

2023

MARKET INSIGHTS BY WILEY

STATE OF THE EDUCATION MARKET

Trends and Insights in Key Undergraduate Disciplines



WILEY University Services



2023

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Trends and Insights in Key
Undergraduate Disciplines

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INTRODUCTION

In recent years, we've experienced major shifts in all aspects of life, and higher education has been no exception. Educators and administrators have weathered complex and tumultuous conditions throughout the pandemic, from a sudden rush to adopt online learning, to a nationwide economic shutdown, to enrollment declines due to historically low unemployment.

With these broader factors at play, we're here to help. In 2021, our undergraduate report examined graduation trends from the 2018-19 school year at the bachelor's level.¹ This year, our ***State of the Education Market 2023: Trends and Insights in Key Undergraduate Disciplines*** report explores graduation trends from the **2020-21** academic year at both the **associate and bachelor's** levels. This report will inform

you about the significant disciplines in the undergraduate degree market today, including which degrees have recently grown or declined.

We hope these insights will help your higher ed institution make better-informed decisions regarding your degree portfolios and position you well for the years ahead.



Research methodology

Data in this report is based on schools reporting graduates (i.e., completions) and was collected from IPEDS/NCES through the end of the 2020-21 academic year.

Completions, not enrollments

While enrollments provide the most recent trend data, it's not precise. How so? Enrollment data is only available at a vertical level (e.g., health, psychology, business), not at a program level (e.g., Registered Nursing, General Psychology, Business Administration). That's why we analyze graduated student data. While completions are a window to past data, they enable analysis down to the individual degree level. The result? Much deeper, more exacting insights and better future projections.

It's also important to note that the students who completed their degrees in 2021 started their programs pre-pandemic. Meanwhile, pandemic-era enrollments have been down, which will have a domino effect on completions over the next few years.

CIP taxonomy

Schools report their programs and completions into IPEDS using the Classification of Instructional Programs (CIP) taxonomy. Colleges and universities self-assign CIP codes to their academic programs, so the data isn't always consistent from institution to institution. However, there's enough alignment to analyze data and market trends properly.

Updates to this year's methodology

We've refined our analysis since our last State of the Education Market reports to provide the most accurate picture of the market today. Methodology changes we've made this year include:

DOUBLE MAJORS

If a student graduated with a double major, we now count both completed degrees reported into IPEDS in our data.

CAMPUS CONSOLIDATION RECTIFICATION

Some universities that used to report each of their campuses to IPEDS individually have since consolidated reporting as though they were one large institution. So, we've applied that consolidation to the historical data to keep things consistent. For example, one Top 200 university previously reported 23 different campuses as individual schools in IPEDS. In 2021, however, they consolidated all those campuses into one institution in IPEDS. As such, we've rectified the historical data so it doesn't appear that 22 institutions suddenly left the market in 2021.

Data definitions

School years

Defined by the end of an academic school year. For example, 2021, the most recent academic school year in IPEDS, refers to the 2020-21 academic year.

Graduates

The total number of students awarded a degree in a given academic year. This differs from graduate-level students, who will be covered in a companion report.

Growth

Unless otherwise specified, growth is displayed in 'yearly' or 'total' terms. 'Yearly' refers to the average year-over-year (Y/Y) growth in graduates from 2016-2021, while 'total' means the complete growth from 2016-2021.

Median program size

As the middle value of graduates per program, this number defines standard program size. Unlike average program size, median program size is less likely to be skewed by large programs in the market.

Percent online

The percentage of programs per CIP code reported as available in an online or distance format. This may mean that the program is available in an online-only or hybrid format.

Vertical

Vertical refers to the college of studies under which individual programs sit. For example, the four largest bachelor's-level verticals are business, health, social sciences, and engineering.

4 KEY UNDERGRADUATE MARKET TRENDS

#1

Broad enrollment declines

Undergraduate enrollments have fallen Y/Y for the past two years, -4.9% in spring 2021 and another -4.7% in spring 2022.² These declines won't be reflected in completion data for another few years, but it's a sign that higher ed institutions face leaner times.

#2

International student declines

International graduates declined across all degree levels in 2021. Among international students, associate grads had the fastest *percentage* decline (-6.9%), while master's graduates underwent the largest *overall* decline (-7,870 students or -5.7%). Moreover, the pre-vaccine fall 2020 enrollment drop may foreshadow future declines. Overall international student enrollment declined -13% Y/Y (-126,786 total), and international, first-time, degree-seeking, undergraduate enrollments had never dropped further to date, at -29% Y/Y (-25,849 students).

