NAAU Enrollment Trends 2021-2024

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ABSTRACT:

Over the last few years there has been a shift in overall enrollment trends for universities across the nation. Transportation and equipment industry programs are no exception. “The National Association of Automotive Universities (NAAU) is a professional association of baccalaureate-level universities that provide 4-year *Automotive Technology Degrees,* Automotive Technology Management Degrees, and other Equipment Industry Degrees. NAAU member-school graduates work for major automotive companies worldwide and become leaders of the automotive industry” (National Association of Automotive Universities, 2017). This article identifies the most recent enrollment trends within NAAU schools from 2021-2024. The data from 2020 was omitted due to a skew in enrollment from the Covid-19 pandemic. The specific NAAU enrollment data will be compared to national Bachelor’s Degree enrollment data and STEM Bachelor’s Degree enrollment data to identify differences in trends. “The NAAU enrollment data survey results are reported as yearly averages, notable percent changes, range, median, and standard deviation of enrollments. Individual school enrollment data is intentionally not reported in order to protect confidentiality” (Croxell, 2019).

Keywords: Automotive Technology Degrees, Automotive Bachelor’s Degree Enrollment, Technical Education, Online Education

INTRODUCTION:

The NAAU participating schools collaborate to continue excellence and propel learning within the automotive and transportation industries. This exchange of knowledge takes place at the annual conference held over a two-and-a-half-day period. This is hosted by a NAAU school and typically a school director and a faculty member attend from each of the respective schools in the conference.

“Within the subset of data collected for 2021-2023, there are six active schools within the conference. This shows a decrease from seven schools in the last set of published data in 2016-2019” (Croxell, 2019). Of the six active schools, data was received/collected from five.

The data reported in this document reflect the cumulative enrollment numbers for all programs listed below, but are reported on a per school basis, not per major.

The enrollment data reported from the period of 2021-2023 is consistently at a higher level compared to the data reported from 2016-2019. This was due to the “teach out” of both universities’ automotive programs, who were long standing NAAU members. These are indicated below as Central Missouri University (CMU) and Colorado State

University-Pueblo (CSU-P). Below accounts are taken from a former faculty member of CMU and the current Interim Dean of the College of Business at CSU-P. These are provided to add context around the teach out and to explain why the data looks different in 2024.

Dr. Alex Richards formerly of Central Missouri University (CMU) shared some information and thoughts on the teach out. “There have been various factors which led to the teach out, but enrollment was not directly the cause. There was a lack of administrative support at multiple levels, which led to a shuffle in funding for the automotive program. The University itself had also seen a shift. There was a decline of international students due to federal policy shifts as well as a retrenchment process within the university. This in turn led to a shift in resources and the ultimate teach out of 4 university programs including the automotive program” (Richards, 2024).

Dr. Michelle DenBeste, the current Interim Dean of the Hasan School of Business at Colorado State University Pueblo (CSU-P) shares her accounts on the teach out of the automotive program at CSU-P. “Enrollment at the beginning of the teach out appeared to remain stable. There were external and internal factors that led to the teach out of the automotive program. There was an overall change in administrative direction and administrators for the university system. This included consolidating some of the schools and colleges within the university system. The Hassan School of Business was not an exception from this process. After the university concluded this process, the determination to begin a teach out of the automotive program was the ultimate decision.” (DenBeste, 2024)

There are a few common factors that can be drawn from each account. There did not seem to be a direct factor that was affecting enrollment adversely but a combination of external and internal factors that played into each ultimate teach out. These factors focused around a reorganization of university structure as well as policy shifts at multiple levels.

Below all past active NAAU schools are listed as of the period of 2016-2019.

Weber State University in Ogden, Utah
Offering a Bachelor of Science in Field Service Operations and a Bachelor of Science in Advanced Vehicle Systems

Pittsburg State University in Pittsburg, Kansas
Offering a Bachelor of Science in Automotive Technology and a Bachelor of Applied Science in Diesel and Heavy Equipment

Colorado State University Pueblo in Pueblo, Colorado
Offering a Bachelor of Science in Automotive Industry Management

Southern Illinois University Carbondale in Carbondale, Illinois
Offering a Bachelor of Science in Automotive Technology

Ferris State University in Big Rapids, Michigan
Offering a Bachelor of Science in Automotive Engineering Technology, a Bachelor of Science in Heavy Equipment Service Engineering Technology, and a Bachelor of Science in Automotive Management

University of Central Missouri in Warrensburg, Missouri
Offering a Bachelor of Science in Automotive Technology Management

Brigham Young University--Idaho in Rexburg, Idaho
Offering a Bachelor of Science in Automotive Engineering Technology, a Bachelor of Science in Automotive Technology Management, and a Bachelor of Science in Advanced Vehicle Systems

