

## NAAU ENROLLMENT TRENDS 2016-2019

### ABSTRACT

Transportation and Equipment Industries have strong demand for baccalaureate program graduates that have been trained in their fields.

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 Degrees related to transportation or equipment industries.

NAAU member-school graduates, work for major automotive companies around the world and are future leaders of the automotive industry. ([www.naaau.education](http://www.naaau.education))

This article takes a look at enrollment data captured by the annual data survey that was administered to NAAU schools each year from 2016 to 2019 in order to identify the most recent trends in their enrollment. 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.

### INTRODUCTION

NAAU member-schools collaborate to advance excellence in education within the automotive and transportation industries. ([www.naaau.education](http://www.naaau.education)) They do so by holding a private, annual two-and-a-half-day conference, where member-schools meet at one of the member-school locations for tours and discussions about shared challenges and best practices.

The culmination of NAAU degree programs, from the 7 NAAU schools, will be referred to as "automotive and equipment programs" throughout this text.

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 seven member-schools participating in NAAU between 2016 and 2019 include:

**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**

**STATEMENT OF PURPOSE**

The purpose of this enrollment data report is to inform the public, industry, and education personnel with current enrollment trends of 4-year NAAU automotive and equipment programs.

## **STATEMENT OF THE PROBLEM**

According to the NAAU website, the Society of Automotive Engineers (SAE) Global University Directory lists less than 1 dozen “Automotive Degree Programs” in the United States that fit under the NAAU mission. ([www.naaau.education](http://www.naaau.education))

Strong job growth in the STEM professions and degree requirements for most STEM jobs, implies that STEM degree programs should be growing to keep pace.

Being that 4-year automotive and equipment programs are still somewhat rare and unique in the United States, data collection is needed to proactively provide educational decision-makers and others, about the current NAAU program enrollment trends. Enrollment data is needed to identify whether or not NAAU programs are matching pace with other STEM programs and STEM job growth.

There has been a continuing shift towards more online Bachelor’s degree enrollments in the United States. However, there is currently an average of 5 online courses available in the NAAU programs, (with some being for credit-earning internships or independent study credits). It is unknown if or how many more automotive and equipment courses could be offered online in the future.

## **RESEARCH QUESTION:**

Are the 2016 to 2019 enrollment trends of NAAU Bachelor’s Degrees following enrollment trends of STEM Bachelor’s Degrees?

## **REVIEW OF RESEARCH**

### **National Bachelor’s Degree Enrollment Trends**

Overall, enrollment data for Bachelor’s Degrees in the United States serves as a baseline comparison to identify average enrollment increases or decreases that are occurring or projected to occur in the United States from year to year. By reviewing the baseline Bachelor’s Degree enrollment data, one can generally infer what is happening in the overall environment of Bachelor’s Degree Enrollment numbers, across the United States.

National enrollment figures, reported by the National Center for Education Statistics and their Integrated Postsecondary Education Data System, reports that Bachelor’s Degree enrollments

remained nearly flat from 2016 -2017 and 2017-2018, and are projected to remain nearly flat between 2018 and 2019. [https://nces.ed.gov/programs/coe/indicator\\_cha.asp#info](https://nces.ed.gov/programs/coe/indicator_cha.asp#info)

The national Bachelor's Degree enrollment trend remains level but within the overall data, other trends exist.

### **Online Bachelor's Degree Enrollment Trends**

U.S. Bachelor's Degree enrollments across all colleges and universities have remained mostly level and are projected to stay level in years to come. However, an increasing percentage of those enrollments are being made up of online students. For example, in 2017, Bachelor's Degree enrollments dropped .44% overall but, the percentage of online enrollments grew by a healthy 4.2% in the same year. There has been a consistent and significant shift toward more online enrollments across all college and university enrollments.

<https://www.insidehighered.com/digital-learning/article/2018/11/07/new-data-online-enrollments-grow-and-share-overall-enrollment>

### **STEM Bachelor's Degree Enrollment Trends**

“STEM” stands for Science, Technology, Engineering, and Math and is one of the major education initiatives of present time. The degree options that fall within the STEM category are vast. Most degrees that emphasize Science, Technology, Engineering, or Math are classified as STEM degrees.

Graduates of STEM programs have carved out their places in industry and continue to be in high demand. The U.S. Bureau of Labor Statistics reports that nearly all STEM jobs required at least some postsecondary education and the number of STEM jobs grew 10.5% between 2009 and 2015. STEM jobs were also projected to grow another 10.8% between 2016 and 2026.

<https://www.bls.gov/emp/tables/stem-employment.htm>

Even though the number of STEM Bachelor's Degree graduates increased over 50% between 2011 and 2015, the number of graduates is still not keeping up with STEM job growth.

