

COMPREHENSIVE PROGRAM REVIEW: AY 2022 - 2023

Project Team: Scott M. Shubitz

Academic Program Name: AS Engineering

CIP Code: 14.0101

College or School and Department: School of Education, History, Math and Applied Science

Date of Last Internal Review: 2020

Current Date Program Reviewed at the Institution for this report: 2023

Outcomes of Previous Program Review (brief narrative statement):

In regard to previous program review outcomes, two issues stand out with regard to the Associate of Science in Engineering degree. First, the number of majors is consistently strong. Second, enrollment in ENGR 1100 (Introduction to Engineering) has declined. This decline could indicate a new freshman advising issue, and while the degree program map was accessible in the Academic Catalog, it was not linked on Gordon State College's web site. In relation to ENGR 1100, we have recently changed the math pre-requisite to bring it in line with other institutions – this should lead to increased enrollment.

There are some key issues that the program has dealt with in previous years:

- The number of majors has declined from nearly 120 at the time of the outbreak of COVID-19 to about 80 in the years following the pandemic.
- The number of students enrolled in ENGR 1100 (the first course in the major) has been inconsistent. It should be noted that fall/fall enrollment in ENGR 1100 (the first course in the major) is up from 9 in fall 2021 to 13 in fall 2022 (+44%).
- While the Engineering student pass rate in MATH 1502 (Calculus II) has generally been high, in 2021-2022, it fell off to 54%. However, 6/6 (100%) of engineering students passed MATH 1502 in summer 2022.
- Gordon State College must hire a physicist to teach the required PHYS 2211 and 2212 courses. While they are available online through eCore, faculty from another campus cannot substitute for the mentorship of a face-to-face professor. For STEM majors, this factor is an arguably significant component of program retention. This problem will likely be rectified for the 2024-2025 AY.

Executive Summary and Memo:

Gordon State College's Associate of Science in Engineering program is a high-quality, viable, program with substantial growth potential. The program meets the requirements of the Board of Regents and SACSCOC accreditation standards. Gordon State College is also part of the Regents Engineering Pathways Program (REPP), in which students who complete 30 or more credit hours at GSC can transfer to a partner REPP institution.

Quality Summary:

The Associate of Science in Engineering program achieves accepted standards for providing an exceptional, high-quality post-secondary education and attains favorable peer recognition attesting to the high quality of the teaching and learning the program supports. This outcome is consistent with the Gordon State College's Mission "to provide exceptional education" and the Gordon State College Core Values of "high quality post-secondary education" and "effective teaching." It also addresses the Board of Regents' emphasis on program quality in comprehensive program review. The program has highly-qualified faculty needed to offer introductory engineering courses such as Introduction to Engineering and Introduction to Engineering Graphics. The program also relies on highly qualified math faculty to teach Calculus I, Calculus II, Calculus III, Linear Algebra, and Differential Equations. GSC currently has four full-time math faculty with doctorates, of which three teach in the Engineering program.

Viability Summary:

While the Associate of Science in Engineering program has with struggled with graduation rates during the pandemic years, it has shown recent enrollment growth and GSC is allocating additional resources to grow the program. The Fall 2024 launching of the Highlander Scholars Program (HSP), which is a collaboration with George Tech (GT), will contribute to increased enrollment and graduation at GSC. The HSP will provide full scholarships to a cohort of engineering students each year with the goal of those students transferring into one of GT's engineering programs. In addition, GSC will soon hire a full-time physicist, which will ensure the viability of the program going into the future. GSC is also increasing offerings of engineering-related math courses. While some courses such as Calculus III, Linear Algebra, and Differential Equations have been offered sparingly in recent years, we plan to increase the regularity of these offerings in the 2024-2025 AY.

Productivity Summary:

The Associate of Science in Engineering program achieves and maintains strong levels of annual enrollment and degree completions and contributes to the college's growth in total enrollment and degrees conferred. This outcome is consistent with the Comprehensive Program Review expectations of the Board of Regents on program productivity, the Complete College Georgia initiative, the Federal Government's emphasis on graduation rates, Gordon State College's enrollment-driven funding, and Gordon State College's Core Value of preparing leaders for the community and region. One point of concern is that assessment data reveal that while initial program numbers are high, the graduation rate remains low. However, Major course pass rates and pass rates in required math courses are high enough to show that the issue does not lie in a difficult curriculum. Indeed, a logical hypothesis is that students are transferring to schools where they can complete the BS degree, which is the preferred employment credential.

Mission Statement and Curriculum

Program Mission Statement

The associate of science in engineering program is housed in the Department of Applied Sciences. At its inaugural meeting on August 3, 2022, the faculty devised this vision statement:

Provide a supportive and empowering environment where students can prepare for their future careers and a lifetime of learning.

