

Georgia Student Finance Commission Report on
College STEM Course Weighting
FY 2023 Examination of Students and Courses

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Executive Summary

Grade weighting for designated postsecondary science, technology, engineering, and mathematics (STEM) courses for the purposes of HOPE and Zell Miller Scholarship eligibility was introduced during the 2016 legislative session. The purpose of this report is to provide information on the students and courses impacted by this legislation.

The report presents summary counts of students and courses receiving extra weighting by STEM category, postsecondary sector, and institution. The report also examines the correlation between weighting and two outcomes, STEM course enrollment and GPA calculation.

- All approved majors are translated into four STEM categories using the following classifications: Natural Science, Mathematics, Computer Science, and Engineering.
- In FY 2023, 135,000 students enrolled in over 375,000 approved STEM courses. Please note this count includes all approved STEM courses and is not limited to those receiving weights.
- In FY 2023, there were over 82,000 STEM-Weight students, i.e., students who received additional weights on their transcript for enrollment in an approved STEM course, a 1.2% increase from the FY 2022 totals (over 81,000).
- With over 167,000 weighted courses taken in FY 2023, students enrolled in an average of two weighted STEM courses. This was the case in all years studied.
- 66% of FY 2023 students took a natural science course and 45% took a mathematics course from the approved course list.
- Computer science and engineering courses were taken by a lower percentage of students with 13% and 5% respectively.
- Course completion is defined as earning postsecondary credit, meaning a student earned a passing grade of A, B, C, D, or S.
- In FY 2023, approximately 83% of all approved STEM course enrollments resulted in earned credit. This is a two-percentage point increase from FY 2022 (81%).
- A's account for the largest percentage of STEM grades in all years studied.
- Grades of D only account for 5-6% across all years.

Conclusion: In all years studied, weighting impacted approximately 20% to 22% of students analyzed, allowing these students to maintain a GPA at or above scholarship benchmarks. If each of these students met all other scholarship requirements, STEM weighting would translate to an additional \$13 Million in HOPE scholarships awarded, and an additional \$3 Million in Zell Miller scholarships awarded in FY 2023.

Contents

<i>Executive Summary</i>	1
Introduction	3
Designated Majors & Courses	3
Summary Counts	5
Student Count by STEM Category	5
Student Count by STEM Category & Sector	6
Student Count by STEM Category & Institution	7
Course Enrollment & Completion	9
Enrollment & Grade Distribution: All STEM Courses	9
Enrollment & Grade Distribution by STEM Category	12
Enrollment & Grade Distribution by STEM Category & Sector	13
GPA Recalculation	14
Initial Classification: Weighted GPA	14
GPA Recalculation: Unweighted GPA	15
GPA Recalculation: Unweighted GPA by Sector	16
Conclusion	17
Glossary of Terms	18
Appendix A.....	19
Appendix B.....	21
Appendix C.....	25
Appendix D.....	28

Introduction

House Bill 801 (HB 801), passed during the 2016 legislative session, introduced grade weighting for designated postsecondary science, technology, engineering, and mathematics (STEM) courses for the purposes of HOPE and Zell Miller Scholarship eligibility. After the bill was signed into law, a task force was appointed to determine courses eligible for weighting. Representatives from the Georgia Student Finance Commission (GSFC), the University System of Georgia (USG), the Technical College System of Georgia (TCSG), and the Georgia Independent College Association (GICA) worked in collaboration with the Georgia Department of Economic Development and several legislators to identify high-demand career fields and associated postsecondary majors and courses. The initial course list was published on GSFC's website and colleges implemented the additional weighting on such course grades in the Fall term of fiscal year (FY) 2018.

The high-demand career fields, associated postsecondary majors, and course types identified by the task force remain unchanged. The list of courses specifically approved for extra weight is reviewed annually and updated as needed. During this annual process all HOPE eligible institutions are provided the opportunity to propose changes to the list of courses. Permissible changes include course additions aligned with approved majors, course title or number corrections, and removal of courses that are no longer offered. All such requests are then reviewed by the STEM Weighted Course Approval Council, which consists of representatives from USG, TCSG, and GICA. The council reviews all requests to ensure course alignment with high demand fields. The review process is currently underway for academic year 2025.

HB 801 also included language mandating a biennial report to the chairpersons of the House Committee on Higher Education and the Senate Higher Education Committee. The report, to be produced by GSFC, must outline the identified high demand fields and eligible courses. The purpose of the current report is threefold. First, it discusses the majors selected and how they relate to STEM categories. Second, summary counts of students and courses receiving extra weighting are provided by STEM category, postsecondary sector, and institution. Third, this report examines the correlation between weighting and two outcomes, STEM course enrollment and GPA calculation.

Designated Majors & Courses

- Beginning in the Fall term of FY 2018, eligible courses receive an additional weight of 0.5 points during the HOPE GPA calculation if the grade received is B, C, or D.
- To be eligible courses must align with majors leading to "high-demand" STEM career fields that require a bachelor's degree.

- TCSG enrollees may still receive the additional weight even if they are not currently enrolled in a bachelor's program. TCSG institutions offer courses that are transferrable to bachelor's programs. All TCSG approved STEM courses must be transferable to USG or a HOPE-eligible private institution.
- The identified high-demand STEM career fields are as follows: Engineers (All), Computer Systems Analysts, Software Developers / Engineers: Applications, Software Developers / Engineers: Systems Software, Web Developers, Registered Nurses, Physician Assistants, Physical Therapists, Physicians & Surgeons, Pharmacists, Secondary Mathematics Teachers, and Secondary Science Teachers.
- No changes have been made to the identified STEM career fields or the list of eligible majors since the list's inception.
- As of the most recent update (academic year 2023-2024), the course list includes over 130 subject areas across 81 HOPE-Eligible institutions¹. During the 2022-2023 academic year, the subject of this report, the course list covered over 125 subject areas.
- Approved majors are translated to four STEM categories using classifications from National Center for Education Statistics (NCES) reporting². (Figure 1)
- “Natural Science” is defined as biological / life / agricultural sciences and physical sciences. As such, most current active eligible courses (61%) fall into this science category.
- Mathematics courses account for 17% of all eligible courses, Computer / Information Sciences account for 15% of all courses, and Engineering / Engineering Tech courses are 7% of eligible courses.
- The percentage of courses in each STEM category has remained relatively constant from FY 2019 through FY 2023.

¹ STEM Weighted Courses Directory: https://apps.gsfc.org/securenextgen/dsp_stem_course_listings.cfm

² Web Tables – Science, Technology, Engineering, and Mathematics (STEM) Graduates: Where Are They 4 Years After Receiving a Bachelor's Degree? (NCES 2018-423). <https://nces.ed.gov/pubs2018/2018423.pdf>

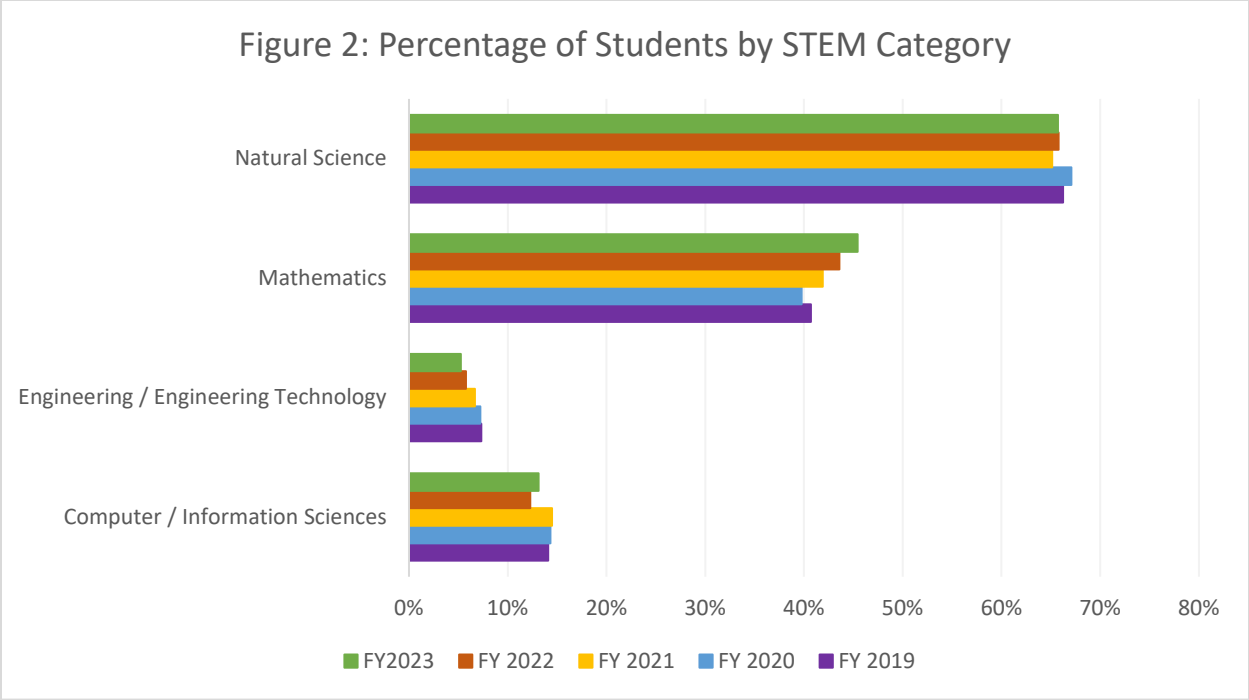
Figure 1. Approved Majors and STEM Areas

<u>Approved Majors</u>	<u>STEM Category</u>
Engineers (All)	Engineering / Engineering Tech
Computer Systems Analysts	Computer / Information Sciences
Software Developers / Engineers: Applications	Computer / Information Sciences
Software Developers / Engineers: Systems Software	Computer / Information Sciences
Web Developers	Computer / Information Sciences
Registered Nurses	Natural Science
Physician Assistants	Natural Science
Physical Therapists	Natural Science
Physicians & Surgeons	Natural Science
Pharmacists	Natural Science
Secondary Mathematics Teachers	Mathematics
Secondary Science Teachers	Natural Science

Summary Counts

Student Count by STEM Category

- In FY 2023, there were over 82,000 STEM-Weight students, i.e., students who received additional weights on their transcript for enrollment in one or more approved STEM courses. This represents a 1.2% increase from FY 2022 when the number of STEM-Weight students totaled over 81,000.
- Over 167,000 weighted courses were taken in FY 2023, an increase of 2.8% from the over 162,000 weighted courses taken in FY 2022. With over 176,000 weighted courses taken in FY 2021 and over 180,000 taken in FY 2020 and FY 2019, students took an average of two weighted STEM courses across all years studied.
- Nearly two-thirds of FY 2023 students took a natural science course and 45% took a mathematics course from the approved course list. Computer science (13%) and engineering (5%) courses were taken by a lower percentage of students, but these two categories only account for 21% of eligible courses in FY 2023. As can be seen in Figure 2, the most current percentages are similar to those found in all previous years.



Source: CHECS Transcript data, GSFC.

Student Count by STEM Category & Sector

- In FY 2023, approximately 64% of STEM-Weight students at USG institutions took a natural science course and 49% took a mathematics course. The USG percentages are similar to those of the entire population, specifically the trend of increasing participation in mathematics courses from FY 2020 to FY 2023. (Figure 3)
- At private institutions, approximately 73% of students took a natural science course and 40% took a mathematics course in FY 2023. Both figures closely match the historical private percentages from FY 2020 through FY 2023. (Figure 3)
- Seventy-three percent of STEM-Weight students within TCSG took a natural science course in FY 2023. The percentage of TCSG students enrolled in a mathematics course decreased from 16.52% in FY 2022 to 15.24% FY 2023. Despite this decrease, the FY 2023 percentages were larger than those reported in all years prior to FY 2022. The percentage of students enrolled in computer science courses (15%) has remained relatively constant in all years reported. (Figure 3)

Figure 3. FY 2023 Student Count and Sector Percentage by STEM Area

Sector	STEM Area	Student Count	Sector Percentage
USG	Computer Science	9,384	13.60%
	Engineering	3,962	5.74%
	Mathematics	33,469	48.52%
	Natural Science	44,311	64.24%
	All STEM Areas	68,979	---
TCSG	Computer Science	908	14.80%
	Engineering	95	1.55%
	Mathematics	935	15.24%
	Natural Science	4,504	73.41%
	All STEM Areas	6,135	---
Private	Computer Science	526	6.93%
	Engineering	270	3.56%
	Mathematics	3,010	39.67%
	Natural Science	5,502	72.52%
	All STEM Areas	7,587	---

