores to the average for institutions with similar characteristics (as opposed to all-institution average) would provide another perspective on student achievement in critical thinking.

General Education Outcome 2: Students will be able to communicate clearly, responsibly, and with integrity in written and oral forms

Measures: Course-embedded assessment via public-speaking and writing rubrics, selected Graduate Survey items, ETS Proficiency Profile writing score, Plagiarism tutorial (embedded in the course)

- Course-embedded assessment via public-speaking and writing rubrics (target average senior achievement of 2.75)

Current average senior achievement = 2.85 (n=158).

Table 6.
Course-embedded Writing Assessment Data

Year	2021-2022 (n=91) 26,37,15,13	2022-2023 (n=196) 83,73,15,25	2023-2024 (n=130) 76,17,11,26	Cumulative Averages (n=633)
Freshmen	2.42	2.72	2.67	2.57
Sophomores	2.49	2.36	2.76	2.48
Juniors	2.67	2.40	2.82	2.47
Seniors	2.62	3.28	2.96	2.85

Current average senior achievement = 2.76 (n=119).

Table 7.
Course-embedded Public Speaking Assessment Data

Year	2021-2022 (n=53) 10,7,18,18	2022-2023 (n=126) 38,38,20,30	2023-2024 (n=78) 23,17,14,24	Cumulative Averages (n=321)
Freshmen	2.70	2.61	2.61	2.60
Sophomores	2.29	2.87	2.76	2.76
Juniors	2.72	2.85	3.36	2.75
Seniors	2.83	2.57	2.96	2.76

- Self-report of improvement on Graduate Survey items (target at least 75% of graduates report improvement)

Table 8a.

Selected Graduate Exit Survey data

Item	% endorsing preferred response*			
	2021-2022 (n=40)	2022-2023 (n=29)	2023-2024 (n=65)	Cumulative (n=387)
My oral communication skills improved	95%	90%	91%	91%
My writing skills improved	87%	97%	83%	91%

**Preferred responses = strongly agree; agree*

- Supporting Graduate Survey item (target at least 90% of graduates answer with the preferred response)

Table 8b.

Selected Graduate Exit Survey data

Item	% endorsing preferred response*			
	2021-2022 (n=39)	2022-2023 (n=29)	2023-2024 (n=65)	Cumulative (n=188)
I demonstrate an ability to communicate clearly about God and His working in my life.	92%	93%	95%	94%

**Preferred response = This is more true than false in my life.*

- ETS Proficiency Profile writing subscore (improvement from freshman to senior score [longitudinal] for at least 75% of students)

Table 9.

ETS Proficiency Profile Writing Subscore

Item	GBSC average	GBSC n=	National average (all institutions)
Writing subscore FRESHMAN	112.18	n= 472	111.20
Writing subscore SENIORS	115.13	n= 199	112.90
Writing subscore ALL	113.05	n= 671	112.00

An independent t-test of GBSC senior writing subscores and all institutional senior writing subscores shows that the difference is considered to be extremely statistically significant.

An independent t-test of all GBSC student writing subscores and all institutional writing subscores shows that the difference is considered extremely statistically significant.

- Course-embedded plagiarism tutorial (100% of students will successfully complete)

Table 10.

Plagiarism Tutorial from INFL 101

Item	% completed						
	2017-2018 (n=75)	2018-2019 (n=91)	2019-2020 (n=71)	2020-2021 (n=58)	2021-2022 (n=55)	2022-2023 (n=68)	2023-2024 (n=86)
% of students who completed the plagiarism tutorial	64%	76%	76%	86%	76%	75%	72%