Below all active NAAU schools are listed as of 2024. Survey responses and data collected are marked with an "*"

Weber State University in Ogden, Utah*
Offering a Bachelor of Automotive technology

Pittsburg State University in Pittsburg, Kansas*
Offering a Bachelor of Science in Automotive Technology and a Bachelor of Applied Science in Diesel and Heavy Equipment

Southern Illinois University Carbondale in Carbondale, Illinois*
Offering a Bachelor of Science in Automotive Technology

Ferris State University in Big Rapids, Michigan*
Offering a Bachelor of Science in Automotive Engineering Technology, a Bachelor of Science in Heavy Equipment Service Engineering Technology, and a Bachelor of Science in Automotive Management

Brigham Young University--Idaho in Rexburg, Idaho*
Offering a Bachelor of Science in Automotive Engineering Technology, a Bachelor of Science in Automotive Technology Management, and a Bachelor of Science in Advanced Vehicle Systems

Montana State University in Harve, Montana
Offering a Bachelor of Science in Automotive Technology

STATEMENT OF PURPOSE:

The purpose of this enrollment data report is to inform the public, industry, and education personnel with current enrollment trends of four-year NAAU automotive and equipment programs.

STATEMENT OF THE PROBLEM:

When referencing the NAAU website, the Society of Automotive Engineers (SAE) Global University Directory lists less than one dozen Automotive Degree Programs in the United States that fit under the NAAU mission (National Association of Automotive Universities, 2017).

As more jobs become available in the automotive and equipment industries, an enrollment increase in these degree programs should be expected.

Given that automotive and equipment degrees are “niche” compared to other degree programs offered, the data provided by NAAU schools can properly display the enrollment trends compared to traditional STEM degrees. This data is also needed to determine if the enrollment growth within NAAU schools is keeping pace with traditional STEM programs.

In the years following the pandemic there has been a heavy push towards online programs and degree-seeking online programs. The NAAU data provided showed a staggering increase in online course offerings from five in 2019, to 28 across all schools. (with some being for credit-earning internships or independent study credits*).

RESEARCH QUESTION:

Are the 2021 to 2024 enrollment trends of NAAU Bachelor’s Degrees keeping up or out-pacing enrollment trends of traditional STEM Bachelor’s Degrees?

REVIEW OF RESEARCH:

National Bachelor’s Degree Enrollment Totals

The national average of bachelor's degree enrollment serves as a baseline for which to compare NAAU enrollment data. This can help identify if automotive programs are increasing or decreasing comparatively to the national average enrollment.

The national average of bachelor’s degree enrollment serves as a baseline to compare NAAU enrollment data to. This can help identify if automotive programs are increasing or decreasing comparatively to the national average enrollment.

National enrollment throughout the years has consistently shown an overall decrease from 2020-2021 and from 2021-2022. From 2020-2021, overall national enrollment fell 2.6% and in 2021-2022, it fell 1.7%. This slight decline in overall national enrollment is predicted to continue (Blake, 2024). National enrollment data for the 2022-2023 school is not yet published at the time this publication is being written (National Center for Education Statistics [NCES], 2023).

Online Bachelor's Degree Enrollment Trends

Since the pandemic in 2020, online enrollment has increased in universities across the board. Enrollment trends in universities were seeing influx of online students which is helping prop up overall enrollment. However, some trends show this is starting to rebound. According to Forbes, "approximately 54% of college students (2023) are enrolled in distance-ed courses, while 75% were enrolled in them in 2021. However, despite these numbers, the e-learning market is expected to grow over 20.5% by 2030" (Carlton, 2024).

STEM Bachelor's Degree Enrollment Trends

Traditionally, students have found great success and lasting career opportunities through Science, Technology, Engineering, and Math (STEM) programs. The US Bureau of Labor Statistics projects a favorable job market for future STEM graduates citing a projection increase of 10.8% within STEM careers compared to 2.8% across the average labor market. This leaves STEM graduates with a unique opportunity to seize a job market that still very favorably outpaces the normal growth rate (US Bureau of Labor Statistics, 2024).

Students with STEM degrees are showing up in great numbers in the current labor force as well. The US Department of Science and Engineering reports that 34% of the workforce is represented by degree holding STEM employees as of 2021.

The number of degrees being awarded in STEM areas is continuingly showing growth in the United States job market. "The number of degrees in S&E (Science and Engineering Indicators) fields across all degree levels increased from 561,000 in 2000 to 1,087,000 in 2019, an increase in percentage share of S&E degrees from 24% to 27%. However, many groups of Americans remained underrepresented among S&E degree recipients" (National Science Foundation). The increase in job market growth and qualified candidates grew at a noticeable rate from the period of 2000 to 2019 (National Science Foundation, 2024).