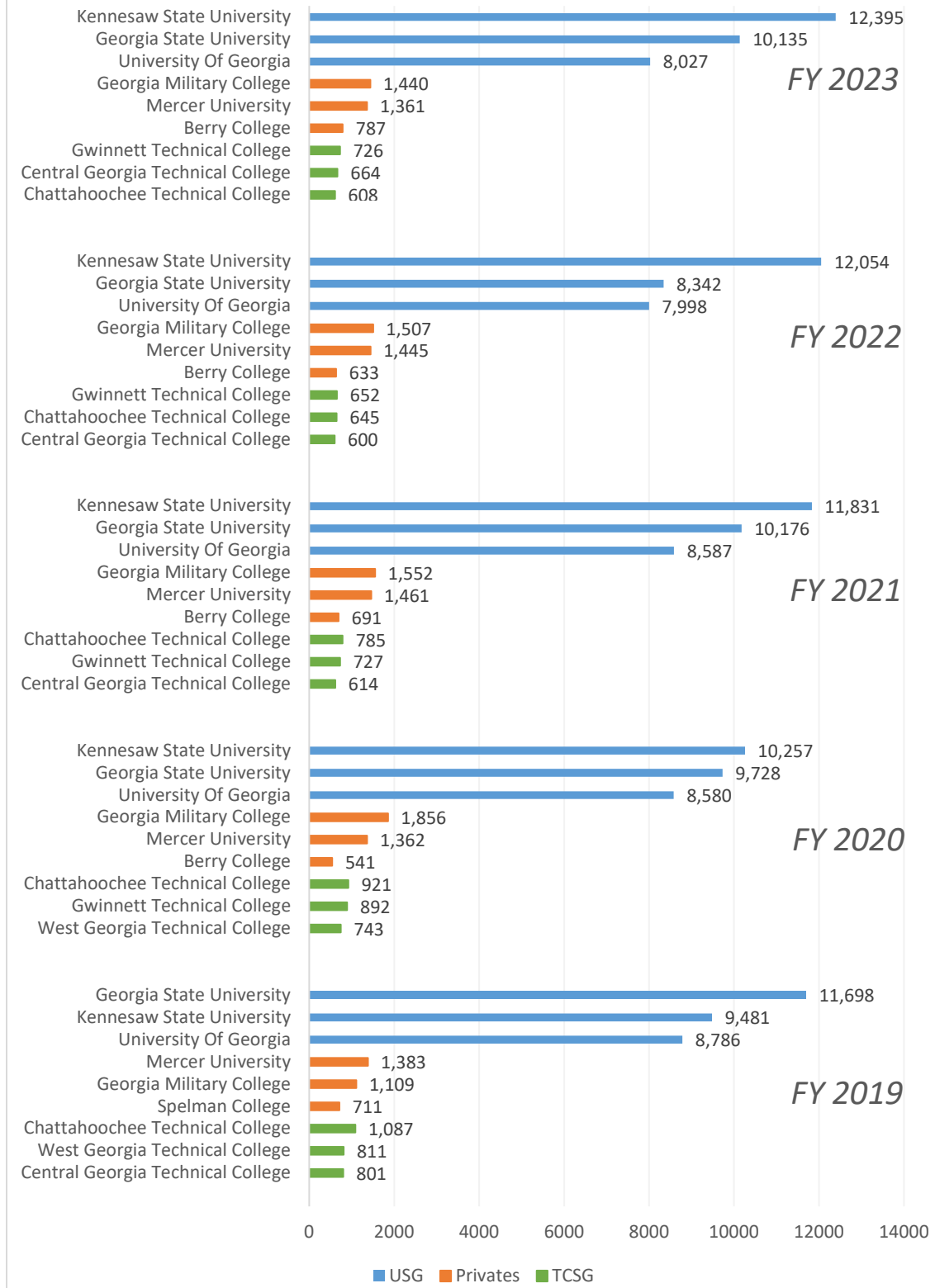
Source: CHECS Transcript data, GSFC

Student Count by STEM Category & Institution

- From FY 2020 through FY 2023, Kennesaw State University (KSU) had the largest number of STEM-Weight students among all USG Institutions. KSU also led in the number of students enrolled in natural science and mathematics courses from FY 2021 through FY 2023. Georgia Institute of Technology led in the computer science and engineering categories for all years analyzed. (Figures 4 & 5)³
- Gwinnett Technical College led TCSG institutions in the overall number of STEM-Weight students in FY 2022 and FY 2023, a designation previously held by Chattahoochee Technical College. Central Georgia Technical College led the natural science category from FY 2021 through FY 2023. Gwinnett Technical College led in computer science for all years studied, and in engineering for FY 2023. A change from all previous years in which Augusta Technical College led in engineering. (Figures 4 & 5)
- From FY 2020 through FY 2023, Georgia Military College led all private institutions in the number of STEM-Weight students as well as in the computer science category. In FY 2020 it also ranked first in the natural science category. In all other years studied, Mercer University led in natural science. Mercer University also ranked first in engineering for all years studied. (Figure 4 & 5)

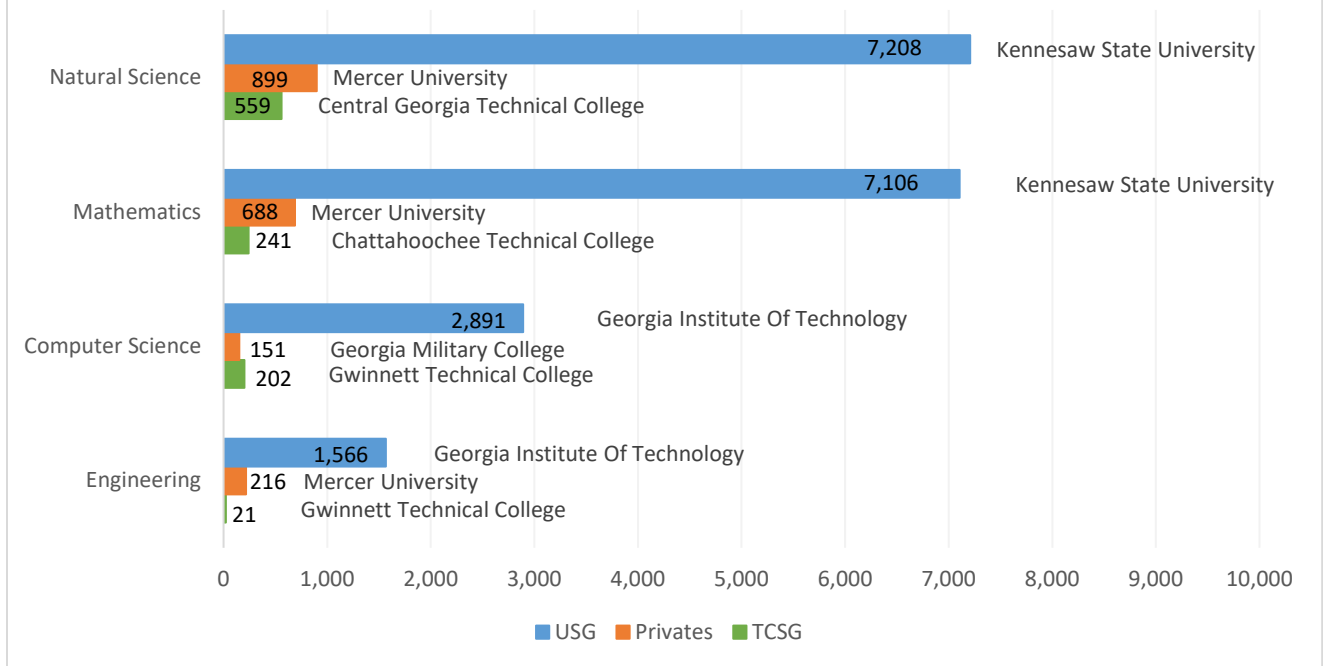
³ Results by sector for FY 2019 – FY 2022 can be found in Appendix A.

Figure 4. Top Institutions by Sector - Student Count



Source: CHECS Transcript data, GSFC

Figure 5. FY 2023 Top Institution by Sector & STEM Category
Student Count



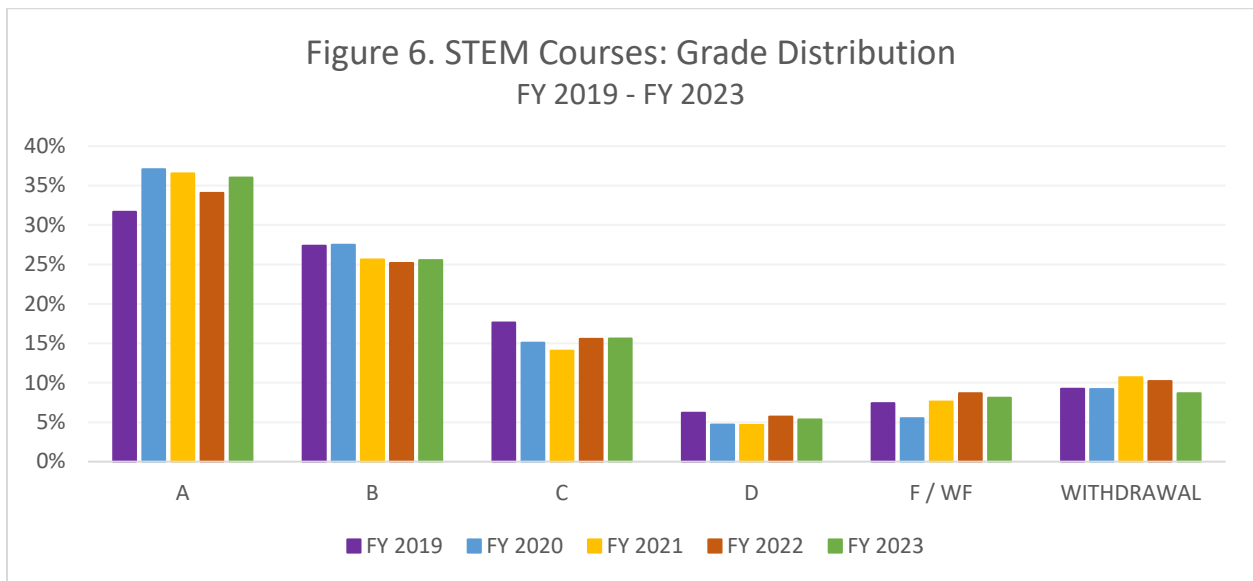
Source: CHECS Transcript data, GSFC.

Course Enrollment & Completion

Enrollment & Grade Distribution: All STEM Courses

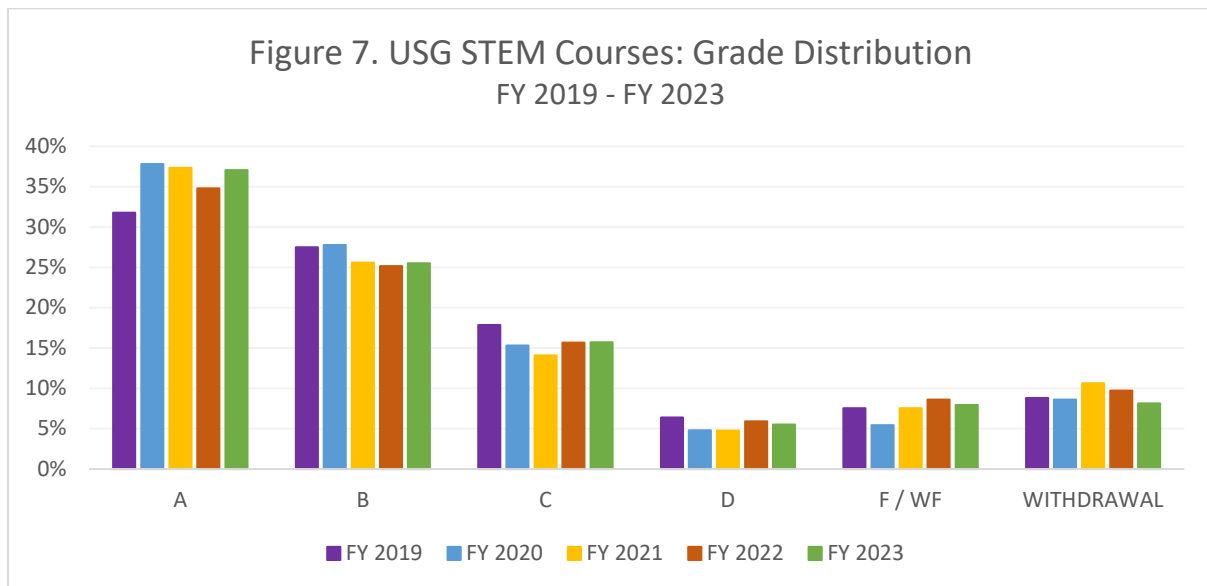
- STEM course enrollment and completion trends are analyzed using CHECS transcript data from FY 2019 through FY 2023. Course counts and grades earned are used to determine enrollment and completion. A student is defined as enrolled if he/she was taking one or more approved STEM courses to earn postsecondary credit. This excludes grading categories in which a course is taken for no credit (e.g., auditing).
- In FY 2023, 135,000 students enrolled in over 375,000 approved STEM courses. Please note this count includes all approved STEM courses and is not limited to those receiving weights.
- Course completion is defined as earning postsecondary credit, meaning a student earned a passing grade of A, B, C, D, or S. In FY 2023, approximately 83% of all STEM courses attempted resulted in earned credit. This figure is two percentage points higher than FY 2022 (81%). Withdrawals accounted for 9% of all STEM courses in FY 2023, and range between 9% and 11% for all previous years. Incompletes accounted for less than 0.2% of all STEM courses in every year studied. Failing grades accounted for 8% of all STEM courses in FY 2023, and range between 6% and 9% for all previous years.

- A more detailed examination of the grade distribution shows that A's account for the largest percentage of all grades across all years. (Figures 6 -9)



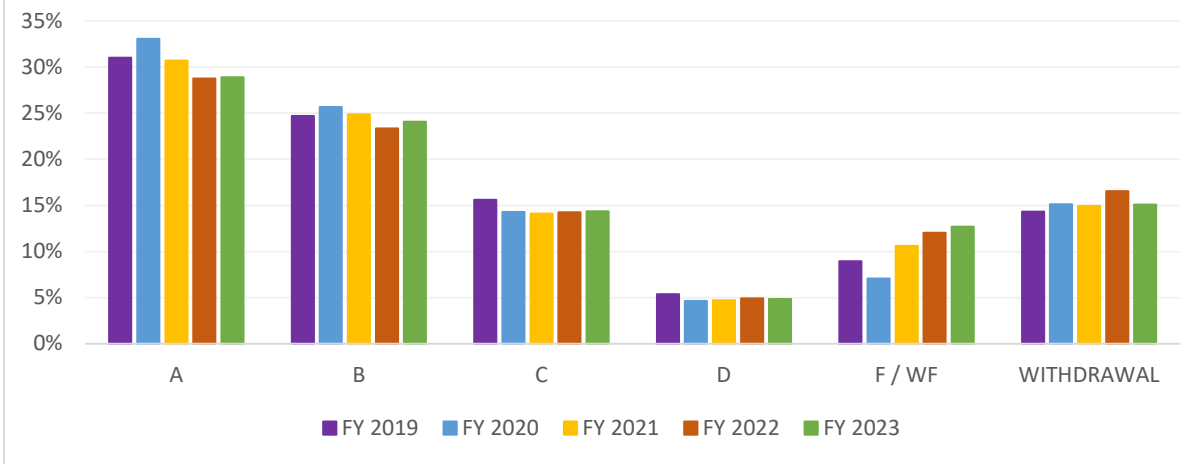
Source: CHECS Transcript data, GSFC.