Analysis/Discussion

- Course-embedded writing scores improve from freshman to senior year. In 2023-24, senior scores average 2.96, above the 2.75 expected threshold. Freshmen scores are 2.61.
 - Performance generally improves as students progress through class levels, with seniors achieving the highest averages overall.
 - Sophomores and juniors show similar patterns of decline followed by recovery, while freshmen and seniors demonstrate more stable trends.
- Course-embedded public speaking scores improve from freshman to senior year with freshman students receiving the lowest scores. Senior scores average 2.96, above the 2.75 expected threshold.
 - Cumulative average across class levels:
 - Freshmen Averages: 2.70 → 2.61 → 2.61
 - Stable but slightly declining performance over time.
 - Sophomores Averages: 2.29 → 2.87 → 2.76
 - Significant improvement (+0.58) from Year 1 to Year 2, with a slight dip in Year 3.
 - Juniors Averages: 2.72 → 2.85 → 3.36
 - Steady growth, with a notable jump in Year 3 (+0.51), reaching the highest average (3.36).
 - Seniors Averages: 2.83 → 2.57 → 2.96
 - A dip in Year 2 (-0.26) followed by recovery in Year 3 (+0.39).
- Around 91% of students self-reported on the graduate survey that their oral communication improved (down from 92%); 91% of students self-reported on the graduate survey that their writing skills improved while at GBSC (down from 93% the previous year).
- Also, since 2017, 94% of seniors state that they can demonstrate an ability to communicate clearly about God and His working in their lives.
- The percentage of students who complete the plagiarism tutorial in INFL 101 went from 38% in 2016-2017 to 72% in 2023–2024, so it is significantly increasing. However, it is not at 100% yet, the expected percentage.
 - Students self-report their completion of the quiz; the quiz is required in order to pass INFL101.
 - A 100% completion rate is unrealistic given current trends. The current percentages likely reflect student persistence in INFL101 rather than a measure of students' ability to communicate with integrity.
 - The course instructor is testing an alternative measure that would provide individual student scores -- a more appropriate measure of achievement for this outcome. Initial results will be provided in the next reporting cycle.
- ETS skills subscores (critical thinking, reading, writing, and mathematics) are reported on a 100–130 score scale.

- GBSC students outperform the national average in writing proficiency across all groups, with seniors showing the largest gap (+2.23 points). The difference is statistically significant. This suggests that GBSC provides strong support for writing skill development, particularly for upperclassmen.
- Scores improve for GBSC seniors (over 2 points, which is significant/improved on this test); therefore, seniors score higher than the average ETS writing score.
- The largest gap between GBSC and national averages is among seniors (+2.23 points), suggesting that GBSC excels in preparing upperclassmen for advanced writing challenges.
- Comparing GBSC subscores to the average for institutions with similar characteristics (as opposed to all-institution average) would provide another perspective on student achievement in writing and public speaking.

Both writing and speaking are areas that see significant improvement from freshman to senior year. All students score above average in the ETS writing skill area; seniors score significantly higher than average.

General Education Outcome 3: *Students will be able to demonstrate a knowledge of human cultures*

Measures: ETS Proficiency Profile humanities subscore, Course-embedded assessment via human cultural knowledge rubric

- ETS Proficiency Profile humanities subscore (improvement from freshman to senior score [longitudinal] for at least 75% of students)

Table 11.
ETS Proficiency Profile Humanities Subscore

Item	GBSC average	GBSC n=	National average (all institutions)
Humanities subscore FRESHMAN	112.91	n= 472	112.80
Humanities subscore SENIORS	116.01	n= 199	114.60
Humanities subscore ALL	113.83	n= 671	113.50

- Course-embedded assessment via human cultural knowledge rubric (target average senior achievement of 2.75)

Current average senior achievement = 3.29 (n=51).

Table 12.
Course-embedded Human Cultural Knowledge Assessment Data

Year	2021-2022 (n=37) 10,7,13,7	2022-2023 (n=98) 29,26,17,26	2023-2024 (n=91) 60,22,3,6	Cumulative Averages (n=248)
Freshmen	2.90	3.03	2.75	2.84
Sophomores	3.14	3.19	3.27	3.22
Juniors	3.08	2.41	2.33	2.81
Seniors	3.43	3.27	3.50	3.29