Fortunately, there may be cause for cautious optimism. A recent study found that 65% of surveyed institutions had an increase in international student applications for the 2022-23 academic year, up from 43% of institutions the prior year.³



#3

COVID-inspired growth

The pandemic seems to have initiated two noteworthy trends in online learning:

1. Universities took their ground programs online almost overnight. Every bachelor's-level degree vertical with at least 100 schools reporting grads offered a higher percentage of programs online in 2021 than before the pandemic in 2019. For instance, bachelor's programs in the Master's Colleges & Universities Carnegie Classification increased from 12% online in 2019 to 15% in 2021, a net increase of 795 online programs.⁴
2. Public health and nursing occupations are indicating signs of pandemic-inspired growth. For example, the Bureau of Labor Statistics (BLS) now projects that the community health worker occupation will grow 16% through 2031. Also, registered nurses are expected to grow by 6%, adding 195,000 jobs through 2031.⁵

#4

STEM reclassification

As noted in our 2021 edition, colleges and universities are continuing to reclassify their degree programs into STEM-designated CIP codes.⁶ Why? Primarily to attract international students. The Department of Homeland Security makes international graduates of a STEM-designated CIP code eligible for a 24-month extension of their F-1 visas for Optional Practical Training.⁷ Better yet? These 24 months stack. For instance, an international student who earns both a STEM-designated bachelor's and master's is eligible to stay in the U.S. for an additional 48 months.⁸

Need some examples? Some non-STEM to STEM program transitions include shifts from **Finance** to **Financial Mathematics**, **Economics** to **Econometrics**, and **Architecture** to **Architectural Sciences**.



THE ASSOCIATE DEGREE MARKET

Overall associate trends

Big verticals dominate

The associate degree market is primarily driven by three verticals: liberal arts, health, and business. Those three areas combined accounted for two-thirds of associate degrees in 2021, with no other vertical graduating more than 3% of the associate market. When it comes to online programs, four verticals have $\geq 25\%$ of programs offered online: liberal arts (43%), business (35%), psychology (32%), and protective services (26%) (minimum 250 schools reporting grads in 2021).

Early pandemic declines

Graduates increased in 2021 compared to 2020 but were still a few thousand below 2019 pre-pandemic completions. In the 2020 academic year, graduates only dropped at the associate degree level, likely because the pandemic hit community colleges hardest. For instance, fall 2020 enrollments at public, two-year institutions fell by -10.1% compared to the fall of 2019.⁹

Largest associate disciplines

Liberal arts

Liberal arts is by far the largest associate vertical, making up 38% of all 2021 associate graduates. Moreover, the discrete **Liberal Arts** degree was the largest program within the whole vertical and amounted to 25% of all associate grads in 2021.

Health

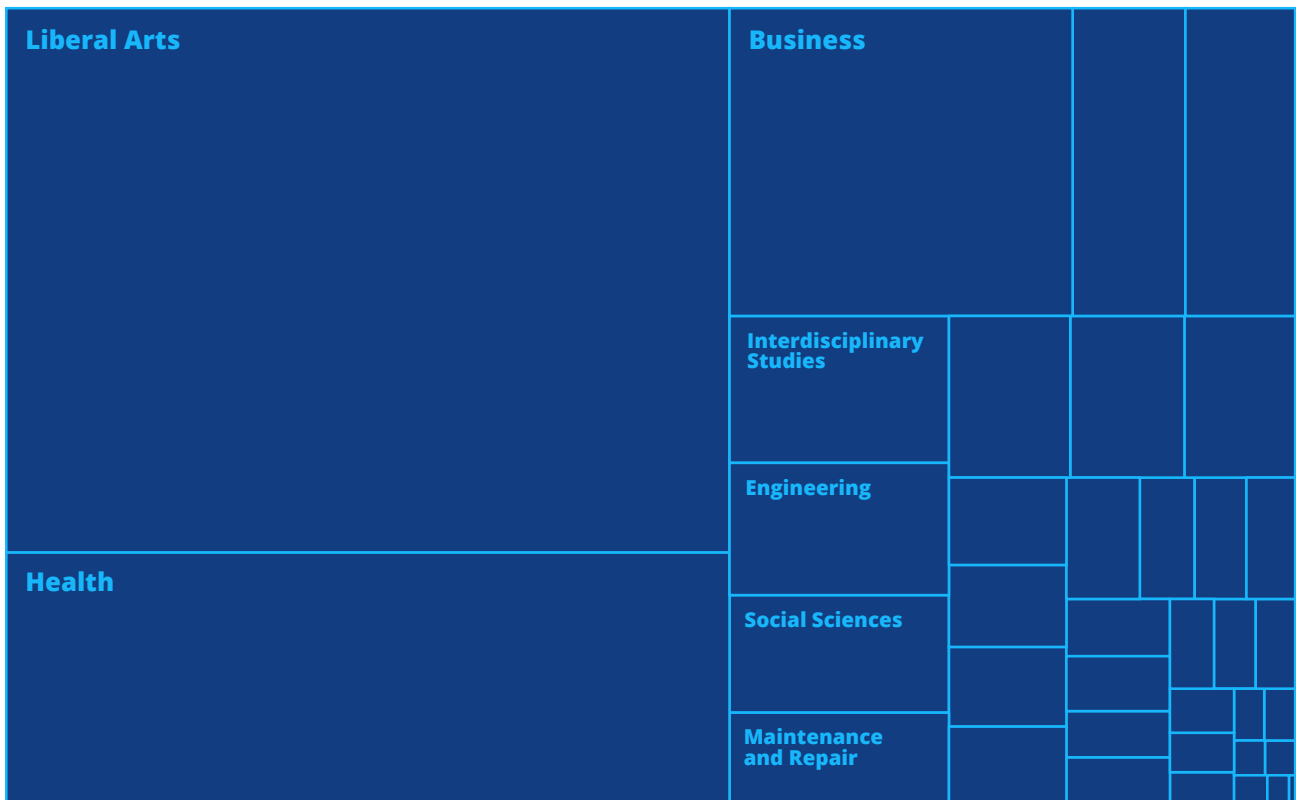
Health is unique at the associate level. Only 12% of programs were available online in 2021, compared to 28% of programs at the bachelor’s level. This is mainly because a sizable portion of associate-