This vision statement is consistent with Gordon State College's larger vision to "be a leader and primary educational partner in elevating our region's economic prosperity and educational attainment through collaboration, integrated educational experiences, and a vibrant campus culture."

Program Requirements (Data Source D and E)

Area D

CHEM 1211K Principle of Chemistry I

CHEM 1212K Principle of Chemistry II

MATH 1502 Calculus II

ECON 2105 Principles of Macroeconomics

ECON 2106 Principles of Microeconomics

Area E

HIST 2111 or HIST 2112 American History

HIST 1121 or HIST 1122 Western Civilization

Board of Regents' Guidelines for Program (Data Source F)

List Program Requirements from the BOR

We require (18) lower-division courses related to engineering and courses that serve as pre-requisites for other courses.

This includes (8) science hours:

PHYS 2211K Principles of Physics I

PHYS 2212K Principles of Physics II

This includes (7) math hours:

MATH 2201 Statics

MATH 2501 Calculus III

This includes one engineering graphics course:

ENGR 1111 Introductory to Engineering Graphics

Offerings by Course (Data Source A)

Number of sections each year

Course Offerings - Sections Each Academic Year

Program Title	Course Title	2020	2021	2022
AS-Engineering	CSCI 1371	2	2	1
	CSCI 1372		1	1
	ENGR 1100	4	3	3
	ENGR 1111	2	2	2
	MATH 1502	3	3	2
	MATH 2201	1	1	
	MATH 2501	2	3	1
	MATH 3502	1	2	1
	PHYS 2211K	1	1	1
	PHYS 2212K	1	1	

Number of sections of required courses and electives offered

Number of Day, evening, and online sections

Course Offerings - Sections by Day, Evening, and Online

Program Title	2020	2021			2022	
	Day Classes	Day Classes	Fully Online ..	Hybrid/ Partiall..	Day Classes	Fully Online ..
AS-Engineering	17	12	6	1	11	1

Number of Day, Evening, and Online sections offered

Day Classes - Non Online classes with meeting start times prior to 6pm

Evening Classes - Non Online classes with meeting time on or after 6pm

Fully Online Classes - Online classes with instructional method of Fully or Entirely Online

Hybrid/Partially Online Classes - Online classes with instructional method of Hybrid or Partially Online

Number of Sections by Location/Delivery

Course Offerings - Sections by Location/Delivery

Program Title	2020	2021		2022	
	Barnesville/Main Campus	Barnesville/Main Campus	Online Class	Barnesville/Main Campus	Online Class
AS-Engineering	17	12	7	11	1

Campus/Location of offerings by campus. Online classes include e-Core.

Section Enrollments (Mean Class Size)

Course Offerings - Enrollments (Mean Class Size)

Program Title	Course Title	2020		2021		2022	
		Enrolled	Capacity	Enrolled	Capacity	Enrolled	Capacity
AS-Engineering	CSCI 1371	5	23	2	13	11	30
	CSCI 1372			9	28	9	30
	ENGR 1100	12	20	7	30	6	20
	ENGR 1111	9	20	11	28	9	20
	MATH 1502	13	28	15	25	14	30
	MATH 2201	13	30	4	30		
	MATH 2501	9	30	2	25	5	30
	MATH 3502	11	28	3	22	6	30
	PHYS 2211K	12	24	12	24	12	24
	PHYS 2212K	11	24	4	20		

Mean class size for section enrollments

Section Enrollments (Total Enrollments)

Course Offerings - Enrollment Totals

Program Title	Course Title	2020		2021		2022	
		ENRL	MAX_ENRL	ENRL	MAX_ENRL	ENRL	MAX_ENRL
AS-Engineering	CSCI 1371	10	45	4	25	11	30
	CSCI 1372			9	28	9	30
	ENGR 1100	46	80	22	90	17	60
	ENGR 1111	18	40	21	55	18	40
	MATH 1502	38	85	44	74	28	60
	MATH 2201	13	30	4	30		
	MATH 2501	17	60	7	74	5	30
	MATH 3502	11	28	6	44	6	30
	PHYS 2211K	12	24	12	24	12	24
	PHYS 2212K	11	24	4	20		

Total enrollments for sections

Mission Statement and Curriculum Narrative:

Discuss the availability of the program's mission statement. In addition, discuss whether or not the program requirements meet those established by the BOR. Discuss the availability of required classes and comment on whether the availability meets the demands of the program and the campus. Overall, comment on whether the curriculum meets the programs mission statement and the BOR guidelines.

The program's mission statement is available on documents related to the program, such as assessment documents and minutes of department and school meetings.

The program's requirements correspond with the requirements of the BOR; they were established based on BOR requirements, but also take into account the requirements of other institutions. The requirements were especially influenced by the requirements of the Regents Engineering Pathway (REP) program; program requirements are based on courses that students need to transfer into partner institutions.