Analysis/Discussion

- Norm-referenced scores: ETS context subscores (humanities, social sciences, and natural sciences) reported on a 100–130 score scale
 - GBSC students' humanities scores are significantly higher than the average students.
 - GBSC freshmen scored slightly above the national average. A +0.6 difference is small but suggests that incoming students are entering college with slightly stronger-than-average humanities proficiency.
 - By senior year, GBSC students are outperforming the national average by a wider margin (+1.41 points). This indicates that the humanities instruction at GBSC may be more effective than average, leading to greater growth in student performance over time.
 - In addition, the scores improve significantly for seniors (about 3 points, which is extremely significant/improved on this test); therefore, seniors are scoring extremely significantly higher than the average students in the ETS humanities context area.
- The average senior achievement score is high for the course-embedded assessment in the human cultural knowledge area. Scores increase considerably from freshman (2.84) to senior year (3.29).
 - It is interesting to note that current trends do not show a progressive increase in scores. On average, sophomore students score well above freshman and sophomores in this area.

General Education Outcome 4: *Students will be able to demonstrate an appreciation for cultures other than their own*

Measures: Selected Graduate Survey items, course-embedded assessment via a diversity-appreciation rubric, Openness to Diversity and Challenge Scale

- Self-report of improvement on Graduate Survey item (target at least 75% of graduates report improvement)

Table 13.
Selected Graduate Exit Survey data

Item	% endorsing preferred response			
	2021-2022 (n=39)	2022-2023 (n=29)	2023-2024 (n=65)	Cumulative (n=385)
My appreciation of cultural diversity increased.	90%	90%	83%	90%

**Preferred responses = strongly agree; agree*

- Course-embedded assessment via diversity-appreciation rubric (target average senior achievement of 2.75)

Current average senior achievement = 3.20 (n=104).

Table 14.
Course-embedded Diversity Appreciation Assessment Data

Year	2021-2022 (n=62) 7,27,23,5	2022-2023 (n=124) 16,32,39,37	2023-2024 (n=146) 45,44,26,31	Cumulative Averages (n=365)
Freshmen	2.43	2.69	2.73	2.71
Sophomores	2.11	2.91	3.09	2.82
Juniors	2.48	3.05	3.27	2.93
Seniors	2.80	3.32	3.61	3.20

- Openness to Diversity and Challenge Scale (improvement from freshman to senior score [longitudinal] for at least 75% of students)

Currently only cross-sectional data exists. It shows missed results, with seniors higher on 3 of 6 items. A focus group was conducted with on-campus seniors to determine how students tend to interpret the lowest-performing items.

Table 15.

Openness to Diversity & Challenge Scale cross-sectional data

Item	% endorsing preferred responses*							
	2021-22		2022-23		2023-24		Cumulative	
	FR (n=15)	SR (n=17)	FR (n= 64)	SR (n=12)	FR (n=49)	SR (n=14)	FR (n=128)	SR (n=43)
I enjoy having discussions with people whose ideas and values are different from my own.	73%	75%	69%	58%	78%	79%	73%	72%
I enjoy talking with people who have values different from mine because it helps me better understand myself and my values.	80%	83%	80%	83%	86%	64%	82%	79%
Learning about people from different cultures is a very important part of my college education.	73%	33%	67%	92%	51%	86%	62%	70%
I enjoy taking courses that challenge my beliefs and values.	60%	75%	70%	58%	61%	71%	66%	65%
The courses I enjoy most are those that make me think about things from a different perspective.	60%	92%	81%	75%	71%	100%	75%	88%
Contact with individuals whose backgrounds are different from my own is an essential part of my college education.	73%	58%	69%	83%	57%	79%	65%	74%