METHODOLOGY:

For this study, a data survey was administered and collected data from 2021 to 2023. The survey was sent to the administrators (typically the department chairperson) overseeing a four- year NAAU automotive or equipment program. Some data was collected via university public information.

Survey data was collected from the five universities of which were either member schools of NAAU or were "guest" schools and later became member schools between the years of 2021 and 2023.

Due to the established relationships with each school, there was 80% survey return success, four/five NAAU schools responded, and all three years reported between 2021 and 2023. This annual data collection survey was collected each year, prior to the annual NAAU conference. The enrollment data for the years 2021, 2022, and 2023 were reported in full, as of June 2024.

FINDINGS: NAAU DATA SURVEY- ENROLLMENTS 2019 (7 schools)

NAAU			2016	2017	2018	2019
	NAAU Average Enrollments		Enrollment	Enrollment	Enrollment	Enrollment
	Total 4 yr. Degree Enrollments	**Average per school**	**189**	**187**	**194**	**182**
	Standard Deviation		**79**	**87.6**	**97**	**95.3**
	Median Enrollments		**230**	**198**	**204**	**170**
	High range		**274**	**326**	**384**	**366**
	Low range		**82**	**74**	**73**	**60**
	Largest single-school enrollment % Increase year-to-year			**22%**	**17.80%**	**11%**
	Largest single-school enrollment % Increase after four years					**37%**
	Largest single-school enrollment % Decrease year-to-year			**14%**	**9.30%**	**16.60%**
	Largest single-school enrollment % Decrease after four years					**35.50%**

(Table 1)

Table 1 shows NAAU reported enrollment data from 2016-2019. Numbers are shown as overall averages of survey respondents/ public university data (Croxell, 2019).

FINDINGS: NAAU DATA SURVEY- ENROLLMENTS 2024 (5 schools)

NAAU			2021	2022	2023
	NAAU Average Enrollments		Enrollment	Enrollment	Enrollment
	Total 4yr. Degree Enrollments	**Average per school**	**252**	**253**	**257**
	Standard Deviation		**120.74**	**123.41**	**133.18**
	Median Enrollments		**208**	**209**	**196**
	High Range		**439**	**443**	**465**
	Low Range		**134**	**133**	**148**
	Largest Single School Enrollment % Increase Year-to-Year			**.90%**	**10.14%**
	Largest Single School Enrollment % Increase Over Three Years				**9.46%**

	Largest Single School Enrollment % Decrease Year-to-Year		**-1.69%**	**-8.59%**
	Largest Single School Enrollment % Decrease Over Three Years			**-10.43%**
	NAAU Average Increase/Decrease Year over Year		**0.11%**	**0.50%**
	NAUU Average Increase/Decrease Over 3 Years			**0.59%**

(**Table 2)**

Table 2 shows NAAU reported enrollment data from 2021-2024. Numbers are shown as overall averages of survey respondents/ public university data.

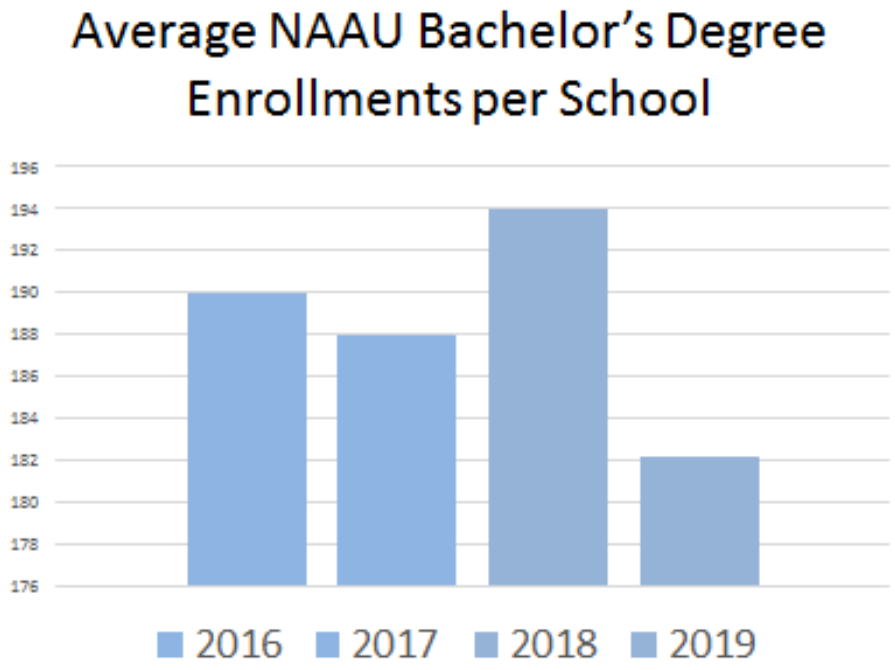
Notable Findings

Overall, the largest increase over a three-year period was 9.46% and the largest decrease over the same period was -10.43%. The contrast of variation in enrollment trends from school to school is shown within this data. This mirrors (at a smaller magnitude) the findings from the 2019 survey of an increase of 37% over a four-year period and a largest decrease of 35.50% over the same period (Croxell, 2019).