Program Quality

Student Inputs

Number of Students

Student Inputs - Number of Students

Program Title Majr	2019 - 2020			2020 - 2021			2021 - 2022		
	Total Program Level Students	Students in Program	%	Total Program Level Students	Students in Program	%	Total Program Level Students	Students in Program	%
AS-Engineering	2,573	136	5.3%	2,485	118	4.7%	2,294	97	4.2%

Program Level - Associates

Average Incoming SAT/ACT for Program Majors

Student Inputs- Average Incoming SAT/ACT Scores

Program Title Majr	2019 - 2020			2020 - 2021			2021 - 2022		
	Students in Program	Avg. ACT Comp	Avg. SAT	Students in Program	Avg. ACT Comp	Avg. SAT	Students in Program	Avg. ACT Comp	Avg. SAT
AS-Engineering	136	19.7	944.1	118	19.4	910.2	97	18.5	907.5

Average Admissions Test Scores of Students in the Program

NOTE: Not all students will have admissions test scores

Average Incoming GPA for Program Majors

Student Inputs - Average Incoming GPA

Program Title Majr	2019 - 2020		2020 - 2021		2021 - 2022	
	Students in Program	Avg. HS GPA	Students in Program	Avg. HS GPA	Students in Program	Avg. HS GPA
AS-Engineering	136	3.150	118	3.063	97	3.158

Average High School GPA of Students in the Program

NOTE: Not all students will have HS GPA

Freshman Index* for Program Majors

Student Inputs - Average Freshmen Index

Program Title Majr	2019 - 2020		2020 - 2021		2021 - 2022	
	Students in Program	Average Freshman Index	Students in Program	Average Freshman Index	Students in Program	Average Freshman Index
AS-Engineering	136	2,428	118	2,431	97	2,408

Average Freshman Index of Students in the Program

NOTE: Not all students will have a freshman index

Incoming Learning Support Requirements for Program Majors

Student Inputs- Incoming Learning Support Requirements

Program Title Majr	2019 - 2020			2020 - 2021			2021 - 2022		
	LS Requirement	No LS Requirement	Total	LS Requirement	No LS Requirement	Total	LS Requirement	No LS Requirement	Total
AS-Engineering	30	119	136	30	89	118	36	79	97

Student Outputs (Data Source A and B)

Average Exit Scores on National Exams

No Data

Average Graduating Major GPA

Student Outputs - Average Graduating Major GPA

Program Title Majr	2019 - 2020		2020 - 2021		2021 - 2022	
	Count	Graduating Major GPA	Count	Graduating Major GPA	Count	Graduating Major GPA
AS-Engineering	4	3.458	7	3.714	1	2.857

GPA in program required courses for students in program at midterm census that graduated from program at end of term.

Average Major GPA

Student Outputs - Average Major GPA

Program Title Majr	2019 - 2020		2020 - 2021		2021 - 2022	
	Count	ACYR Major GPA	Count	ACYR Major GPA	Count	ACYR Major GPA
AS-Engineering	60	3.532	52	3.471	41	3.091

GPA in program required courses only. Major GPA Student Count may be smaller that total program count since only students enrolled in a course listed in the program curriculum are included.

Employment Rates

No Data

Student Satisfaction (Data Source A)

Satisfaction Survey

See Appendix E

No Data

Faculty Outputs (Data Source A, B, and C)

Number of Full-time and Part-time Faculty

Faculty Outputs- Number of Faculty

Program Title	Department	2020		2021		2022	
		Full-time	Part-time	Full-time	Part-time	Full-time	Part-time
AS-Engineering	Applied Sciences	5	1	4	1	3	
	Natural Sciences		1		1		1
Overall Program		5	2	4	2	3	1

Faculty supporting program through assignment to required courses.

Number of Terminally Degreed Faculty and Number of Non-Terminally Degreed Faculty

Faculty Outputs - Number of Terminally Degreed Faculty

Program Title	Department	2020		2021		2022	
		Terminal Degree	Non-Terminal Degree	Terminal Degree	Non-Terminal Degree	Terminal Degree	Non-Terminal Degree
AS-Engineering	Applied Sciences	4	2	3	2	2	1
	Natural Sciences		1		1		1
Overall Program		4	3	3	3	2	2

Faculty Growth and Development

Marwan Zabdawi:

- Reviewed Alex software for College Algebra and Pre-Calculus for McGraw Hill Publishing (April 2023, and April 2024).

Allen Fuller:

- 2023: Submitted solution to a problem posed in MathAMATYC Educator.
- 2021: Submitted solution a problem posed in MathAMATYC Educator.
- 2021-Present: Served as contributing editor of the Problem Section of MathAMATYC Educator.
- 2020: Submitted solutions to two problems posed in MathAMATYC Educator.
- 2019: Submitted solutions to four problems posed in MathAMATYC Educator.