**Preferred responses = strongly agree; agree*

Analysis/Discussion

- Outcome 4 (diversity) seems to be a GBSC Gen Ed strength.
 - In the course-embedded assessment, seniors have exceeded the average threshold (Actual= 3.20; target =2.75).
 - The Graduate survey self-reported item asking if students' appreciation of cultural diversity has improved is very strong. At least 75% of students were expected to self-report improvement, but the actual percentage is 90%.
- The Openness to Diversity and Challenge Scale yields mixed initial results.
 - Interpretation of the statements may be a factor. But with more data now, there are not as many drops in scores or as significant.
 - In general, freshmen students' endorsement of preferred responses has increased over the 3 years, suggesting improvement in openness and cultural engagement.
 - *"I enjoy having discussions with people whose ideas and values are different from my own"* went from 73% (2021-22) to 78% (2023-24).
 - *"I enjoy talking with people who have values different from mine..."* climbed from 80% to 86%.
 - Senior students' responses fluctuate more. Some years they outperform freshmen (e.g., 92% in 2022-23 on learning about different cultures), but other times they lag (e.g., only 33% in 2021-22 on the same item).
 - In 2023-24, there was a **notable drop** for SRs on *"talking with people who have different values"* (83% → 64%) and *"learning about people from different cultures"* (92% → 86%).
 - Discussions with People with Different Ideas:
 - FR: Consistently high (69%-78%).
 - SR: Started strong in 2021-22 (75%), dipped in 2022-23 (58%), then rebounded (79%).
 - Talking with People of Different Values Enhances Self-Understanding:
 - This consistently received high endorsement across groups and years, particularly from FR students.
 - SRs dropped in 2023-24, suggesting a possible shift in student mindset or cohort difference.
 - Learning About Different Cultures:
 - SRs were surprisingly low (33%) in 2021-22 but very high (92%) in 2022-23.
 - FRs trended downward over the three years (73% → 51%), which may indicate decreasing perceived relevance or interest in cross-cultural learning.
 - Courses That Challenge Beliefs:
 - Fairly stable across all groups; FRs range 60–70%, SRs from 58–75%.
 - Courses That Offer Different Perspectives:
 - Strong and increasing endorsement, especially from SRs (92%, 75%, 100%).
 - Contact with Diverse Individuals:
 - Mixed responses from both FR and SR groups.
 - Cumulative shows strong SR support (74%) and slightly less FR support (65%).

- SRs are generally more affirming of enjoying challenging and perspective-shifting courses by their final year.
- FRs show steady growth in many areas, which is promising for educational impact over time.
- Cultural learning and diversity engagement seem strong overall, but interest in cultural learning declined slightly among FR students over time.
- Seniors may be focusing on things like “very important” and contrasting social interaction with other experiences they currently value more highly (eg, field experiences, upper-level classes in their majors, etc.).

General Education Outcome 5: Students will be able to demonstrate creative thought and action

Measures: Selected Graduate Survey items, Creative Behavior Inventory

- Self-report of improvement on Graduate Survey item (target at least 75% of graduates report improvement)

Table 16.

Selected Graduate Exit Survey data

Item	% endorsing preferred response*			
	2021-2022 (n=39)	2022-2023 (n=29)	2023-2024 (n=65)	Cumulative (n=315)
My ability to think and act creatively has improved.	97%	76%	83%	88%

*Preferred responses = strongly agree; agree

- Creative Behavior Inventory (improvement from freshman to senior score [longitudinal] for at least 75% of students)

In this inventory, students report on their participation in a number of creative behaviors. The scores below represent an average count of those selected activities.

Average freshman score= 26.31; n=208

Average senior score= 32.50; n= 62

Analysis/Discussion

- Outcome 5 (creativity) is another GBSC Gen Ed strength.
 - The Graduate survey self-reported item asking if students' ability to think and act creatively has improved is strong. At least 75% of graduates were expected to self-report improvement, but the overall percentage is 88%, down from 90% the previous year..
 - For the Creative Behavior inventory longitudinal data is now available for 11 students. Of those 11 students, 7 (64%) reported an increased number of creative behaviors. The 4 students remaining reported a significant decrease in creative behaviors, perhaps indicating a misunderstanding/misuse of the scale.
 - There is over a +6 point difference between freshmen and seniors taking the Creative Behavior Inventory. Though data is limited, this difference suggests that students' engagement in demonstrating creativity is increasing from freshman to senior year.

General Education Outcome 6: *Students will be able to demonstrate the ability to think logically and reason effectively in addressing quantitative questions, utilizing mathematical methodologies to solve problems*

Measures: ETS Proficiency Profile math subscore, Course-embedded assessment via a quantitative-literacy rubric

- ETS Proficiency Profile math subscore (improvement from freshman to senior score [longitudinal] for at least 75% of students)

Table 17.