- Trends seen across each sector reflect those from the overall population. (Figures 9-11)



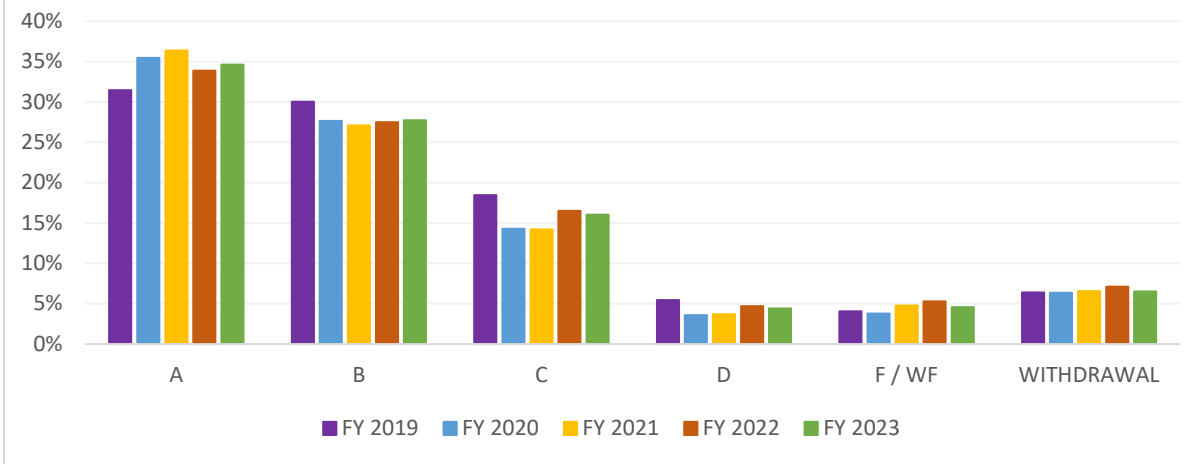
Source: CHECS Transcript data, GSFC.

Figure 8. TCSG STEM Courses: Grade Distribution
FY 2019 - FY 2023



Source: CHECS Transcript data, GSFC.

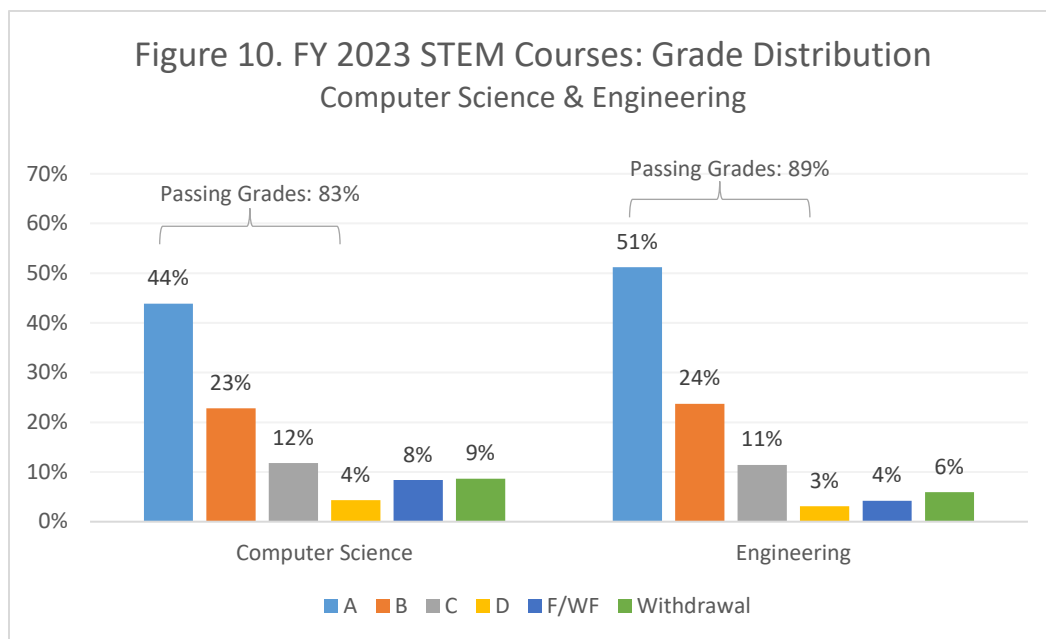
Figure 9. Private STEM Courses: Grade Distribution
FY 2019 - FY 2023



Source: CHECS Transcript data, GSFC.

Enrollment & Grade Distribution by STEM Category

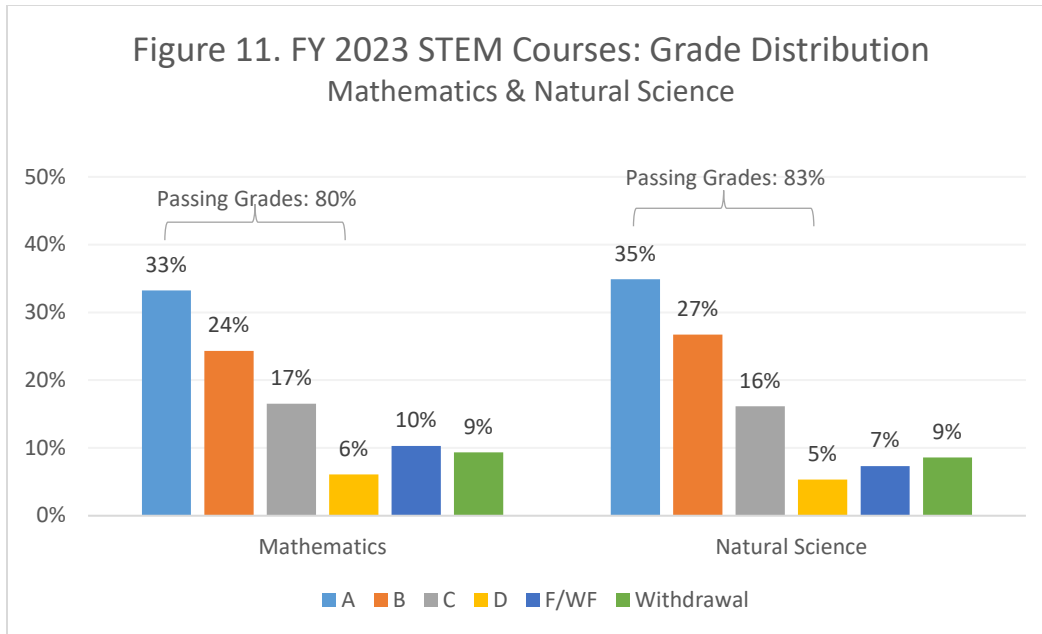
- In FY 2023 80% of mathematics courses, 83% of natural science courses, 83% of computer science courses, and 89% of engineering courses had a passing grade. These results are similar to those found in all previous years⁴. (Figures 10 & 11)
- Withdrawals accounted for 6-9% of courses for all subject areas in FY 2023, with engineering having the lowest percent of courses ending in withdrawal. Mathematics (10%) and computer science (8%) had the largest percentage of failing grades, followed by natural science at 7%, and engineering at only 4%. (Figures 10 & 11)



Source: CHECS Transcript data, GSFC.

Note: Category Totals may not sum to 100% due to omitted grading categories (e.g., Incomplete, Unsatisfactory, and Not Graded) that account for 1% or less of courses.

⁴ Results for FY 2022, FY 2021, FY 2020 and FY 2019 can be found in Appendix B.



Source: CHECS Transcript data, GSFC.

Note: Category Totals may not sum to 100% due to omitted grading categories (e.g., Incomplete, Unsatisfactory, and Not Graded) that account for 1% or less of courses.

Enrollment & Grade Distribution by STEM Category & Sector

- Approximately 82% of FY 2023 course enrollment records examined were from USG institutions. As such, this institution type has a large influence on the overall trends. Within USG, the course completion rate is 84%, failing grades account for 8% of all grades, and withdrawals account for 8% of courses⁵.
- Private institutions account for a much smaller percentage (8%) of all course enrollments, and display grade distribution patterns that differ from USG. For example, 88% of STEM courses resulted in earned credits and only 5% of courses ended with a failing grade. Withdrawals accounted for 7% of courses.
- TCSG (which accounted for roughly 10% of all STEM courses) displays patterns that differ from both USG and private institutions. The STEM course completion rate in FY 2023 was 72%, and approximately 13% of courses had a failing grade. The TCSG withdrawal percentages were higher on average and ranged from 10% for engineering courses to 16% for natural science courses. When stratifying by STEM subject area, the highest rate of course completion occurs in mathematics and engineering (78%).

⁵ Figures showing Course enrollment and Grade Distribution by STEM Category and Institution Type for FY 2019 – FY 2023 can be found in Appendix C.

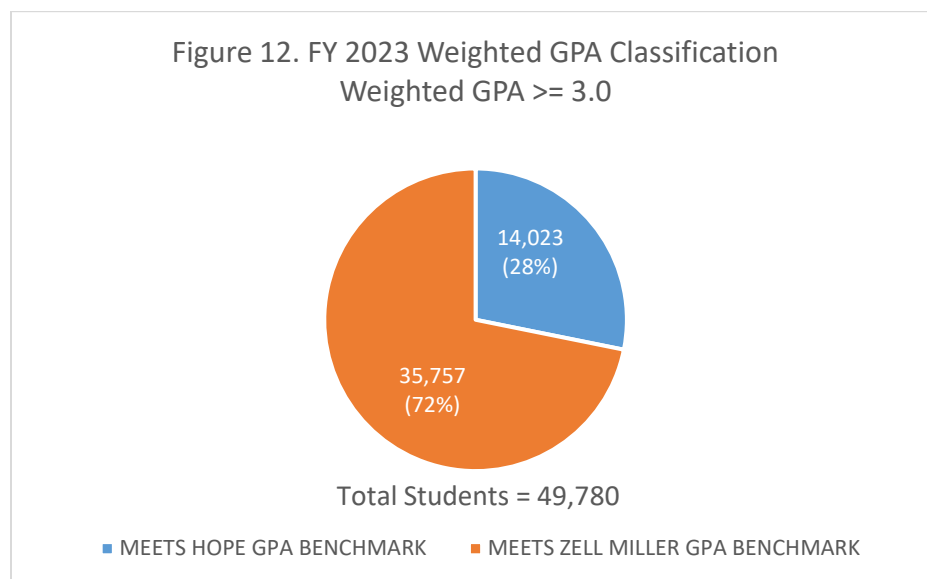
GPA Recalculation

To determine the impact of the course weighting on a student's GPA, CHECS transcript data were used to recalculate the cumulative GPA of students who had taken courses eligible for STEM weighting. Each student's GPA was recalculated without any STEM weights. Initial and recalculated GPAs are then compared to the HOPE Scholarship GPA benchmark of 3.0 and the Zell Miller Scholarship GPA benchmark of 3.3. Note, the following analysis does not relate directly to HOPE or Zell Miller Scholarship eligibility, as it does not account for any other eligibility requirement. The scholarship GPA benchmarks are only used for comparison when analyzing weighting practices.

Initial Classification: Weighted GPA

For this analysis, students are classified based on their initial weighted GPA. Of the over 82,000 students who had taken a course eligible for weighting and for whom a GPA had been calculated in CHECS, 49,780 (61%) had a weighted GPA of 3.0 or higher. This is the base population, as these are the students whose GPAs may fall below the scholarship benchmarks if weights are removed. Initial classification is outlined as follows:

1. Meets Zell Miller Scholarship GPA benchmark: Weighted GPA \geq 3.3
 2. Meets HOPE Scholarship GPA benchmark: $3.0 \leq$ Weighted GPA $<$ 3.3
- Of the 49,780 students with a weighted GPA of 3.0 or higher, 28% met the HOPE Scholarship GPA benchmark and 72% met the Zell Miller GPA benchmark, a result similar to FY 2022 (29% HOPE / 71% Zell Miller), FY 2021 (28% HOPE / 72% Zell Miller), and FY 2020 (30% HOPE / 70% Zell Miller). (Figure 12)

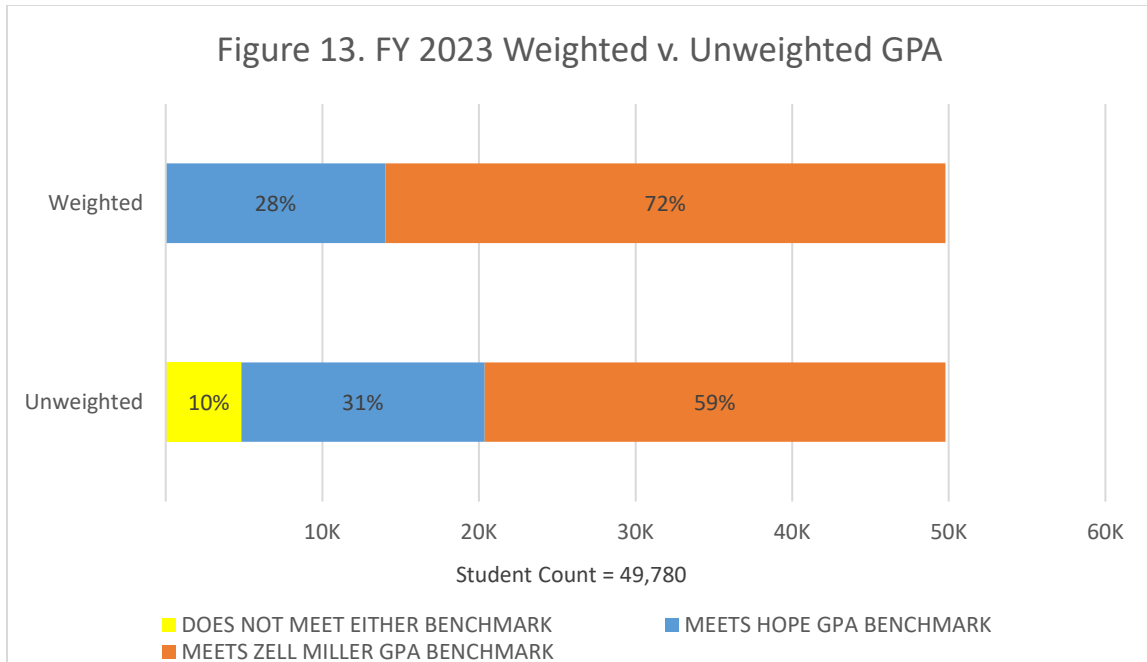


Source: CHECS Transcript data, GSFC.

GPA Recalculation: Unweighted GPA

Next, all weights added to STEM coursework are removed and each student's recalculated (unweighted) GPA is examined relative to the scholarship GPA benchmarks.