All Faculty:

Program Quality Narrative:

Using the data and information provided above, describe the quality of the program being assessed. Be sure to include descriptions of the pertinent data, for student inputs and outputs and for faculty outputs. Draw attention to any areas that highlight the achievements in quality produced by the program. In addition, discuss any areas where the faculty or students of the program may be lacking quality. Finally, summarize the finding and provide an overall assessment of the programs quality.

Gordon State College hosts an Engineering Associate's degree program that has proven resilient and continues to grow despite recent challenges. The program demonstrates solid quality through its academic metrics and faculty achievements.

Over the past three academic years, the program has consistently attracted academically strong students, as reflected in their incoming GPAs: 3.150 in 2019-2020, 3.063 in 2020-2021, and 3.158 in 2021-2022. This stability indicates a steady influx of motivated students into the program.

The graduating major GPAs have also shown positive trends, improving notably over the years: 3.458 in 2019-2020 to 3.714 in 2020-2021. However, due to lower enrollment, graduation rates, and the impact of COVID-19, the graduating GPA of students in 2021-2022 fell to 2.857. These figures underscore the program's commitment to academic excellence and the ongoing development of its students throughout their studies.

Behind these achievements is a dedicated faculty actively engaged in professional growth. Marwan Zabdawi, for instance, contributed significantly by reviewing Alex software for College Algebra and Pre-Calculus for McGraw Hill Publishing in April 2023 and April 2024. Allen Fuller has made multiple submissions and served as a contributing editor for MathAMATYC Educator, highlighting his efforts to enhance educational resources and problem-solving in the field.

Moreover, all faculty members have completed GSC Quality Matters Online Teaching Training, enhancing their ability to deliver high-quality education through both traditional and online formats.

Despite challenges such as the impact of COVID-19, which led to a decline in program enrollment from 136 students in 2019-2020 to 118 in 2020-2021 and 97 in 2021-2022, Gordon State College's Engineering Associate's degree program has demonstrated resilience and adaptability. The consistent academic performance of its students and the commitment of its faculty to professional development indicate that the program is well-positioned for future growth and sustained success. As it continues to evolve, Gordon State College's Engineering Associate's degree program remains a benchmark of quality in engineering education.

PROGRAM VIABILITY

Student Numbers

Overall Credit Hours at Entrance

Student Numbers - Overall Credit Hours at Program Declaration

Program Title Majr	Overall hours	2019 - 2020	2020 - 2021	2021 - 2022
AS-Engineering	0 Hours	77	71	63
	1-30 Hours	48	38	26
	31-60 Hours	11	8	8
	121 or More Hours		1	

Cumulative overall hours earned (including Transfer credit) at the beginning of the term the student declared the major.

NOTE: This table includes all students for AY and not just those declaring major during that AY. There can be duplication across AYs.

Faculty Workload

Number of Credit Hours Taught in the Program

Number of Credit Hours Taught in the Program

Program Title	2020	2021	2022
AS-Engineering	606	466	363

Standard Faculty Workload for Degree Program

Program Title	AY2020-21	AY2021-22	AY2022-23
Kelly Carter	4 courses per semester (4/4)	4 courses per semester (4/4)	5 courses per semester (5/5)
Marwan Zabdawi	4 courses per semester (4/4)	4 courses per semester (4/4)	5 courses per semester (5/5)
Bernard Anderson	4 courses per semester (4/4)	4 courses per semester (4/4)	5 courses per semester (5/5)
John George	4 courses per semester (4/4)	4 courses per semester (4/4)	5 courses per semester (5/5)
Allen Fuller	4 courses per semester (4/4)	4 courses per semester (4/4)	5 courses per semester (5/5)
Henry Gore	4 courses per semester (4/4)		
Overall Program	4 courses per semester (4/4)	4 courses per semester (4/4)	5 courses per semester (5/5)

Number of Faculty Supporting the Degree Program (within and outside the academic unit)

Number of Faculty Supporting Program Within/Outside Department

Department Group	Program Title ..	2020	2021	2022
within Program	AS-Engineering	6	5	3
	Total	6	5	3
outside of Program	AS-Engineering	1	1	1
	Total	1	1	1

Percentage of Classes Taught by Full-time and Part-time Faculty

Percentage of Classes Taught by Full-time and Part-time Faculty

Program Title	2020				2021				2022			
	Full-time		Part-time		Full-time		Part-time		Full-time		Part-time	
	Count	%	Count	%	Count	%	Count	%	Count	%	Count	%
AS-Engineering	14	82.4%	3	17.6%	14	73.7%	5	26.3%	11	91.7%	1	8.3%

Number and Percentage of classes taught by Full-time and Part-time Faculty.

Administrative faculty such as Department Heads and Deans are included in the Part-time measures.

NOTE: If "team teaching" is utilized, Full-time Count plus Part-time Count will be greater than Total Count and Full-time% plus Part-time% will be greater than 100%.