ETS Proficiency Profile Mathematics Subscore

Item	GBSC average	GBSC n=	National average (all institutions)
Mathematics subscore FRESHMAN	110.40	n= 472	110.90
Mathematics subscore SENIORS	112.68	n= 199	112.50
Mathematics subscore ALL	111.07	n= 671	111.50

- Course-embedded assessment via quantitative-literacy rubric (average achievement of 2.75 or higher for students who pass math courses)

Current average senior achievement = 3.00 (n=1).

Table 18.

Course-embedded Quantitative Literacy Assessment Data

Year	2023-2024 (n=44) 32,9,2,1	Cumulative Averages (n=44)
Freshmen	2.78	2.78
Sophomores	2.44	2.44
Juniors	2.50	2.50
Seniors	3.00	3.00

Analysis/Discussion

- According to the data from the ETS PP math subscores, math might be an area of challenge for the students at GBSC. Of all the subscores, math was the second-lowest (next to critical thinking).
 - Freshmen scored 0.50 points lower than the national average.
 - Seniors scored 0.18 points higher than the national average.
 - Overall, GBSC students are slightly below (0.43 points) the current national average.
 - GBSC seniors outperform freshmen by 2.28 points, showing growth over time. This gain is stronger than the national improvement gap of 1.6 points.
 - While seniors are not scoring significantly higher than the national average score in the ETS math skill area (they are in the average range), they are improving. This suggests that the institution is effectively supporting math development from freshman to senior year.
- Course-embedded Quantitative Literacy Assessment Scores show students increasing in their quantitative literacy from freshman to senior years, from 2.78 to 3.00. Average achievement should be at least 2.75, so students are not only increasing, but are over the threshold score.
 - Scores generally increase as students progress through their academic years.
 - Thus far, one senior has received a score of 3.0, indicating full proficiency in quantitative literacy at graduation.
 - Quantitative literacy skills are strong across the board, with clear evidence of improvement by class level and a high rate of proficiency overall. Minor dips in sophomore and junior years may suggest areas for improvement, but the senior outcomes suggests successful cumulative development.
 - Due to data collection challenges, results from the Quantitative Literacy Rubric are extremely limited. Additional data will become available in the next reporting cycle, which will be helpful for establishing trends in this area.

GBSC's upcoming strategic plan aims to increase student success in mathematics. Some initiatives to this end have already been implemented; in the spring 2025 semester, regular opportunities for supplemental instruction were made available to both campus and online students enrolled in MATH101 College Algebra.

General Education Outcome 7: *Students will be able to use technological and information literacy skills effectively*

Measures: Project SAILS assessment, Course-embedded assessment via technology-use rubric, Selected Graduate Survey items

- [Project SAILS](#) assessment (GBSC students' average Project SAILS score will be higher than the test's all-institution average score)

Table 19a.

Project SAILS (Cohort Test Reporting - Scores)

Scores/Comparisons	FA18	FA19	FA20	Average	Standard Dev
GBSC	531 ±8	513±8	526 ±10	523.33	SD=9.3
Peer Institutions	495 ±5	504±2	504 ±2	501	SD=5.2
All Institutions	498 ±0	498±0	503 ±1	499.66	SD=2.4

Scoring scale = 300-700

Table 19b.

Project SAILS (Individual Test Reporting - Percentage)

Scores/Comparisons	SP23	FA23	FA24	Average	Standard Dev
GBSC	67%	54%	63%	61%	SD=6.7
Peer Institutions	50%	55%	48%	51%	SD=3.6
All Institutions	51%	51%	50%	51%	SD=0.6

Proficient = 70%

Mastery = 85%

- Course-embedded assessment via technology-use rubric (target average senior achievement of 2.75)

Current average senior achievement = 2.90 (n=88).

Table 20.

Course-embedded Technology Use Assessment Data

Year	2021-2022 (n=16) 0,2,10,4	2022-2023 (n=38) 1,14,8,15	2023-2024 (n=71) 28,13,11,19	Cumulative Averages (n=188)
Freshmen	N/A	3.00	3.21	3.20
Sophomores	3.50	2.93	3.23	3.07
Juniors	3.50	2.88	3.27	3.17
Seniors	3.25	2.47	3.11	2.90

- Self-report of improvement on Graduate Survey item (target at least 75% of graduates report improvement)

Table 21a.