- After STEM weights are removed 38,616 (78%) of the 49,780 students analyzed saw no change in their initial classification. This means that even though removing the STEM weights did lower their GPA, it did not change their standing relative to the scholarship GPA benchmarks.
- Removing STEM weights would leave 4,826 (34%) of the 14,023 students who initially met the HOPE GPA standard with a GPA below 3.0. Stated differently, STEM weighting brought the GPA of these students up to the HOPE Scholarship 3.0 GPA benchmark.
- For those 35,757 students with a weighted GPA of 3.3 or higher, weight removal renders 6,329 (17.7%) as no longer meeting the Zell Miller GPA benchmark, but still meeting the HOPE GPA standard, i.e., $3.0 \leq \text{GPA} < 3.3$. In other words, STEM weighting brought the GPA of these students up to the Zell Miller Scholarship 3.3 GPA benchmark.
- Only 9 (0.03%) of those initially meeting the Zell Miller benchmark would fall below the HOPE GPA standard if weights were removed.
- Overall, weight removal causes a decrease in the percentage students meeting the Zell Miller GPA benchmark, and a net increase in the percentage of students meeting the HOPE GPA standard. This net increase is driven by students who drop below the 3.3 Zell Miller benchmark but maintain a GPA of 3.0 or above. (Figure 13)
- FY 2023 results maintain the patterns previously established in prior year analyses. The estimates listed in Figure 15 are nearly identical to their FY 2022 counterparts, within one percentage point of their FY 2021 counterparts, and two percentage points of FY 2020 estimates. In FY 2019 a smaller percentage (68%) of students analyzed initially met the Zell Miller GPA benchmark, but the shifts between classification categories were like those seen in FY 2023.
- Across all years, removing STEM weights increases the percentage of students meeting the HOPE GPA standard by 2 to 4 percentage points. This is the result of previously Zell Miller qualifiers now meeting the HOPE GPA standard. Correspondingly, the percentage meeting the Zell Miller benchmark decreased by 12 to 13 percentage points across all years studied.



Source: CHECS Transcript data, GSFC.

GPA Recalculation: Unweighted GPA by Sector

- USG and private institutions have the same distribution as the overall population, but slight differences exist when examining TCSG in isolation⁶.
 - 36% of TCSG students were classified as meeting the HOPE GPA benchmark based on their initial weighted GPA. In the overall population this statistic is 28%.
 - 64% of TCSG students were classified as meeting the Zell Miller GPA benchmark based on their initial weighted GPA. In the overall population this statistic is 72%.
 - 12% of TCSG students no longer meet either benchmark once weights are removed. In the overall population this statistic is 10%.

⁶Figures depicting Classification Percentages by Institution Type for FY 2023, FY 2022, FY 2021, FY 2020, and FY 2019 can be found in Appendix D.

Conclusion

The current STEM course listing covers 130 subject areas, all of which are eligible for additional weighting in the HOPE Scholarship GPA calculation. For those students enrolled in STEM coursework, weight addition impacted approximately 22% of students. STEM weighting allowed these students to maintain a GPA at or above scholarship benchmarks.

Glossary of Terms

Approved STEM Weighted Courses – Science, technology, engineering, and mathematics (STEM) courses approved by the STEM Weighted Course Council for an additional weight of 0.5 to be given to grades of B, C and D. The courses are degree level and required for degrees leading to high demand STEM-related career fields in Georgia, as identified and approved by the Council.

CHECS – College HOPE Eligibility Calculation Service is a system designed and operated by GSFC to provide a centralized HOPE GPA calculation system for the academic eligibility of HOPE Scholarship, Zell Miller Scholarship, HOPE Grant, and Zell Miller Grant students attending HOPE-eligible postsecondary institutions throughout Georgia.

Eligible Participating Postsecondary Institution – One of currently 81 public and private postsecondary institutions in Georgia eligible for participation in state- and Lottery-funded scholarship, grant, and loan programs. Each eligible postsecondary institution must sign a four-year Institutional Participation Agreement with GSFC.

GICA – Georgia Independent College Association – An association of Georgia's private (independent), not-for-profit colleges and universities. <https://georgiacolleges.org/>

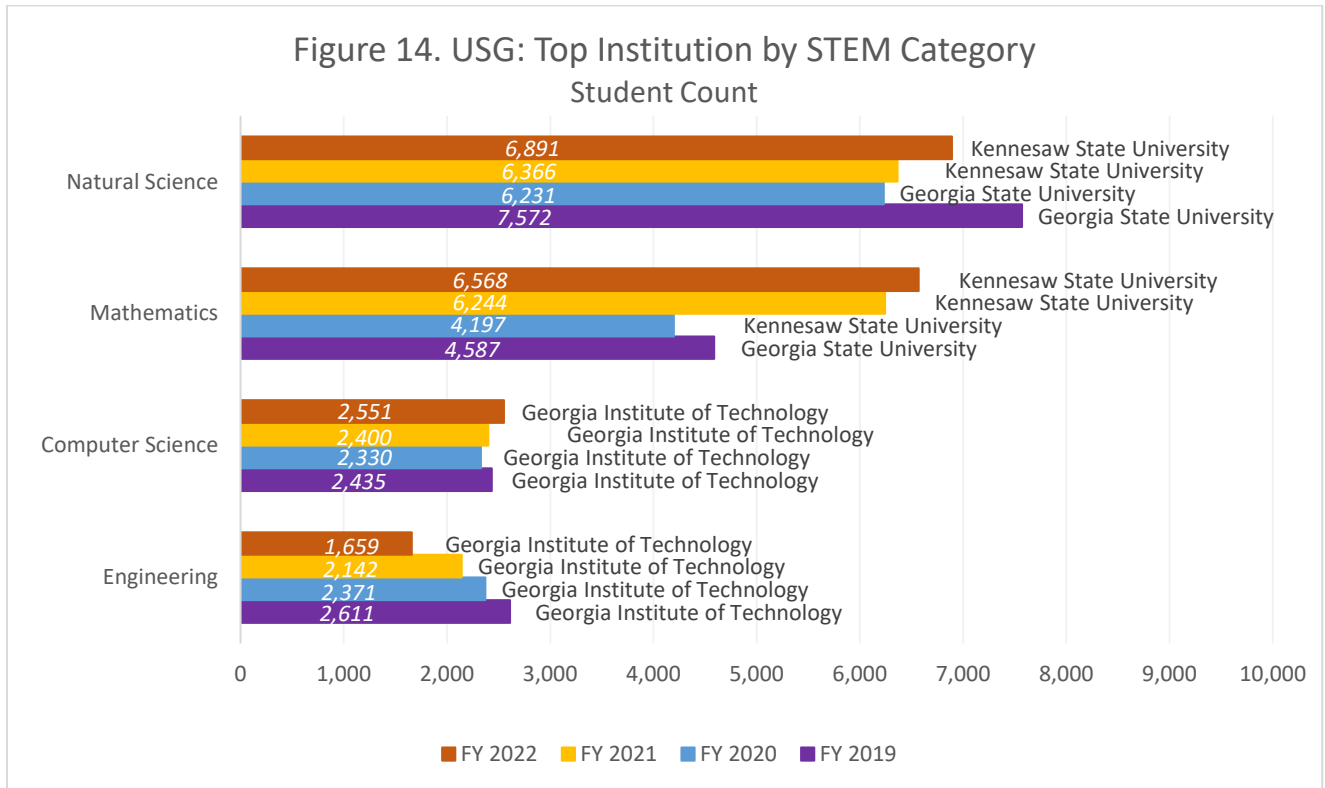
GSFC – Georgia Student Finance Commission.

STEM Weighted Course Council – The group of individuals succeeding the 2016 HB 801 taskforce and consisting of at least one representative from USG, TCSG, GICA, GSFC, OPB, and a member of the Georgia General Assembly. The Council has sole responsibility and authority for identifying the STEM-related career fields in high demand in Georgia and which courses leading to a degree that lends itself to such careers are approved for an additional GPA weight of .05 on grades of B, C, or D for purposes of calculating the postsecondary HOPE GPA.

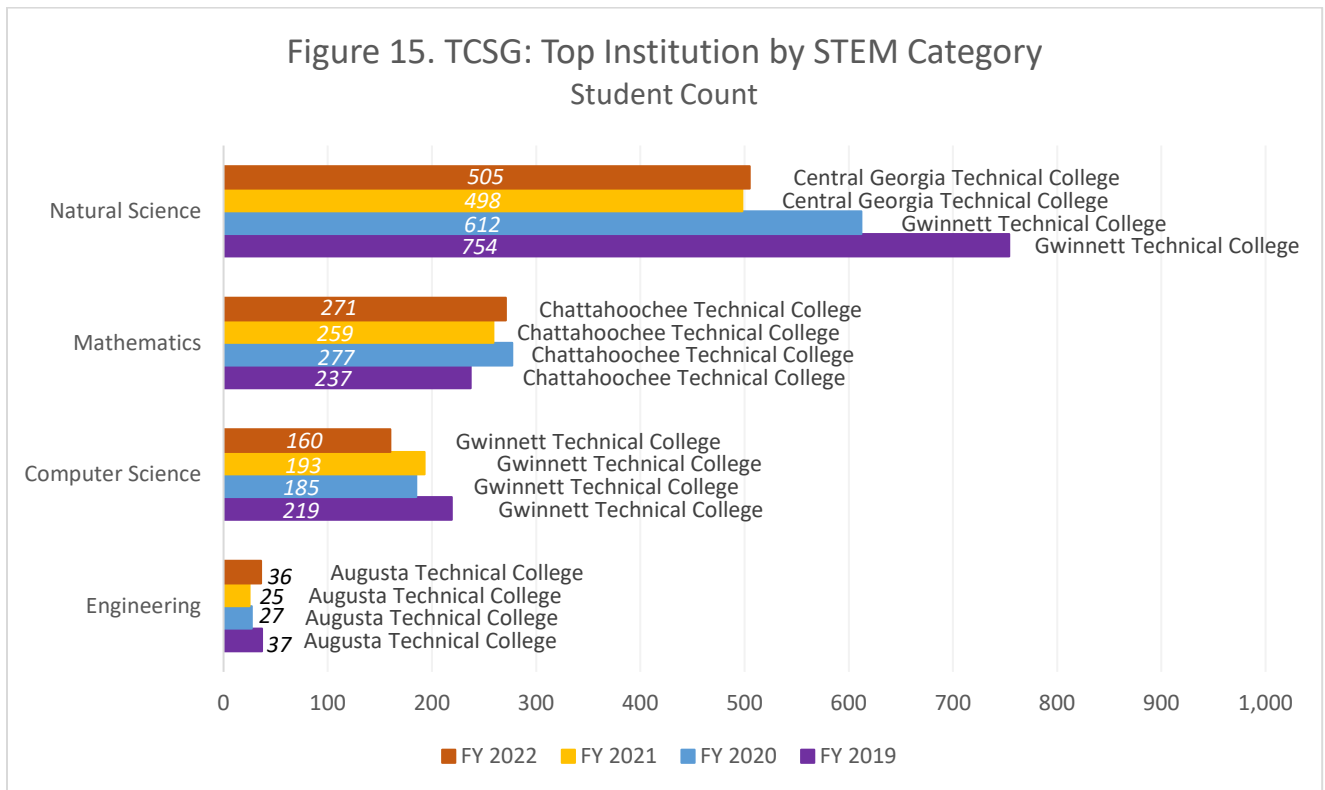
TCSG – Technical College System of Georgia.

USG – University System of Georgia.