Number of Advisees Per Faculty Member

Faculty Workload - Number of Advisees Per Faculty Member

Program Title	Majr	Department	Advisor	2019 - 2020		2020 - 2021		2021 - 2022	
				Students in Program	%	Students in Program	%	Students in Program	%
AS-Engineering	Null		Jacobs, Cynthia	22	16.2%	16	13.6%	14	14.4%
			Mathis, Justin	24	17.6%				
			Oliver, Jerry					2	2.1%
	--Math, Comp. Sci. & Eng		Davies, Chad L	5	3.7%				
	--Undeclared Department		Ellington, Sarah M	5	3.7%				
	Applied Sciences		Anderson, Bernard A	10	7.4%	3	2.5%	9	9.3%
			Calhoun, Valerie J	5	3.7%	10	8.5%	7	7.2%
			Carter, Kelly D	4	2.9%	10	8.5%	7	7.2%
			Fuller, Allen G	1	0.7%	4	3.4%	9	9.3%
			George, John C	2	1.5%	1	0.8%		
			Glenn, Susan G			7	5.9%	3	3.1%
			Gore, Henry A	16	11.8%	7	5.9%	1	1.0%
			Karmakar, Satyajit	7	5.1%	7	5.9%	2	2.1%
			Raynie, Stephen A	10	7.4%	10	8.5%		
			Shubitz, Scott M	2	1.5%				
			Zabdawi, Marwan	13	9.6%	9	7.6%	19	19.6%
	Business & Public Service		Beck, Kris A			1	0.8%	1	1.0%
			Campbell, Scott K	1	0.7%	1	0.8%		
			Traylor, Rylan R	3	2.2%	1	0.8%		
	Education		Aiello, Thomas A			1	0.8%		
			Jones, Joseph R					1	1.0%
			Robison, Matthew			1	0.8%		
			Rogers, Jeffery J					1	1.0%
			Schaffer, Autumn	2	1.5%	1	0.8%		
	Humanities & Fine & Perf Arts		Broome, Darren K					1	1.0%
			Sanders-Senu, LaRonda M	1	0.7%	1	0.8%	2	2.1%
	Natural Sciences		Jia, Beike	7	5.1%				
			Schmude, Richard W	1	0.7%				
			Sedgwick, Myles	1	0.7%				
	School Bus, Lib Arts & Soc..		Whitelock, Edward J	2	1.5%	2	1.7%		
	Student Success Center		Dennis, Sanford D	6	4.4%	14	11.9%	24	24.7%
			Stuckey, Wanda M	4	2.9%	7	5.9%		
			Sylvestre, Katherine E	6	4.4%	11	9.3%		
			Woodruff, James P	7	5.1%	2	1.7%	1	1.0%
	VP Academic & Student Af..		Hayes, Kristi M	1	0.7%				
Grand Total				136	100.0%	118	100.0%	97	100.0%

Program Viability Narrative

Using the data and information provided above, describe the viability of the program being assessed. Be sure to include descriptions of the pertinent data. Draw attention to any areas that highlight the viability of the program. In addition, discuss any areas where the program may be lacking viability. Finally, summarize the finding and provide an overall assessment of the programs viability.

Gordon State College's Engineering Associate's degree program has remained viable and despite the impact of significant challenges over the past few years, primarily due to the disruptive impact of COVID-19. The program saw a notable decline in credit hours from 606 in 2020 to 466 in 2021, and further to 363 in 2022. This decline reflected broader trends across higher education as students faced uncertainties and disruptions in their academic journeys.

Despite these challenges, the program demonstrated resilience and adaptability. Faculty members, faced with increased workloads, rose to the occasion, increasing their teaching load from 24 credit hours per year in 2020-2021 to 30 credit hours per year in 2022-2023. Despite a reduction in the number of faculty from 7 in 2020-2021 to 4 in 2022, the program maintained high standards of instruction, with full-time faculty members teaching a significant majority of classes — increasing from 82.4% in 2020-2021 to 97.7% in 2022-2023. This consolidation of teaching responsibilities among fewer faculty members underscored a commitment to delivering quality education.

Advising loads for faculty remained stable throughout the period, ensuring that students received the necessary guidance and support despite operational changes. This continuity in advising contributed to student retention and success, crucial factors in maintaining program viability.

Looking ahead, Gordon State College's Engineering Associate's degree program is poised for growth. The resilience shown during challenging times, coupled with a focus on maintaining high instructional standards and student support, positions the program favorably. As the effects of the pandemic recede and educational activities normalize, the program is expected to rebound. Continued commitment to quality education and strategic resource allocation will further enhance its attractiveness to prospective students and ensure its long-term success.

In conclusion, despite recent challenges, Gordon State College's Engineering Associate's degree program has proven its continued viability. With a dedicated faculty, robust student support systems, and a clear focus on academic excellence, the program is well-positioned to thrive in the coming years.