Selected Graduate Exit Survey data

Item	% endorsing preferred response*			
	2021-2022 (n=39)	2022-2023 (n=29)	2023-2024 (n=65)	Cumulative (n=387)
My ability to use technology in learning and in communication improved.	100%	97%	91%	91%

**Preferred responses = strongly agree; agree*

- Supporting Graduate Survey item (target at least 90% of graduates answer with the preferred response)

Table 21b.*Selected Graduate Exit Survey data*

Item	% endorsing preferred response*			
	2021-2022 (n=39)	2022-2023 (n=29)	2023-2024 (n=65)	Cumulative (n=385)
The technology available on campus met my needs	79%	91%	74%	85%
I learned to use new technology tools for my classes.	77%	87%	84%	88%

*Preferred responses = strongly agree; agree

Analysis/Discussion

- Technology use seems to be a strong area for GBSC students.
- Project SAILS stands for Standardized Assessment of Informational Literacy Skills and provides data for both internal and external comparisons. The SAILS item bank has 155 multiple-choice questions based directly on objectives and outcomes in the ACRL Information Literacy Competency Standards for Higher Education.
 - Cohort Test data:
 - GBSC students score significantly higher than students from all other institutions. (GBSC= 523; all other institutions= 500)
 - Cohort test data is unavailable for several years due to insufficient sample sizes. To ensure regular collection of future data, scores will now be collected using the SAILS individual test instead of cohorts.
 - Individual Test Data:
 - SAILS scores available for the past three semesters shows GBSC students meeting the target for information literacy skills. The average score is consistently higher than the score for all institutions, a difference of 13% in FA24.
 - Though GBSC students did not achieve “proficient” or “mastery” levels as determined by SAILS, the overall average score is higher than that of both “peer” and “all” institution comparison groups: a difference of 10%.
- The Graduate Survey self-reported improvement item is strong. At least 75% of students were expected to self-report improvement, but the actual percentage is 91%.
- Perceptions on the Graduate Survey concerning availability of technology on campus continue to fluctuate above and below the target. Dissagregating results by student groups may help to provide a better understanding of specific students’ experiences and expectations. Focus groups could provide additional clarity.
- “I learned to use new technology tools for my classes.” continues to fall below target. It may be beneficial to broaden the statement to include use cases beyond the classroom.
- Course-embedded technology use scores are decreasing from freshman to senior year, but senior scores average 2.90, which is still above the 2.75 expected threshold. Freshmen scores are 3.20, resulting in a 0.30 range. We suspect that additional rubric data will stabilize average technology use scores between class ranks.

General Education Outcome 8: *Students will be able to demonstrate an understanding of how to use the scientific method to explore the natural world*

Measures: Scientific Process Flowchart Assessment administered as pre- and post-course assessment in science courses, Selected Graduate Survey items

- Scientific Process Flowchart Assessment administered as pre- and post-course assessment in science courses (target at least 75% of students completing the assessment show improvement)

Table 22.
Scientific Process Flowchart Assessment data

	% of improvement			
	2019-2020 (n=42)	2020-2021 (n=9)	2023-2024 (n=18)	Cumulative (n=69)
% Improved	21%	56%	11%	23%
# Improved	9	5	2	16

- Self-report of improvement on Graduate Survey item (target at least 75% of graduates report improvement)

Table 23.
Selected Graduate Exit Survey data

Item	% endorsing preferred response*			
	2021-2022 (n=39)	2022-2023 (n=28)	2023-2024 (n=65)	Cumulative (n=313)
My understanding of how to use the scientific method to explore the natural world improved.	67%	54%	58%	63%