Appendix A

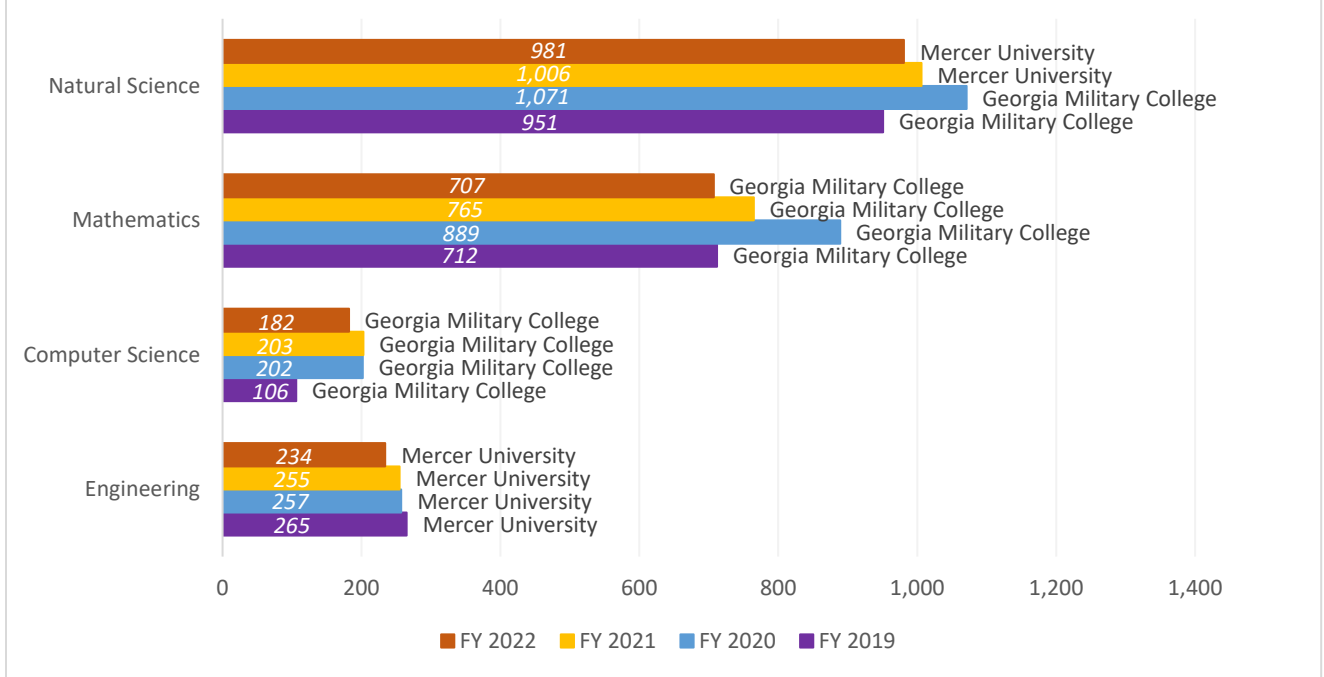


Source: CHECS Transcript data, GSFC



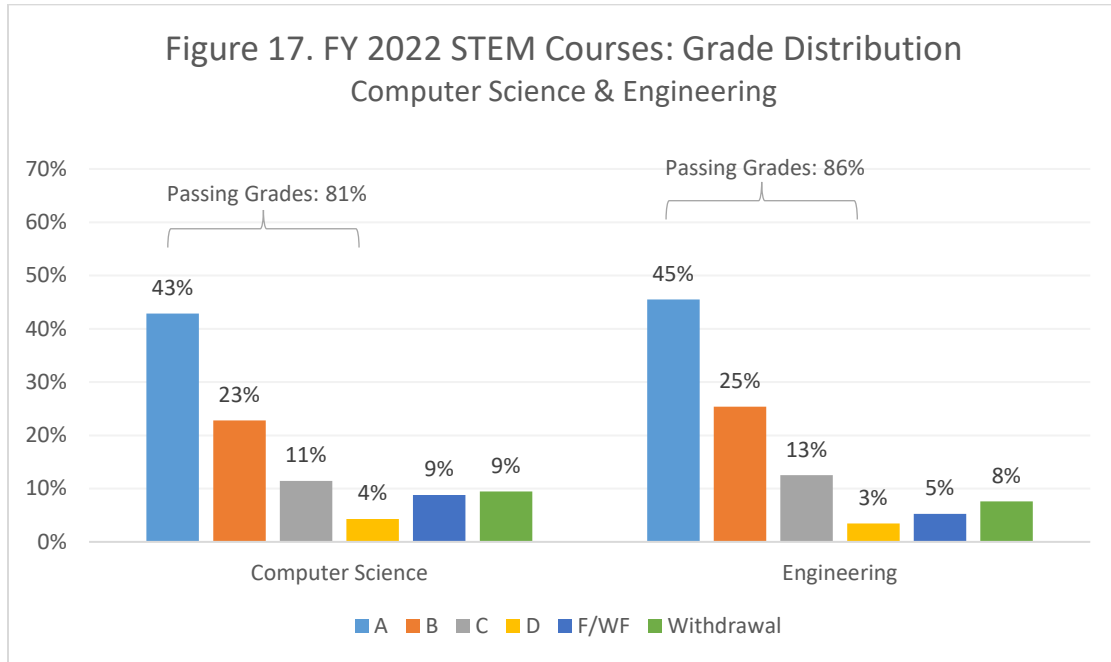
Source: CHECS Transcript data, GSFC

Figure 16. Privates: Top Institution by STEM Category
Student Count



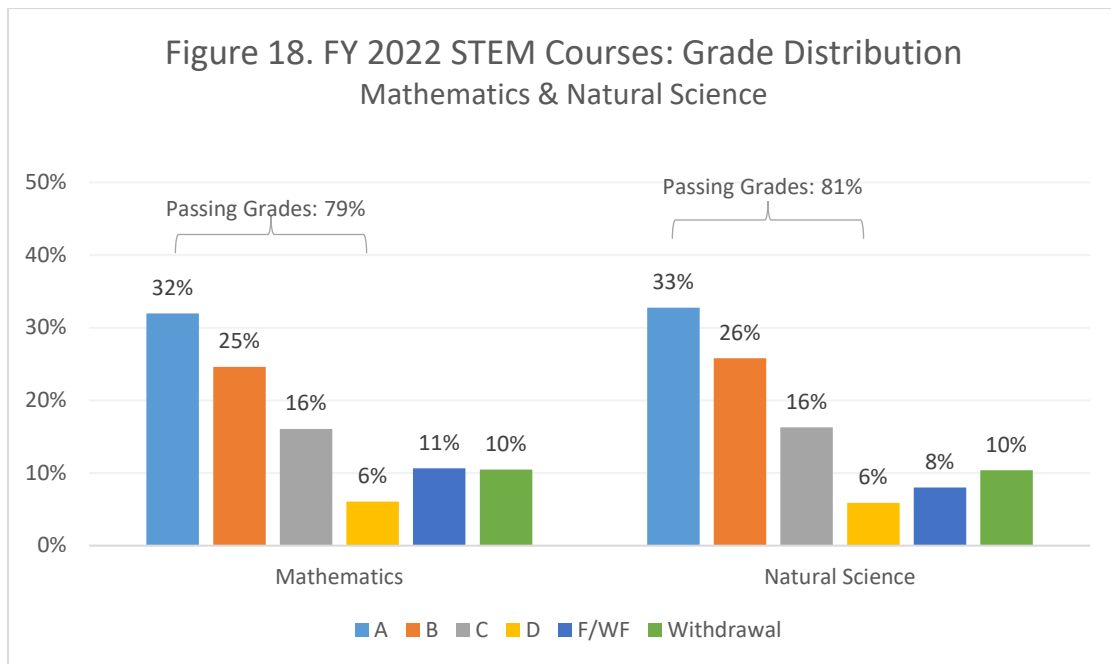
Source: CHECS Transcript data, GSFC

Appendix B



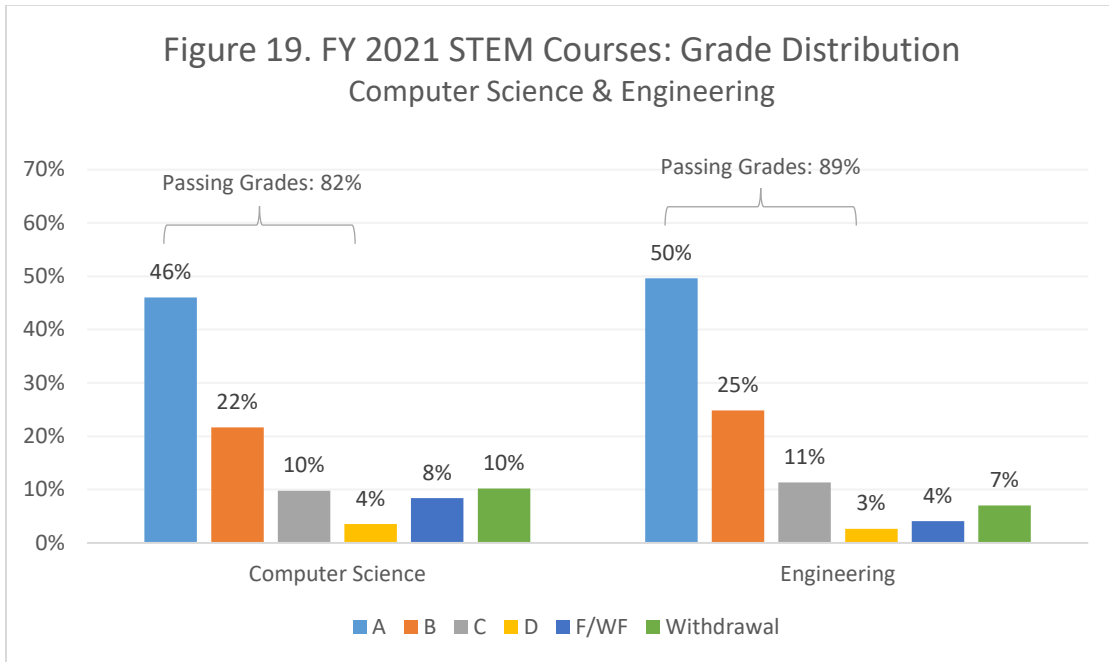
Source: CHECS Transcript data, GSFC.

Note: Category Totals may not sum to 100% due to omitted grading categories (e.g., Incomplete, Unsatisfactory, and Not Graded) that account for 1% or less of courses.



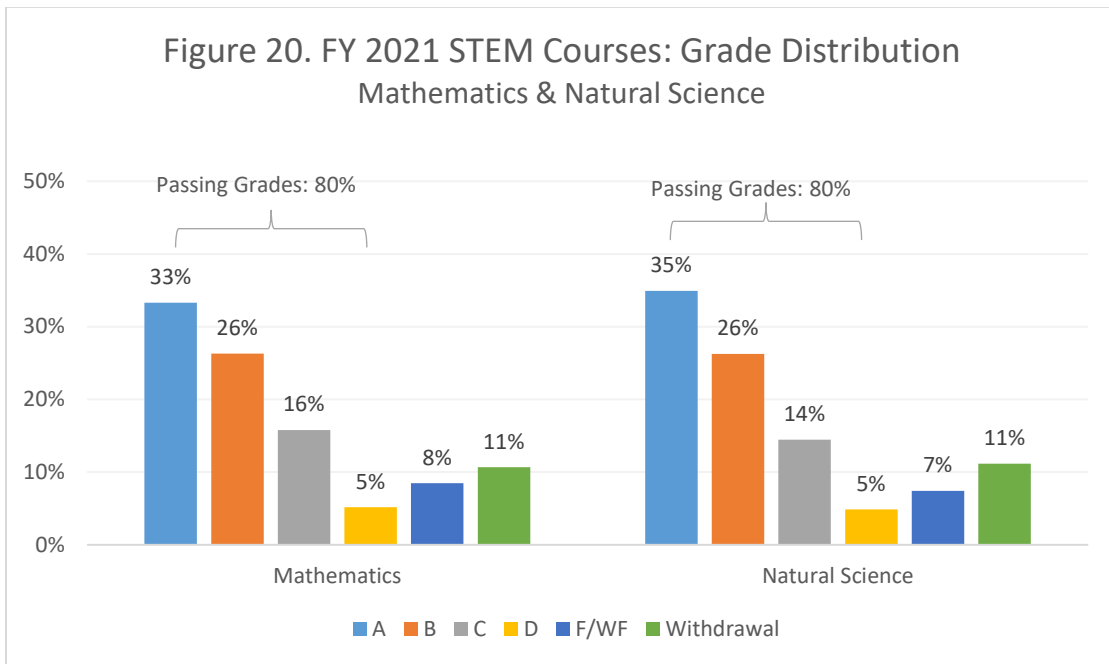
Source: CHECS Transcript data, GSFC.

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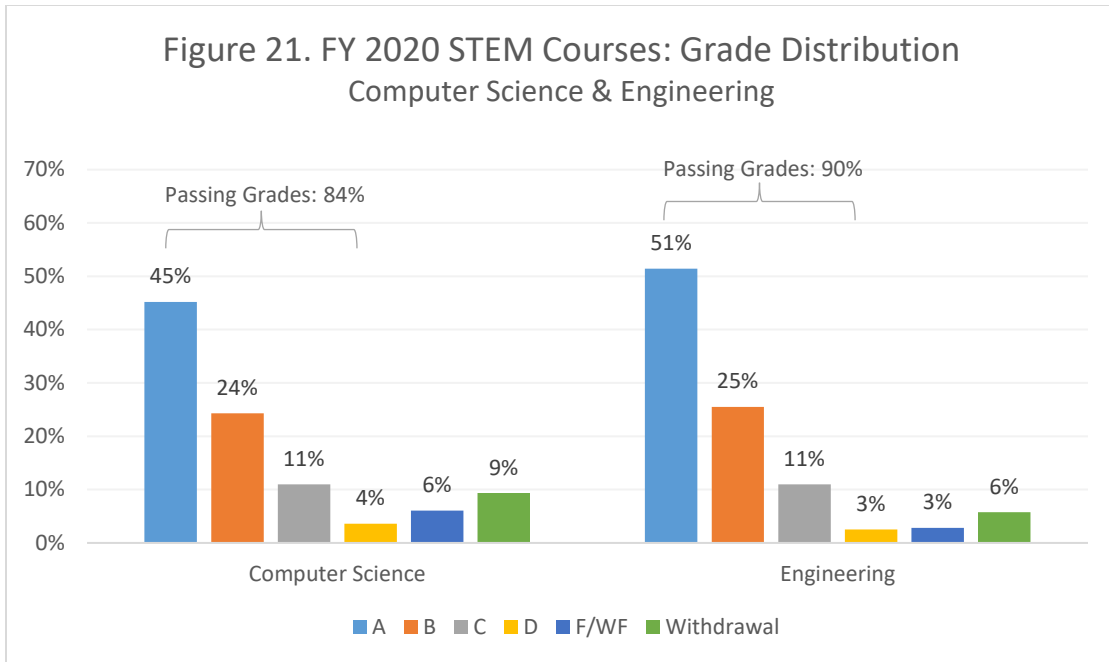
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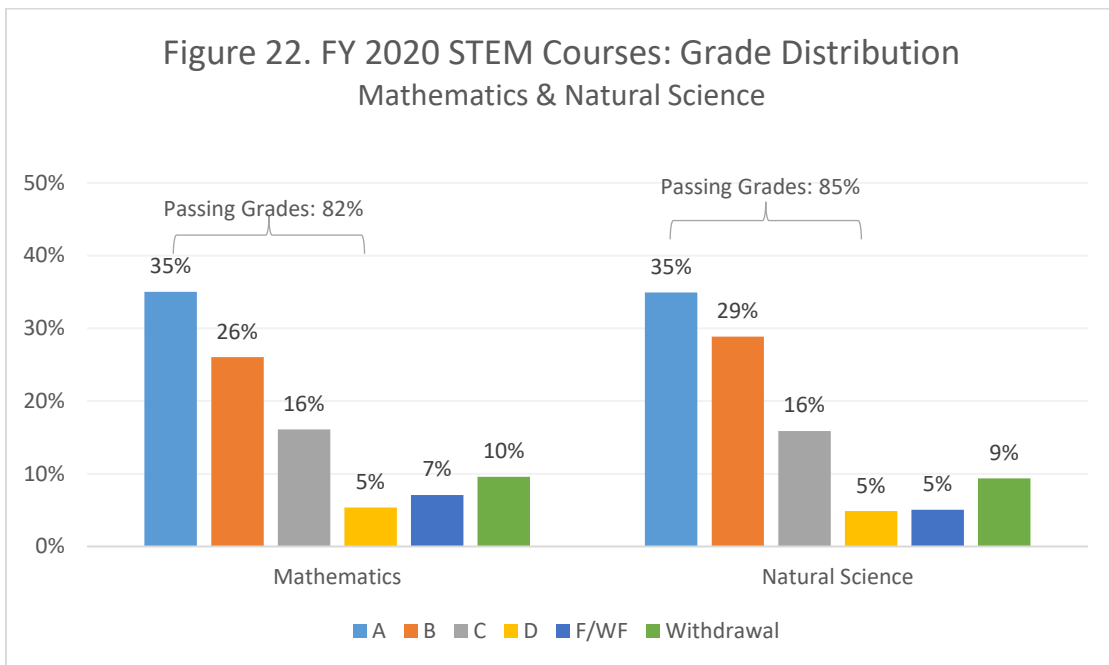
Source: CHECS Transcript data, GSFC.