[https://static.ark.org/eeuploads/adhe/publications/2015\\_STEM\\_Report.pdf](https://static.ark.org/eeuploads/adhe/publications/2015_STEM_Report.pdf)

Similar to the online enrollment trends across all colleges and universities, STEM program enrollments are following a similar trend, with an increasingly bigger proportion of STEM course and program enrollments being from online enrollees.

<https://www.sciencedirect.com/science/article/pii/S036013151530004X>

## **Enrollment Trends by Field of Study**

According to the Digest of Educational Statistics, Bachelor's Degrees relating to Transportation and Material Moving have trended downward from 5,657 in 2006 to 4,529 in 2015.

Meanwhile, Bachelor's Degrees in Engineering Technology programs increased from 14,980 in 2006 to 17,159 in 2015. Also, Bachelor's Degrees in Computer and Information Sciences have increased from 42,170 in 2006 to 64,405 in 2015.

[https://nces.ed.gov/programs/digest/d17/tables/dt17\\_322.10.asp?current=yes](https://nces.ed.gov/programs/digest/d17/tables/dt17_322.10.asp?current=yes) (table 322.10)

## **METHODOLOGY**

For this study, a data survey was administered and collected each year from 2016 to 2019. The survey was sent to the administrators (typically the Department Chairperson) overseeing a 4-year NAAU automotive or equipment program.

Survey data was collected from the seven Universities of whom were either member schools of NAAU or were "guest" schools and later became member schools between the years of 2016 and 2019.

Due to the established relationships with each school, there was 100% survey return success for all seven NAAU schools, and all four years between 2016 and 2019. This annual data collection survey was collected each year, prior to the annual NAAU conference.

Enrollment numbers for 2019 are "as reported" prior to the Fall semester and are known to fluctuate slightly depending on how many enrollees are "no-shows" or if they change majors early into the semester.

The enrollment data for years 2016, 2017, and 2018 were updated and corrected as an additional follow-up step due to multiple individual schools making advancements to their enrollment data collection and calculation tools during the four-year period of this study. As those enhancements were made, the data collection fields within the survey were updated to reflect the most accurate data available as of August, 2019.

**FINDINGS: NAAU DATA SURVEY- Enrollments**

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 illustrates the overall enrollment data of the NAAU schools. Numbers listed refer to enrollments.

**Notable Findings**

Between 2016 and 2019, there was an overall average NAAU enrollment drop of 4% leaving an average of 182 enrollments per NAAU school in 2019.

The NAAU school with the largest single-year enrollment increase, grew by 37%.

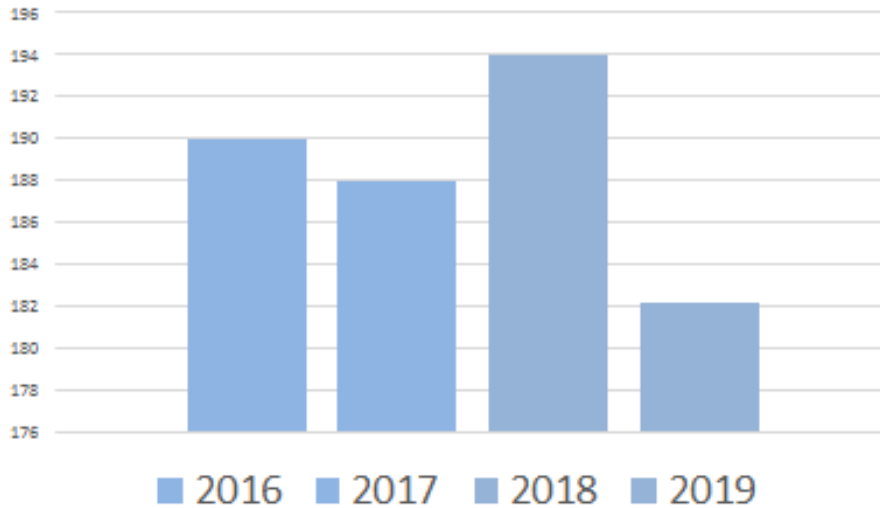
The NAAU school with the largest single-year enrollment decrease, dropped by 35%.

The largest single year enrollment increase at an NAAU school, was 17.8%.

The largest single year enrollment *decrease* at an NAAU school was 16.6%.

Due to the large range of NAAU program sizes, as well as fluctuations in size, there was a sizable standard deviation calculation of 79 enrollments in 2016, 87.6 in 2017, 97 in 2018, and 95.3 in 2019.

## Average NAAU Bachelor's Degree Enrollments per School



(TABLE 2)

### CONCLUSION

Average NAAU Bachelor's Degree enrollments are not keeping pace with STEM Bachelor's Degree enrollment growth.

### CONTINUATION OF RESEARCH

More research is needed to identify why NAAU enrollments trends are not following STEM Bachelor's Degree enrollment trends.

More research would be needed to understand which STEM Bachelor's Degree areas are growing.

More research is needed to identify if more NAAU programs could be offered online to increase NAAU enrollments.

## CITATIONS

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