*Preferred responses = strongly agree; agree

Analysis/Discussion

- On the scientific process flowchart assessment in FA19, 13 students took the assessment, showing a net gain of 3 students out of 14 who showed improvement, or 23% net improvement.
 - In SP20, 20 students completed the assessment. There was a net gain of 4 students, for an overall improvement score of 20%.
 - SU20 data was gathered from 9 students. 2 students' scores improved, 4 stayed the same, and 3 went down by 1 point.
 - FA20 data was gathered from 9 students. 5 students' scores improved, 2 stayed the same, and 2 went down by 3 points and 1 point, respectively.
 - It was discovered that the scientific flowchart assessment was not embedded in **all** science courses, so data collection is inconsistent. To remedy this, the pre/post assessments have been built into all science courses offered by GBSC beginning in summer 2023.
 - In 2023 and 2024, only 9 students completed both the pre-and post-test. 6 out of 9 students turned in the same flowchart from their pre-test, showing no improvement; therefore, this measure is not working well as a measure for this outcome. Review of implementation may be needed in order to identify ways to increase its effectiveness.
 - The overall/cumulative improvement is 38% (n=69). Out of 69 total students, 16 showed improvement—a modest overall impact.
- Students self-reported their perceived improvement in “My understanding of how to use the scientific method to explore the natural world.” The average improvement score is 63% (down from 65%), somewhat below the 75% expected threshold. 73% was the highest single-year score, and was in 2018-2019. Scores have been decreasing each year since.

Both measures are below expected scores. Therefore, using the scientific method to explore the natural world is a weak area at GBSC.

A new science course (Introduction to Anatomy and Physiology) that includes attention to science literacy in its outcomes was approved by Academic Committee in the spring of 2024 and offered for the first time in the fall semester. This provides an alternative to A&P I and II that covers anatomy/physiology in less depth in order to increase attention to what science is and how it works, providing a stronger GenEd alternative.

Additional discussion is needed to determine possible improvements to science-literacy coverage and increase meaningful assessment in courses. Increasing student success in the natural sciences is, in part, an emphasis in GBSC's upcoming strategic plan.

General Education Outcome 9: *Students will be able to demonstrate proficiency in the collection, interpretation, and presentation of scientific data*

Measures: ETS Proficiency Profile natural sciences subscore, Test of Scientific Literacy Skills

- ETS Proficiency Profile natural sciences subscore (improvement from freshman to senior score [longitudinal] for at least 75% of students)

Table 24.

ETS Proficiency Profile Natural Science Subscore

Item	GBSC average	GBSC n=	National average (all institutions)
Natural Science subscore FRESHMAN	113.42	n= 472	112.10
Natural Science subscore SENIORS	116.02	n= 199	114.10
Natural Science subscore ALL	114.19	n= 671	113.10

- Test of Scientific Literacy Skills in science courses (improvement from freshman to senior score [longitudinal] for at least 75% of students)

Since this is a recently implemented measure, limited data is available. Table 25 shows FR/SR performance over the past three years.

Longitudinal data is now available for one student who scored 75% on the test at the start of their freshman year and 82% during senior year, a 7% increase.

Table 25.

Test of Scientific Literacy Skills

	Freshman (n=48)	Senior (n=30)
Average Score (28 possible pts.)	14/28 (51%)	19/28 (66%)
Percentage Passing	38%	63%

Analysis/Discussion

- So far, 78 students (48 freshmen; 30 seniors) have completed the Test of Scientific Literacy Skills. There is a 25% increase between freshmen and senior scores (up from 10%). Longitudinal data includes only one student; data is still limited due to this being a recent measure.
- According to the data from the ETS PP natural sciences subscores, natural science used to be an area of challenge for the Gen Ed students at GBSC. However, scores are improving.
 - Comparing GBSC average natural sciences scores with national averages, the difference is considered to be statistically significant.
 - All GBSC students are now scoring higher than the average students in the ETS natural science context area.
 - Natural science scores also improve for GBSC seniors (+2.60 points). Seniors score higher than the average student (about 2 points).
 - The performance gap is most significant among seniors (+2.60 points), suggesting effective learning gains over time.

The collection, interpretation, and presentation of scientific data appear to be an area of improvement at GBSC.