Note: Category Totals may not sum to 100% due to omitted grading categories (e.g., Incomplete, Unsatisfactory, and Not Graded) that account for 1% or less of courses.



Source: CHECS Transcript data, GSFC.

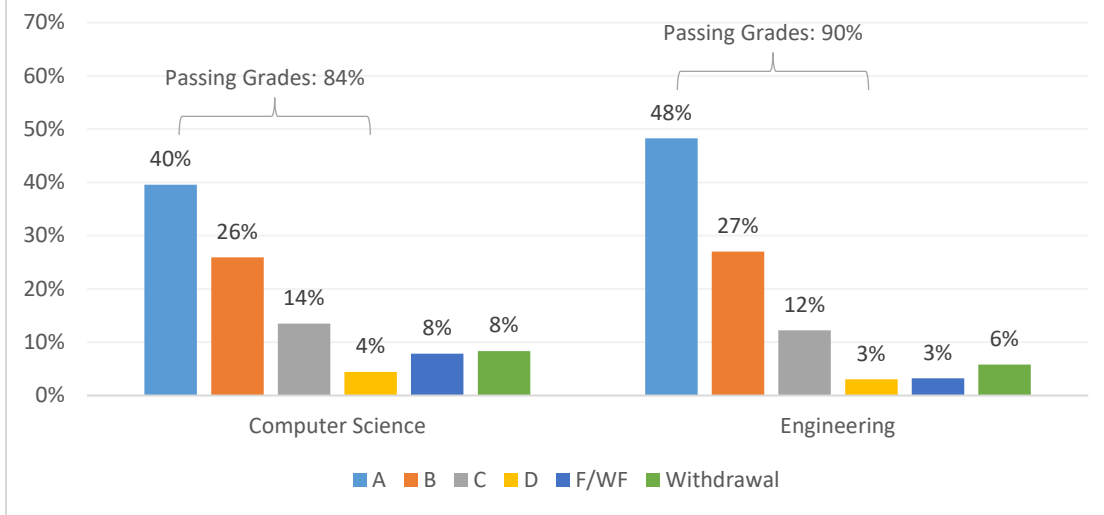
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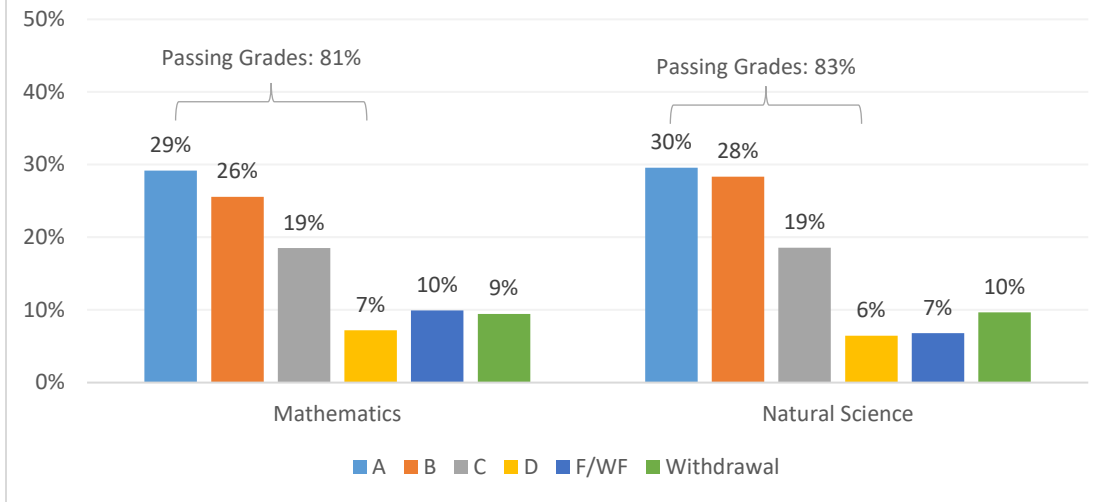
Figure 23. FY 2019 STEM Courses: Grade Distribution
Computer Science & Engineering



Source: CHECS Transcript data, GSFC.

Note: Category Totals may not sum to 100% due to omitted grading categories (e.g., Incomplete, Unsatisfactory and Not Graded) that account for 1% or less of courses.

Figure 24. FY 2019 STEM Courses: Grade Distribution
Mathematics & Natural Science



Source: CHECS Transcript data, GSFC.

Note: Category Totals may not sum to 100% due to omitted grading categories (e.g., Incomplete, Unsatisfactory and Not Graded) that account for 1% or less of courses.

Appendix C

Figure 25: FY 2023 Completion, Failure Rate, and Withdrawals
by STEM Category and Institution Type

		<u>Completed</u>	<u>Failing Grade</u>	<u>Withdrawal</u>
USG	Computer Science	85%	7%	8%
	Engineering	89%	4%	6%
	Mathematics	80%	11%	9%
	Natural Science	85%	7%	8%
TCSG	Computer Science	69%	18%	13%
	Engineering	78%	12%	10%
	Mathematics	78%	11%	11%
	Natural Science	72%	12%	16%
Privates	Computer Science	83%	6%	11%
	Engineering	95%	1%	4%
	Mathematics	85%	6%	8%
	Natural Science	90%	4%	6%

Source: CHECS Transcript data, GSFC

Note: Rows may not sum to 100% due to omitted grading categories (e.g., Incomplete, Unsatisfactory, Not Graded) that account for 1% or less of courses.

Figure 26: FY 2022 Completion, Failure Rate, and Withdrawals
by STEM Category and Institution Type

		<u>Completed</u>	<u>Failing Grade</u>	<u>Withdrawal</u>
USG	Computer Science	83%	7%	9%
	Engineering	87%	5%	8%
	Mathematics	78%	11%	11%
	Natural Science	82%	8%	10%
TCSG	Computer Science	69%	18%	13%
	Engineering	74%	13%	13%
	Mathematics	78%	11%	11%
	Natural Science	70%	11%	18%
Privates	Computer Science	80%	7%	11%
	Engineering	91%	3%	5%
	Mathematics	84%	7%	9%
	Natural Science	88%	5%	6%

Source: CHECS Transcript data, GSFC

Note: Rows may not sum to 100% due to omitted grading categories (e.g., Incomplete, Unsatisfactory, Not Graded) that account for 1% or less of courses.

Figure 27: FY 2021 Completion, Failure Rate, and Withdrawals
by STEM Category and Institution Type

		<u>Completed</u>	<u>Failing Grade</u>	<u>Withdrawal</u>
USG	Computer Science	82%	8%	10%
	Engineering	89%	4%	7%
	Mathematics	80%	9%	11%
	Natural Science	82%	7%	11%
TCSG	Computer Science	74%	15%	12%
	Engineering	80%	9%	11%
	Mathematics	81%	9%	10%
	Natural Science	73%	10%	16%
Privates	Computer Science	80%	8%	10%
	Engineering	92%	3%	5%
	Mathematics	85%	6%	9%
	Natural Science	89%	4%	6%

Source: CHECS Transcript data, GSFC

Note: Rows may not sum to 100% due to omitted grading categories (e.g., Incomplete, Unsatisfactory, Not Graded) that account for 1% or less of courses.

Figure 28: FY 2020 Completion, Failure Rate, and Withdrawals
by STEM Category and Institution Type

		<u>Completed</u>	<u>Failing Grade</u>	<u>Withdrawal</u>
USG	Computer Science	86%	5%	9%
	Engineering	91%	3%	6%
	Mathematics	83%	7%	10%
	Natural Science	86%	5%	9%
TCSG	Computer Science	76%	11%	13%
	Engineering	76%	9%	15%
	Mathematics	80%	8%	12%
	Natural Science	78%	6%	16%
Privates	Computer Science	82%	5%	12%
	Engineering	94%	2%	3%
	Mathematics	85%	5%	9%
	Natural Science	91%	3%	5%

Source: CHECS Transcript data, GSFC

Note: Rows may not sum to 100% due to omitted grading categories (e.g., Incomplete, Unsatisfactory, Not Graded) that account for 1% or less of courses.

Figure 29: FY 2019 Completion, Failure Rate, and Withdrawals
by STEM Category and Institution Type

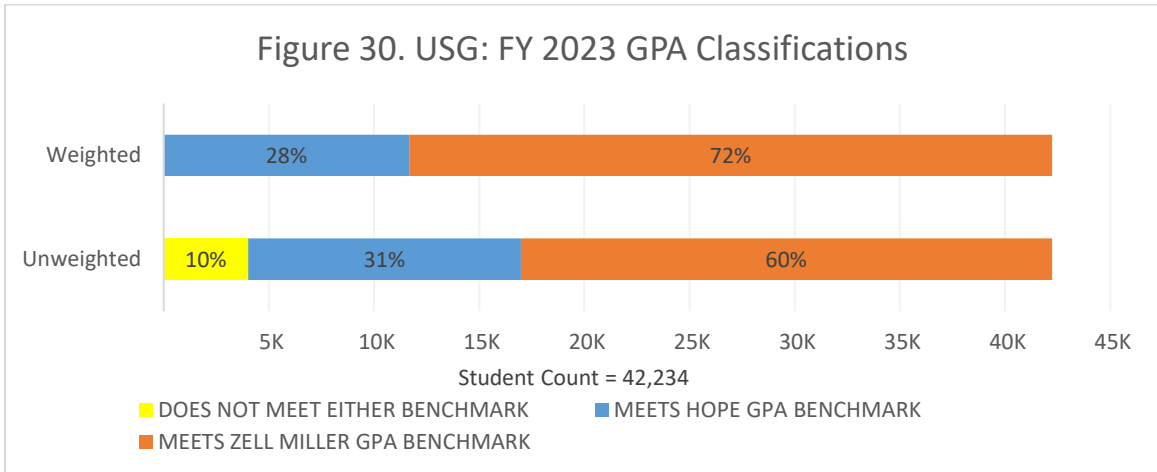
		Completed	Failing Grade	Withdrawal
USG	Computer Science	85%	7%	8%
	Engineering	91%	3%	6%
	Mathematics	80%	10%	9%
	Natural Science	84%	7%	9%
TCSG	Computer Science	75%	14%	12%
	Engineering	73%	12%	15%
	Mathematics	79%	11%	11%
	Natural Science	77%	8%	15%
Privates	Computer Science	85%	6%	9%
	Engineering	94%	2%	4%
	Mathematics	86%	5%	9%
	Natural Science	90%	3%	5%

Source: CHECS Transcript data, GSFC

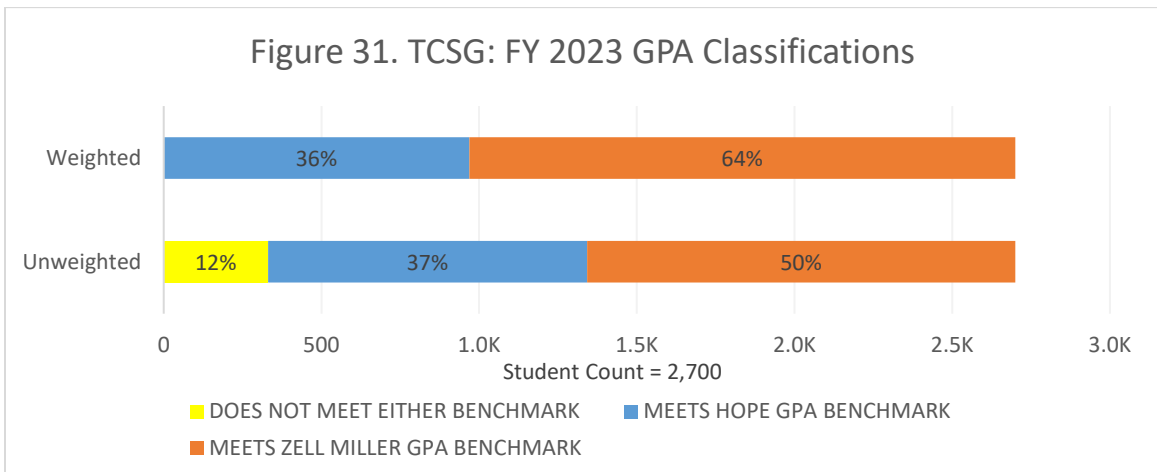
Note: Rows may not sum to 100% due to omitted grading categories (e.g., Incomplete, Unsatisfactory, Not Graded) that account for 1% or less of courses.

Appendix D

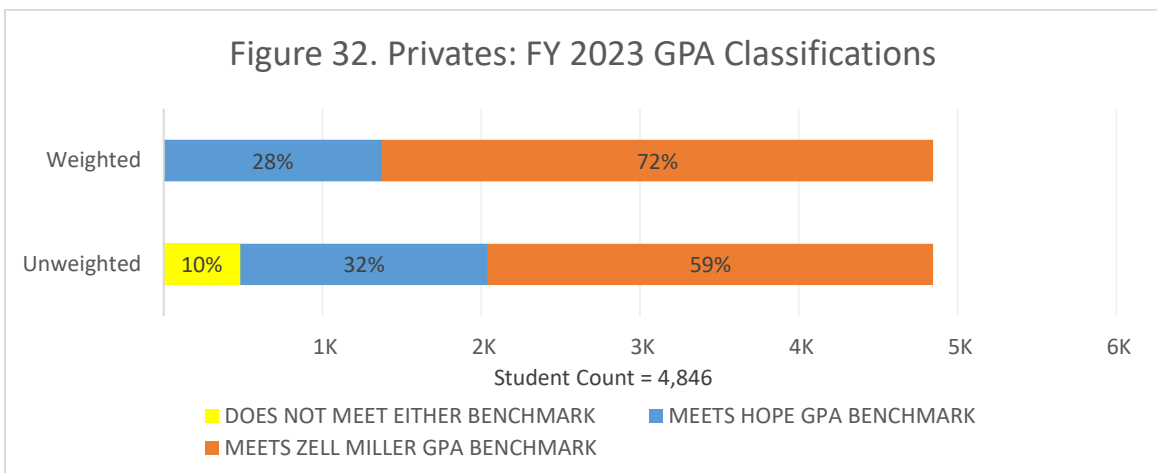
FY 2023



Source: CHECS Transcript data, GSFC.