Program Productivity

Student Graduation Statistics

Student Time to Degree

Student Graduation Statistics - Time to Degree

Acyr	Program Title MAJR	2 yrs or less				3 to 4 yrs				More than 4 yrs			
		Non-Transfer		Transfer		Non-Transfer		Transfer		Non-Transfer		Transfer	
		Count	%	Count	%	Count	%	Count	%	Count	%	Count	%
2020	AS-Engineering	1	50.0%			1	50.0%						
2021	AS-Engineering	1	20.0%	1	20.0%	1	20.0%	1	20.0%	1	20.0%		
2022	AS-Engineering									1	100.0%		

Time to Degree based on first-term of enrollment at GSC.

Includes students known to Institutional Research as First-time Freshmen (Non-Transfer) or First-time Transfer (Transfer)

Associate Level Graduation Numbers (for Review of Associate Level Programs)

Associate Level Graduation Numbers

Program Title MAJR	2020		2021		2022	
	Count	Avg. Years to Grad	Count	Avg. Years to Grad	Count	Avg. Years to Grad
AS-Engineering	2	2.3	2	9.3	1	6.7

Time to Degree based on first-term of enrollment at GSC.

Baccalaureate Level Graduation Numbers (for Review of Baccalaureate Level Programs)

<<Table BaccalaureateLevelGraduationNumbers>>

N/A

Student Retention (Data Source A)

Returned the Subsequent Term

Student Retention - Returning Students

Program Title MAJR	2019 - 2020				2020 - 2021				2021 - 2022			
	Total students	Return	Grad	%	Total students	Return	Grad	%	Total students	Return	Grad	%
AS-Engineering	69	36		52.2%	50	29		58.0%	36	16		44.4%

* Academic year - AY of first semester (Summer, Fall or Spring) student has declared major for the program under review.

* Returned - Returned the subsequent Fall term - student enrolled Fall term subsequent to his/her Cohort Term

* Graduated- Graduate prior to subsequent Fall term - student was awarded degree in program prior to the Fall term subsequent to his/her Cohort Term

* % - Percentage retained/graduated - total number of students retained and graduated divided by total students in a Cohort of the Academic Year

Program Productivity Narrative

Using the data and information provided above, describe the productivity of the program being assessed. Be sure to include descriptions of the pertinent data. Draw attention to any areas that highlight the productivity of the program. In addition, discuss any areas where the program may be lacking productivity. Finally, summarize the finding and provide an overall assessment of the programs productivity.

The Engineering Associate's degree program at Gordon State College has demonstrated resilience and adaptability amidst challenges, including the COVID-19 pandemic. Here's a summary of its recent productivity and future prospects:

1. Graduation Rates and Average Years to Graduation:

- The program experienced a notable fluctuation in average years to graduation:
 - **2020-2021:** Average years to graduation was 2.3 years.
 - **2021-2022:** This figure rose significantly to 9.3 years, reflecting challenges likely due to the pandemic.
 - **2022-2023:** There was improvement as the average years to graduation decreased to 6.7 years, indicating recovery and adjustment.
- Despite these fluctuations, the program has shown resilience in maintaining progress towards graduation timelines.

2. Student Retention:

- Retention rates over the period have fluctuated but have generally remained around 50%.
- This metric underscores ongoing efforts to support student success and persistence within the program.

3. Graduates and Program Enrollment:

- There has been a decrease in the number of graduates from the program, which may partly correlate with the challenges faced during the pandemic.
- Enrollment trends have also fluctuated, reflecting broader challenges in higher education during the pandemic era.

4. Future Prospects:

- The program is poised for increased productivity and success moving forward:
 - **Highlander Scholars Program:** The partnership with Georgia Tech through the Highlander Scholars Program represents a significant investment in enhancing educational opportunities.
 - This collaboration is expected to bolster program effectiveness, student outcomes, and overall productivity.

Despite the challenges posed by COVID-19, Gordon State College's Engineering Associate's degree program has demonstrated resilience in maintaining productivity and preparing for future success. With strategic investments like the Highlander Scholars Program, the program is well-positioned to enhance its productivity, support student success, and contribute positively to the field of engineering education.

Appendix A: Data Sources

A = Institutional Research

B = Department/Department Head

C = Human Resources

D = Department Website

E = Gordon State College Catalog

F = Board of Regents Website

Note: If other data sources are used, they can be implemented as need to Appendix A and the appropriate sections above.

Appendix B: Student Demographics

Number of program students

Total number of students in the program and as a percentage of all Bachelors students at Gordon State College

See table “Number of Students” in the *Student Inputs* section.

Number of students in [Program] program by self-reported Gender, Age, and Ethnicity and percentage of all Bachelors students at Gordon State College.