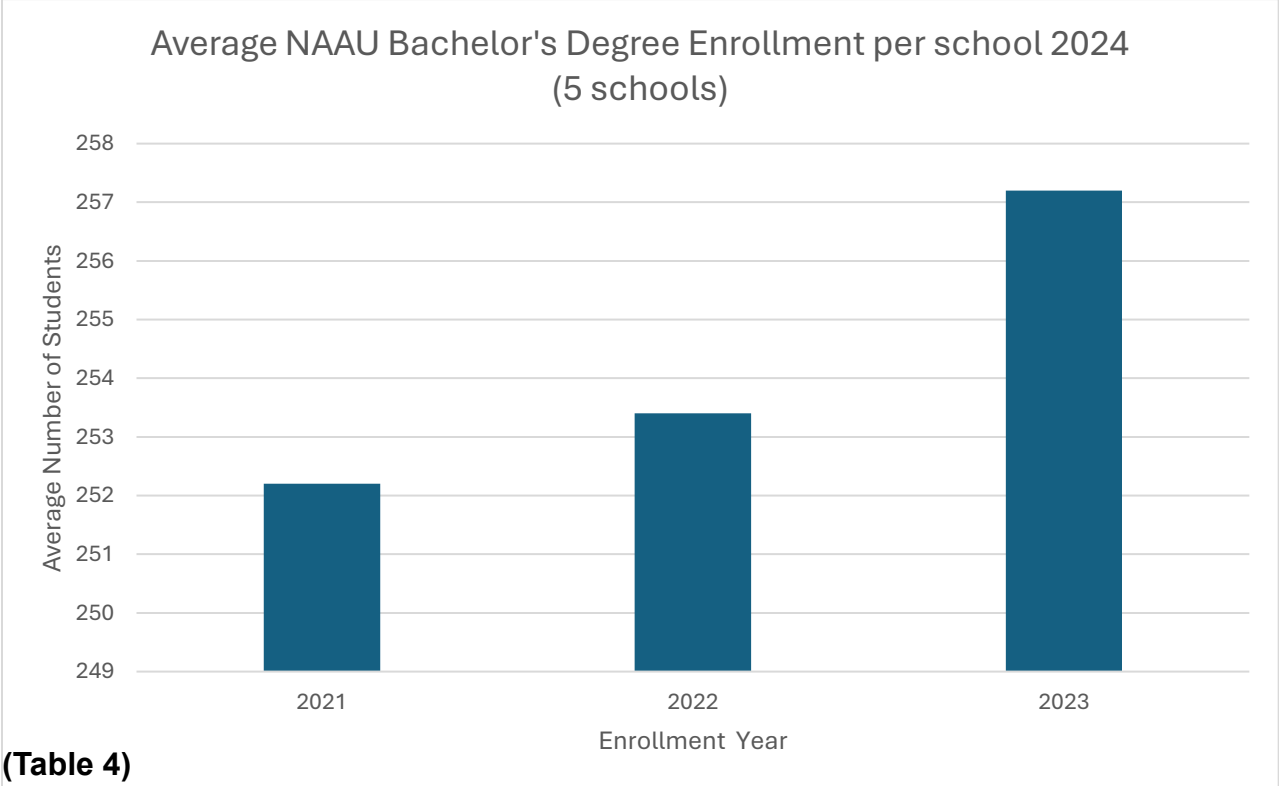
Between 2021 and 2023, the NAAU average enrollment slightly increased .59%. This brings the average total enrollment in 2023 to 257 students.

Compared to the 2019 number reported of average enrollment (182), there is a considerate increase in enrollment from that period to this reported period 2023 (257). There is a 29% increase in enrollment reported in 2024 compared to 2019 (Croxell, 2019).

Due to the number of respondents and various school sizes, the standard deviation was 120.74,123.41, and 133.18 for enrollment in numbers 2021-2023 respectively.



(Table 3) (Croxell, 2019)



(Table 4)

CONCLUSION:

On average, the NAAU Bachelor’s Degree Programs are showing a slight amount of growth. As the national enrollment average of bachelor's degree programs steadily declines, NAAU Bachelor Programs are trending in a positive direction. Despite this growth, NAAU programs are still being outpaced by traditional STEM program growth.

CONTINUATION OF RESEARCH:

- Research on 2+2 programs and how that affects enrollment trends for four-year programs
- Looking at the average student to faculty ratio and how that may affect enrollment trends
- Research on a clear direction towards online programs and how that fits into total university enrollment
- Research historical school list averages and compare them to current averages

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