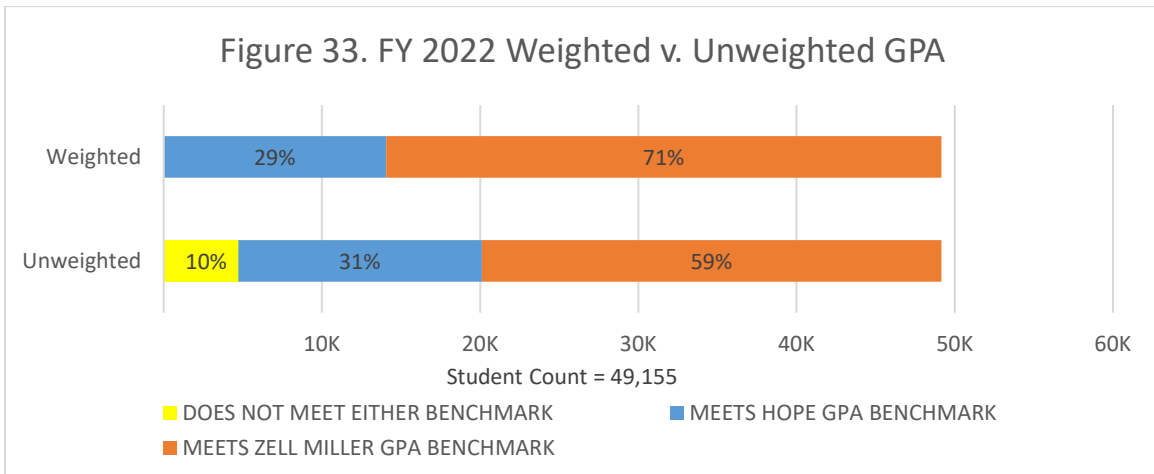


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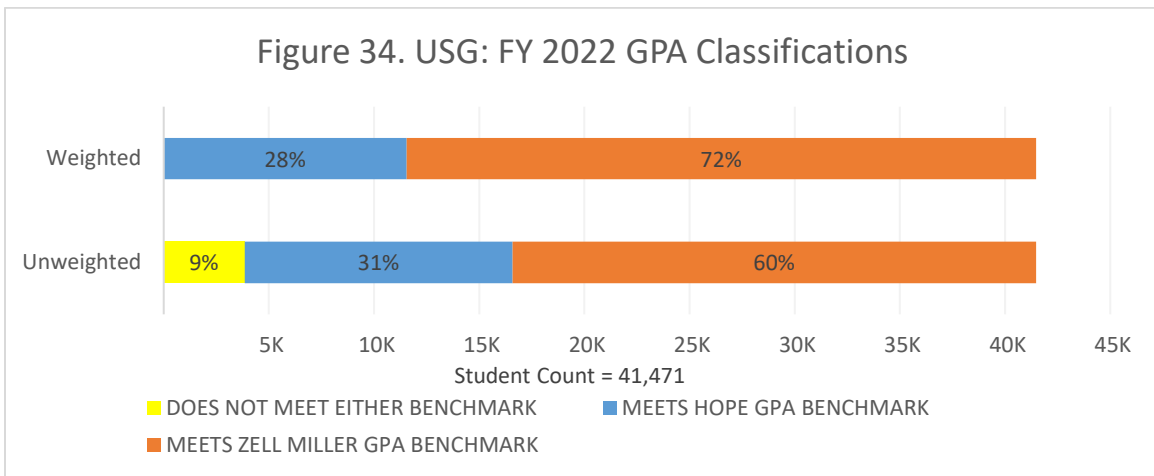


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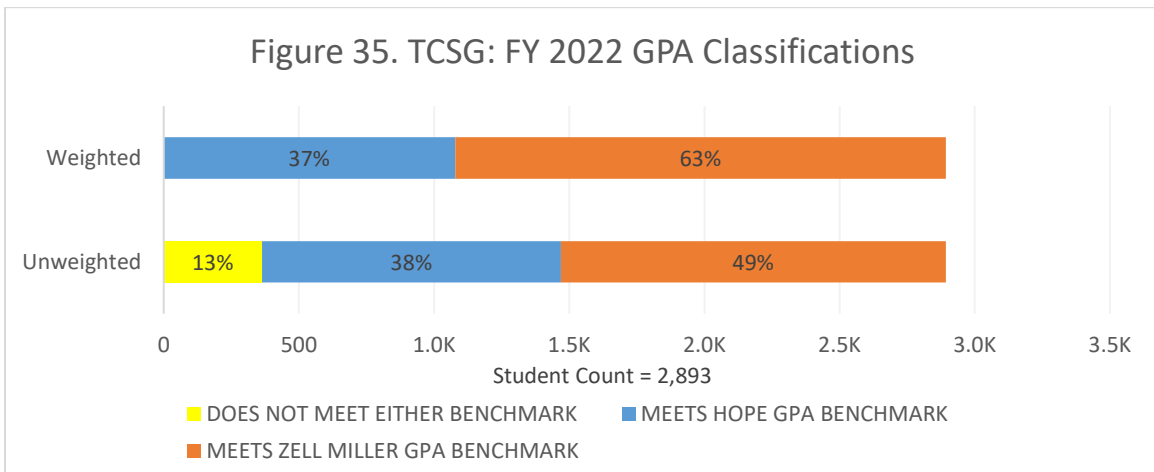
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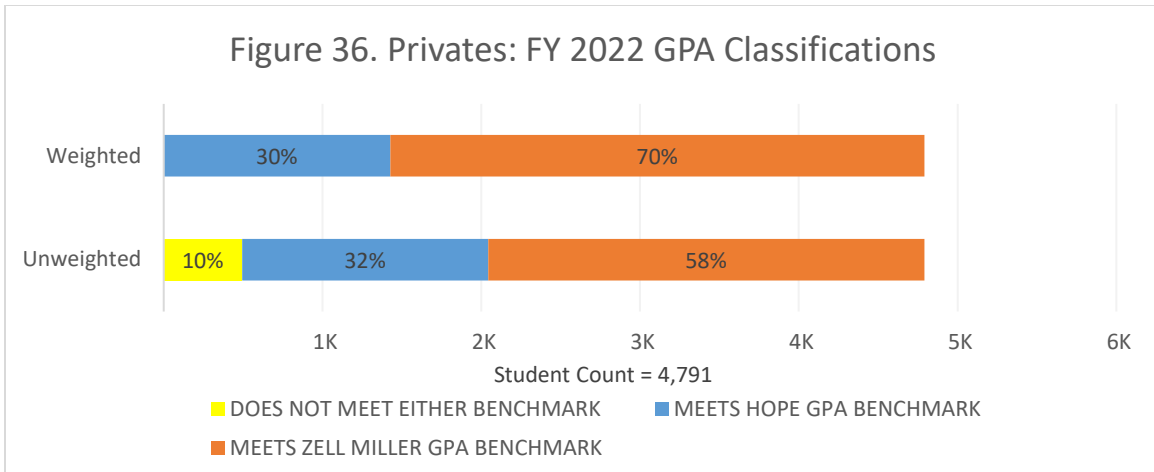
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Source: CHECS Transcript data, GSFC.

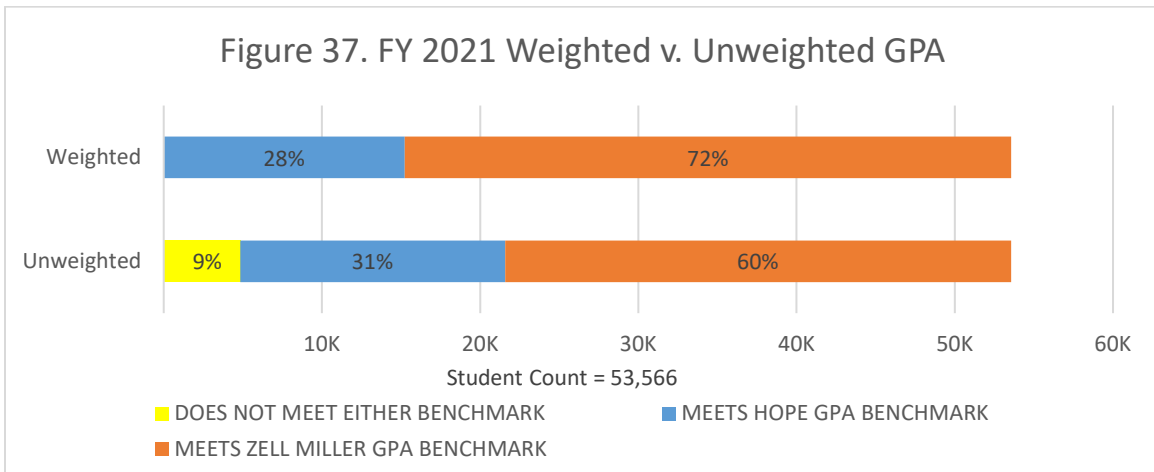


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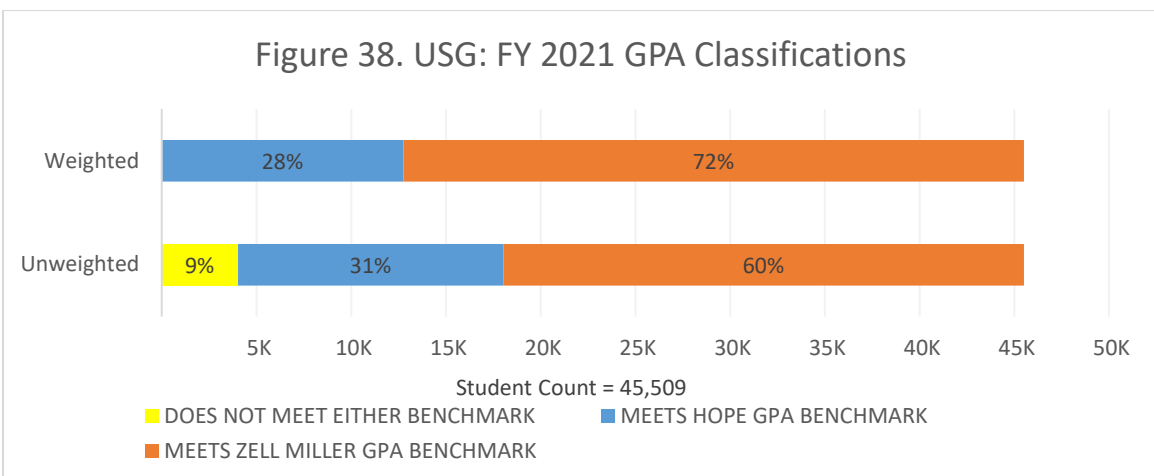


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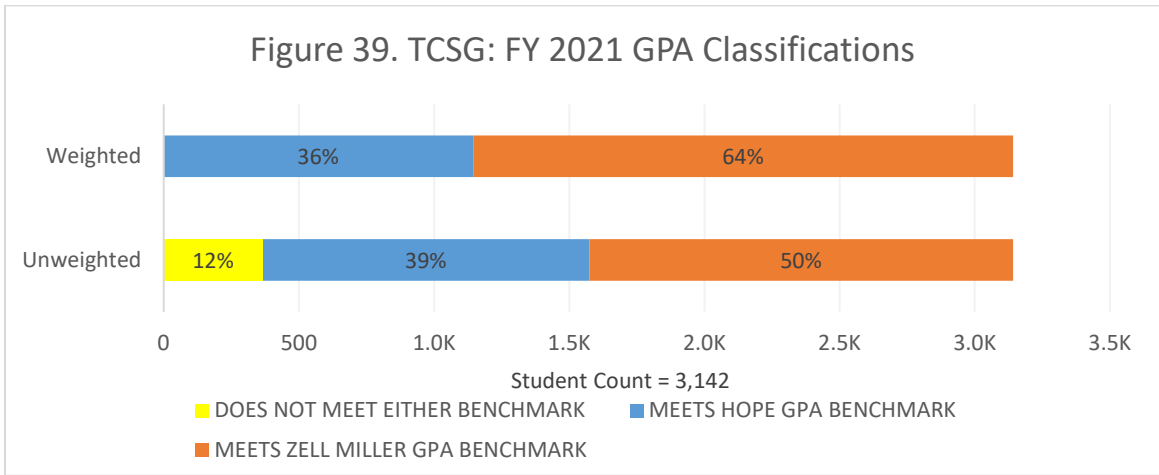
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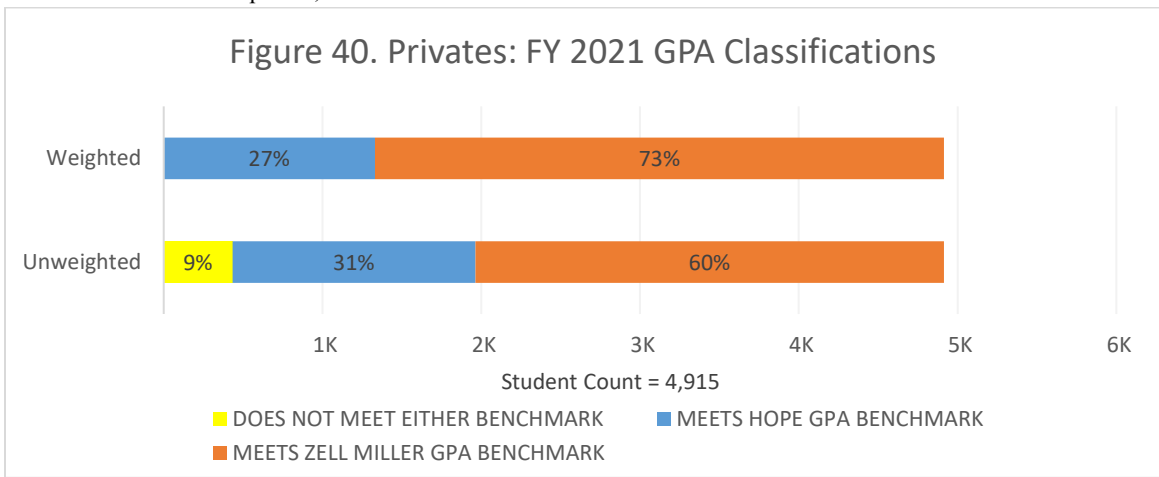
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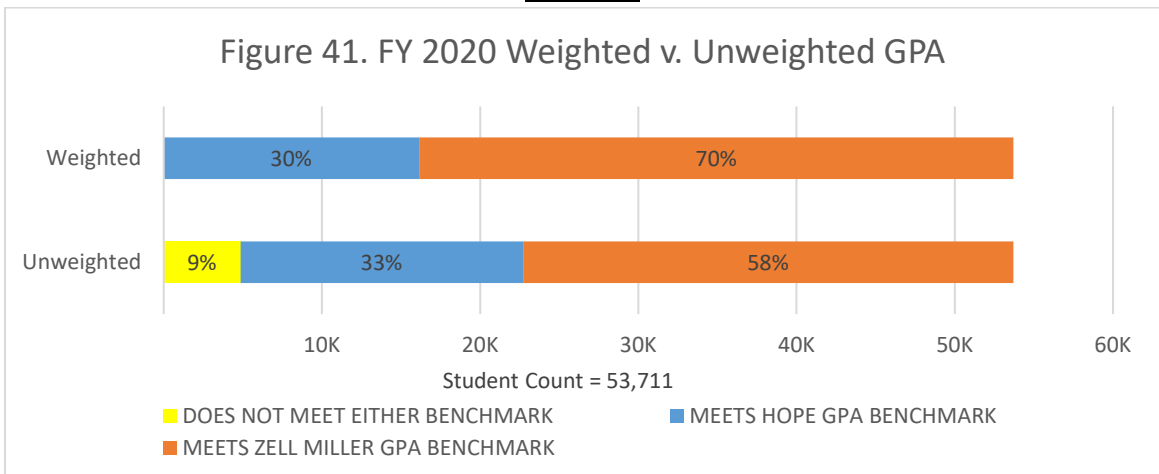