Self-Reported Age

Student Demographics Self Reported Age

Program Title Majr	Age Category	2019 - 2020		2020 - 2021		2021 - 2022	
		Students in Program	%	Students in Program	%	Students in Program	%
AS-Engineering	<= 23	130	95.6%	110	93.2%	90	92.8%
	> 23	6	4.4%	10	8.5%	8	8.2%

Self-Reported Gender

Student Demographics Self Reported Gender

Program Title Majr	GENDER	2019 - 2020		2020 - 2021		2021 - 2022	
		Students in Program	%	Students in Program	%	Students in Program	%
AS-Engineering	Female	13	9.6%	12	10.2%	9	9.3%
	Male	123	90.4%	106	89.8%	88	90.7%

Self-Reported Ethnicity

Student Demographics Self Reported Ethnicity

Program Title Majr	Ethnicity/Race	2019 - 2020		2020 - 2021		2021 - 2022	
		Students in Program	%	Students in Program	%	Students in Program	%
AS-Engineering	Hispanic or Latino	7	5.1%	9	7.6%	11	11.3%
	American Indian or Alaska ..			1	0.8%	1	1.0%
	Asian	3	2.2%				
	Black or African American	53	39.0%	55	46.6%	42	43.3%
	White	65	47.8%	49	41.5%	38	39.2%
	Two or more races	8	5.9%	4	3.4%	5	5.2%

Students by Number of Hours Completed

Student Demographics - Students by Number of Hours Completed

Program Title Majr	Number of Hours Earned	2019 - 2020		2020 - 2021		2021 - 2022	
		Students in Program	%	Students in Program	%	Students in Program	%
AS-Engineering	< 60	121	89.0%	95	80.5%	75	77.3%
	60 - 74	9	6.6%	19	16.1%	15	15.5%
	75 - 89	5	3.7%	2	1.7%	5	5.2%
	90 - 104	1	0.7%	1	0.8%	1	1.0%
	105 - 120					1	1.0%
	> 120			1	0.8%		

Number of Hours Earned includes institutional and transfer credits.

Appendix C: Faculty Roster

NAME	COURSES TAUGHT	ACADEMIC DEGREES EARNED	OTHER QUALIFICATIONS
Kelly Carter	ENGR 1100: Introduction to Engineering ENGR 1111: Introduction to Engineering Graphics CSCI 1371: Computing for STEM & Business CSCI 1372: Computing for Engineers COLQ 2992: Engineering Colloquium	Georgia Institute of Technology, Bachelor of Electrical Engineering (BEE) Mercer University, Master of Science in Software Engineering (MSE)	Industry experience: 27 years in aerospace, defense, data communication, medical electronics, and solar energy
Marwan Zabdawi	ENGR 1100: Introduction to Engineering ENGR 1111: Introduction to Engineering Graphics COLQ 2992: Engineering Colloquium MATH 1502: Calculus II MATH 2501: Calculus III MATH 3201: Advanced Linear Algebra MATH 3502: Differential Equations	The University of Toledo 2000, M.S.: Master of Science in Applied Mathematics The University of Toledo 1990, Ph.D.: Doctor of Philosophy in Engineering Science/Gas Dynamics Michigan State University 1983, M.S.: Master of Science (Mechanical Engineering)/Heat Transfer Michigan State University 1981, B.S.: Bachelor of Science (Mechanical Engineering)/Industrial Engr.	State Board of Registration for Professional Engineers and Surveyors of the State of Ohio. 1993, E.I.T. (Engineer in Training Certificate)
Bernard Anderson	MATH 1502: Calculus II MATH 2501: Calculus III MATH 3201: Advanced Linear Algebra MATH 3502: Differential Equations	B. A. Mathematics, Yale University, 1999. Ph.D. Mathematics, University of California, Berkeley, 2007.	

Appendix D: Library Resources Complete for English and History

Dorothy W. Hightower Collaborative Learning Center and Library Resources

Mission

The mission of the Dorothy W. Hightower Collaborative Learning Center and Library is to support the teaching, learning, and research needs of the college community by providing a knowledgeable staff, resources, tools, information, learning spaces, and instruction in evaluative and lifelong learning skills.

Library Vision and Primary Function

With an extensive renovation slated for completion by Spring 2016, the Dorothy W. Hightower Collaborative Learning Center and Library is a welcoming environment offering and encouraging flexible, open, and collaborative learning spaces as well as individual study spaces to meet the needs of the 21st Century student learner. The library provides and maintains a full range of print, non-print, and electronic resources; technology; and services to support teaching and learning at Gordon State College. Additionally, the library promotes awareness, understanding, and the use of these resources through research skills courses, library orientation classes, individualized instruction, online tutorials, and hands-on research assistance for Gordon State students located in Barnesville, Griffin, McDonough and distance education learners. Gordon State College students, faculty, and staff, as well as the surrounding community, are invited to use Hightower Library to pursue academic and intellectual interests.