General Education Outcome 10: *Students will be able to demonstrate how key concepts from the social and behavioral sciences help to identify and address real-world problems.*

Measures: ETS Proficiency Profile social sciences subscore, Course-embedded assessment via social and behavioral sciences competency rubric, Selected Graduate Survey items

- ETS Proficiency Profile social sciences subcore (improvement from freshman to senior score [longitudinal] for at least 75% of students)

Table 26.
ETS Proficiency Profile Social Science Subscore

Item	GBSC average	GBSC n=	National average (all institutions)
Social Science subscore FRESHMAN	111.29	n= 472	110.80
Social Science subscore SENIORS	115.00	n= 199	112.60
Social Science subscore ALL	112.39	n= 671	111.50

- Course-embedded assessment via social and behavioral sciences competency rubric (target average senior achievement of 2.75)

Average senior achievement = 2.89 (n=44)

Table 27.
Course-embedded Social and Behavioral Science Assessment Data

Year	2021-2022 (n=14) 2,4,6,2	2022-2023 (n=18) 5,6,4,3	2023-2024 (n=70) 30,21,9,10	Cumulative Averages (n=188)
Freshmen	3.00	2.60	2.43	2.26
Sophomores	3.00	2.83	2.90	2.68
Juniors	2.67	2.25	3.22	2.73
Seniors	2.50	3.33	3.00	2.89

- Supporting Graduate Survey item (target at least 90% of graduates answer with the preferred response)

Table 28.

Selected Graduate Exit Survey data

Item	% endorsing preferred response*			
	2021-2022 (n=39)	2022-2023 (n=29)	2023-2024 (n=66)	Cumulative (n=321)
I can use information from the social sciences to help solve problems I encounter in my life or others' lives	87%	90%	86%	89%

*Preferred response = strongly agree; agree

Analysis/Discussion

- ETS Proficiency profile:
 - All GBSC students used to score the same as average students in the ETS social science context area. However, all scores (freshmen and seniors) are now above national norms. Across all groups (Freshmen, Seniors, and Overall), GBSC students scored higher than the national average in social science proficiency. The greatest margin is among seniors (+2.40 points), indicating strong development over the course of their studies.
 - Social science scores improve for seniors. GBSC students show a +3.71 point gain from freshman to senior year (115 – 111.29). This is significantly higher than the national average gain of +1.8 points (112.6 – 110.8).
 - GBSC's overall average (112.39) is +0.89 points higher than the national average (111.5), reflecting consistently strong outcomes.
- Social and behavioral course embedded assessment shows seniors achieving higher than the required score of 2.75. Average senior achievement is 2.89.
- The Graduate Exit Survey item "I can use information from the social sciences..." may provide a useful supporting measure for this outcome. Overall, 89% (down from 90%) of seniors report they agree or strongly agree with the statement, which almost meets the target. The highest endorsement (90%) occurred in 2022–2023, though the sample was the smallest that year (n=29). However, the 2023–2024 preferred response dropped to 86%, below the expected target.
- The social and behavioral area is becoming a strength in the Gen Ed program at GBSC. Over three years, GBSC has maintained strong student outcomes in applied social science learning, with nearly 9 in 10 graduates consistently reporting confidence in their ability to use this knowledge in real-world contexts

Assessment Summary

Evidence from the direct and indirect assessments indicates that GBSC is preparing students to meet most of the General Education outcomes. GBSC will continue to fine-tune individual assessment measures and targets for better alignment and assessment of outcomes. Additional comparisons, such as between GBSC student groups or with similar peer institutions, and focus group work may support a deeper understanding of the impact of GBSC's General Education curriculum on student learning as well as clarify specific areas of challenge. This report shows that increasing student achievement in Mathematics and Natural Sciences is a clear priority.

Assessments Referenced Above

This appendix presents several assessment instruments referenced above.

- [Critical-thinking Rubric](#)
- [Diversity Appreciation Rubric](#)
- [Human Cultural Knowledge Rubric](#)
- [Public-speaking Rubric](#)
- [Quantitative Literacy Rubric](#)
- [Social and Behavioral Science Competency Rubric](#)
- [Technology Use Rubric](#)
- [Writing Rubric](#)
- [Creative Behavior Inventory](#)
- [Critical Thinking in Everyday Life Scale](#)
- [Openness to Diversity and Challenge Scale](#)
- [Scientific Process Flowchart Assessment](#)
- [Test of Scientific Literacy Skills](#)