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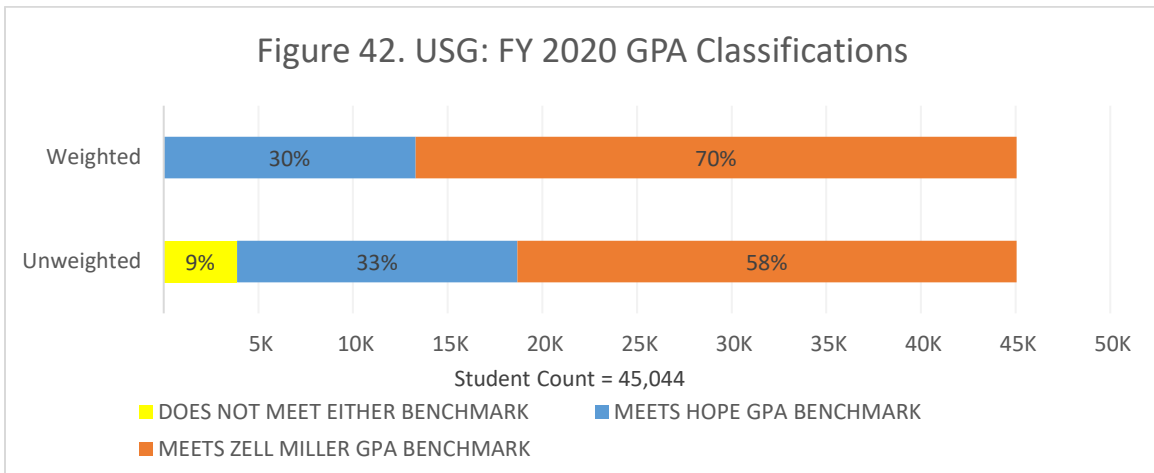


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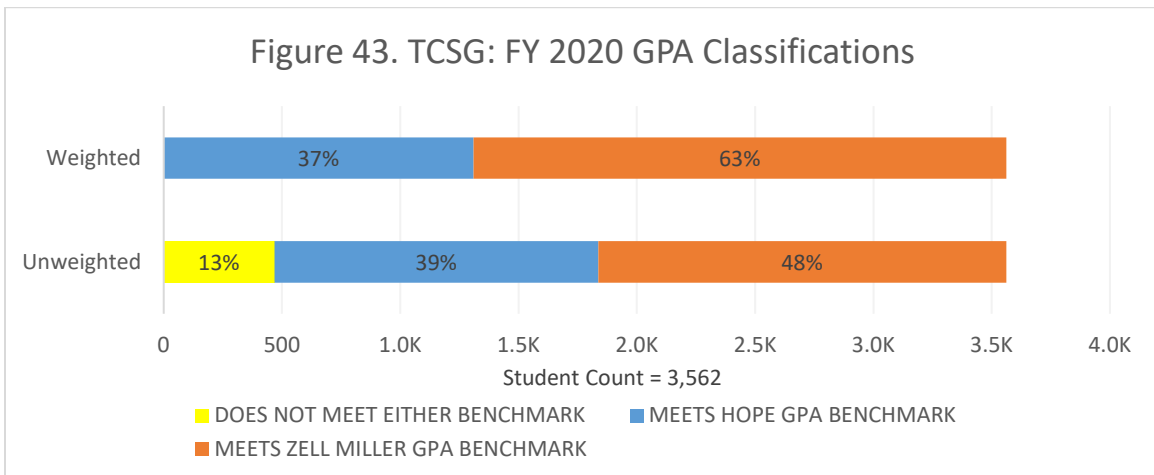
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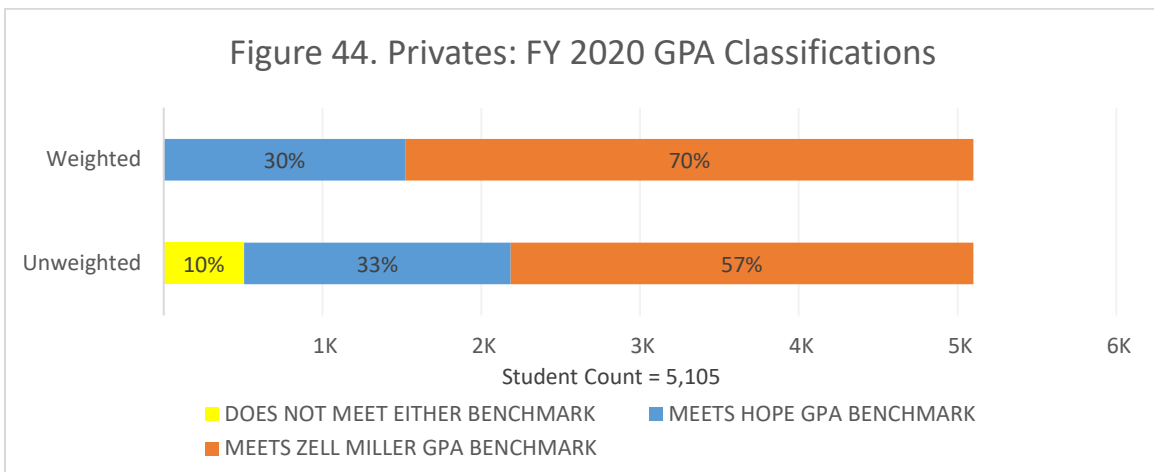
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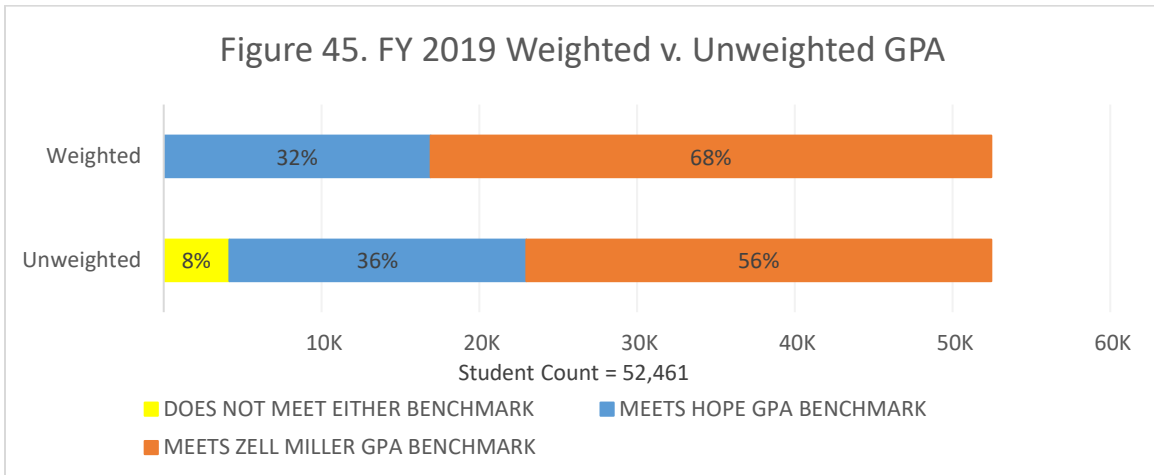


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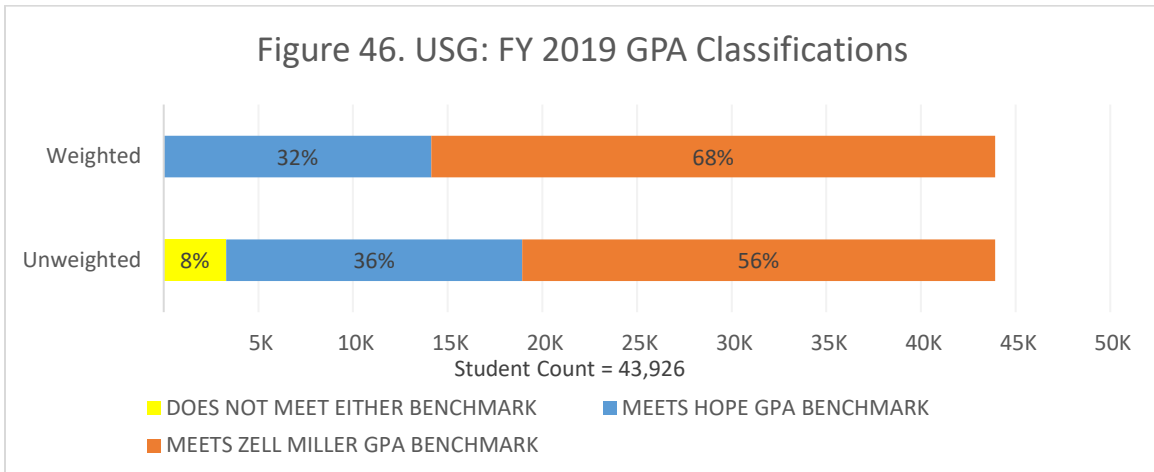


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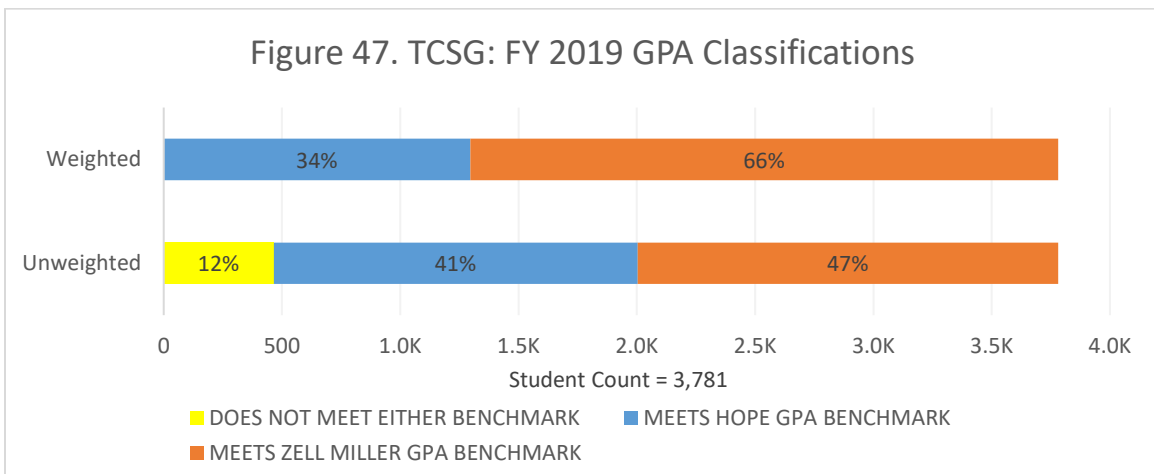
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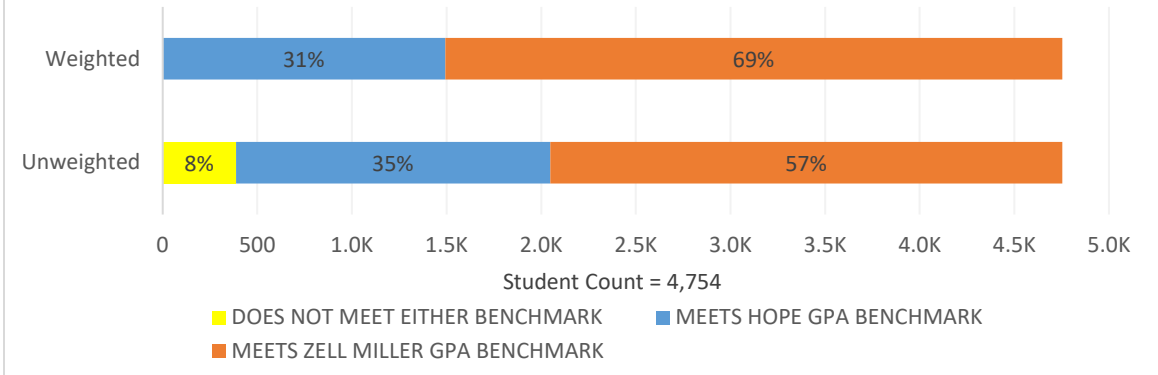


Source: CHECS Transcript data, GSFC.



Source: CHECS Transcript data, GSFC.

Figure 48. Privates: FY 2019 GPA Classifications



Source: CHECS Transcript data, GSFC.