The primary functions of the library are:

1. To provide physical and electronic access to the necessary informational and instructional resources and technologies which facilitate teaching and nurture learning via logical organization of materials and services, enabling information to be conveniently located, accessed, manipulated, and created.
2. To provide an expert staff, whose value as an informational source equals that of our print and electronic resources, and who are committed to aiding the student, faculty, and staff in the most effective manner.
3. To provide for a growing student body and faculty an attractive yet functional facility which respects the tradition of individual study while simultaneously encouraging the spirit of collaborative engagement, and which allows students, faculty, and staff to achieve their academic goals through research, education, facilitation, presentations, stimulation, and innovation.

Research Assistance

Research assistance is available by walk-up face-to-face assistance, phone, email, and online via PowerPoint and video tutorials, as well as LibGuides (subject guides). Additionally, Gordon State students are assigned a personal librarian based on their majors or home department. Students are able to schedule consultation appointments with their personal librarian to seek help with their research assignments. Faculty/staff may also take advantage of the Personal Librarian program and work with librarians to create/revise class assignments, provide library instruction classes, conduct research for professional development or scholarly activities, or recommend library materials to support the curriculum offered at Gordon State.

The Personal Librarian for is [NAME].

Facility and Online Description

The library supports an on-site, physical collection consisting of 108,000 volumes, 7,932 bound periodicals, 8,000 current periodical subscriptions, 10,394 microfilm units, and 36,000 electronic books. In addition to books and periodicals, the library houses a growing collection of audiovisual materials for use in the library or for classroom use. Patrons have access, in GALILEO (Georgia Library Learning Online) to more than 105,000 online serials and core academic journals with over 93,221 of these full-texts and 325 databases. Equipment is available in the library for viewing these materials.

Hightower Library, a two story building, named for Dorothy Watson Hightower, was built in 1978. Reference materials, bound periodicals, microfilm, the Georgia Collection, video collection, and LP collection were housed on the first floor until renovation began in July 2015. The circulating collection, study rooms, and AV equipment were located on the second floor. Hightower Library provided space for quiet study and collaborative group work (6 study rooms), 27 computers, 24 laptops, 2 printers, wireless access, 3 microfilm readers, and 2 photocopiers.

During the renovation, students may access computers and quiet study spaces located in the Instructional Complex Building, Academic Hall, Russell Hall, Nursing and Allied Health Sciences Building, and Smith Hall as well as connect remotely using their personal devices or utilize technology at one of the partner libraries (HCPL or SCTC). However, after the renovation has been completed [2], the library will be a state of the art learning facility for the 21st century learner which will house approximately thirty percent of the reference materials, bound periodicals, microfilm collection, and circulating collection while the remaining library materials are located via Guillebeau Hall yet accessible upon electronic request. The renovated building will house an increased number of (1) general student seating, (2) computers, (3) individual and group study rooms for collaborative work and individual quiet study, (4) Presentation Practice Room, (5) Assistive Technology Room, (6) two instructional classrooms, (7) wireless access, (8) microfilm readers, (9) printing, (10) and self-check-out machine.

Guillebeau Hall was built in 1934 as Memorial Gymnasium to honor the men who fought in World War I. Memorial Gymnasium was a Public Works Administration project. The building was remodeled in 1999 and converted to a co-ed honors hall that housed 36 students. The building was renamed in honor of Colonel Joseph Edwin Guillebeau, a former professor and President of Gordon Military College. More recently, the main floor of Guillebeau Hall was renovated during Spring and Summer semesters 2015 to accommodate the library repository. It houses the majority of the library's collection as well as the Archives Collection. Archives consist of materials donated to the college related to the history of the (1) college, (2) Lamar County, (3) City of Barnesville, (4) alumni memorabilia, and (5) well-known alumni. Students and community members wanting to access these materials may do so by scheduling an appointment with the Reference and Instruction Librarian who also serves as the college's Archivist. Library users may access materials in Guillebeau Monday through Friday from 8AM until 5PM upon scheduling an appointment with a librarian.

[Program] Resources available in Hightower Library overall

Format	Number of Titles	Comments
Books		
Electronic Books		
Print/Microfilm Journals		This counts only unique titles.
Electronic Journals		Total count includes some duplicates

[Program] databases available through GALILEO

DATABASE TITLE
Academic Search Complete
Article First
Bepress Digital Commons
Biology: The eSkeletons Project
Biology Journals (ProQuest)
Dissertation Abstracts
ERIC
JSTOR Life Sciences
National Science Digital Library
Newsbank Newsfile Collection
ProQuest Central
Research Library (ProQuest)
Science & Technology Collection
Science Journals (ProQuest)

[Program] Journals available through GALILEO

Title

Appendix E: Student Satisfaction with Program Survey Results

Student Satisfaction with Program Survey Results

N/A