level health grads come from **Registered Nursing** programs, which require lots of in-person instruction. However, students can often go from an RN to a BSN by taking primarily online classes.

Business

Business Administration is the biggest degree within the associate-level business vertical. While the business discipline declined in the 2020 academic year, Business Administration actually grew by a few hundred grads.

2021 associate graduates by vertical



Largest associate programs

Liberal Arts

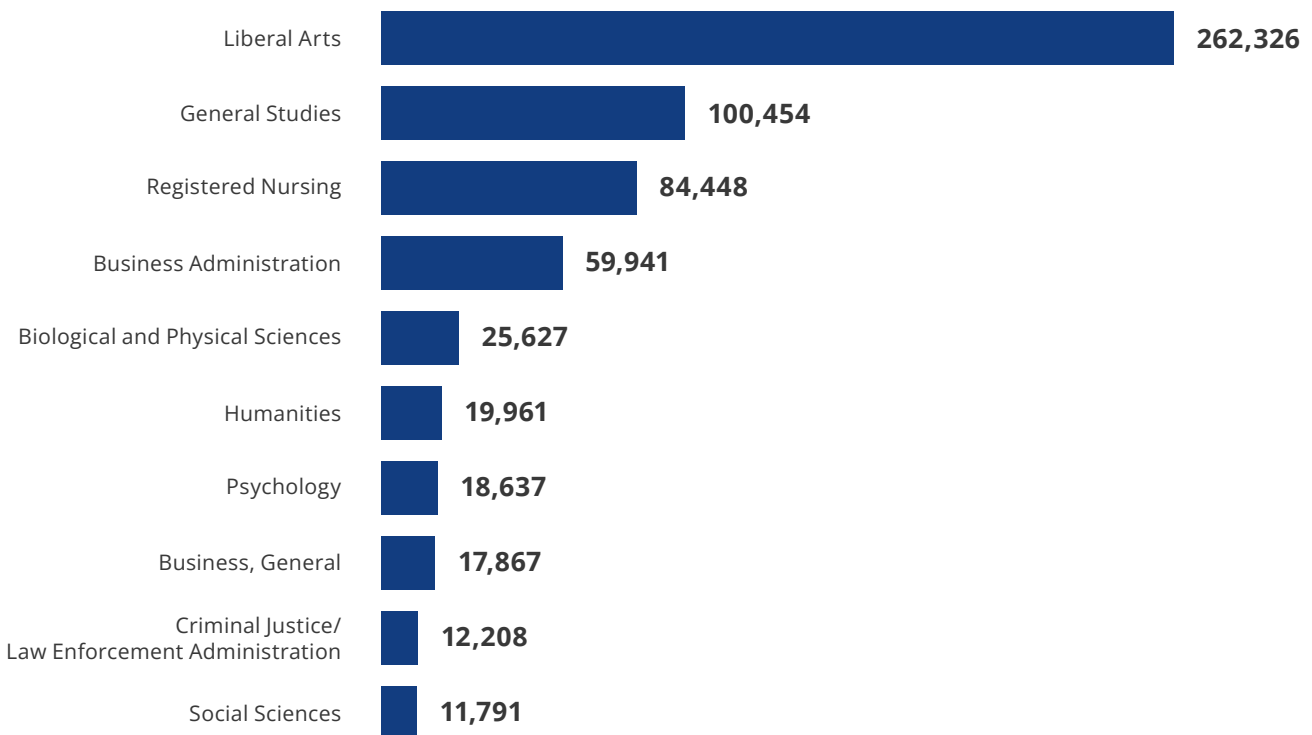
The single **Liberal Arts** degree graduated more students in 2021 than any other vertical. And with 44% of programs offered online in 2021, this generalist degree can be easily adapted to the online modality.

Registered Nursing

Necessary, hands-on, practical training in the registered nursing profession happens at the associate level. That's why only 6% of **Registered Nursing** programs were offered online in 2021, compared to 12% of overall associate health programs.

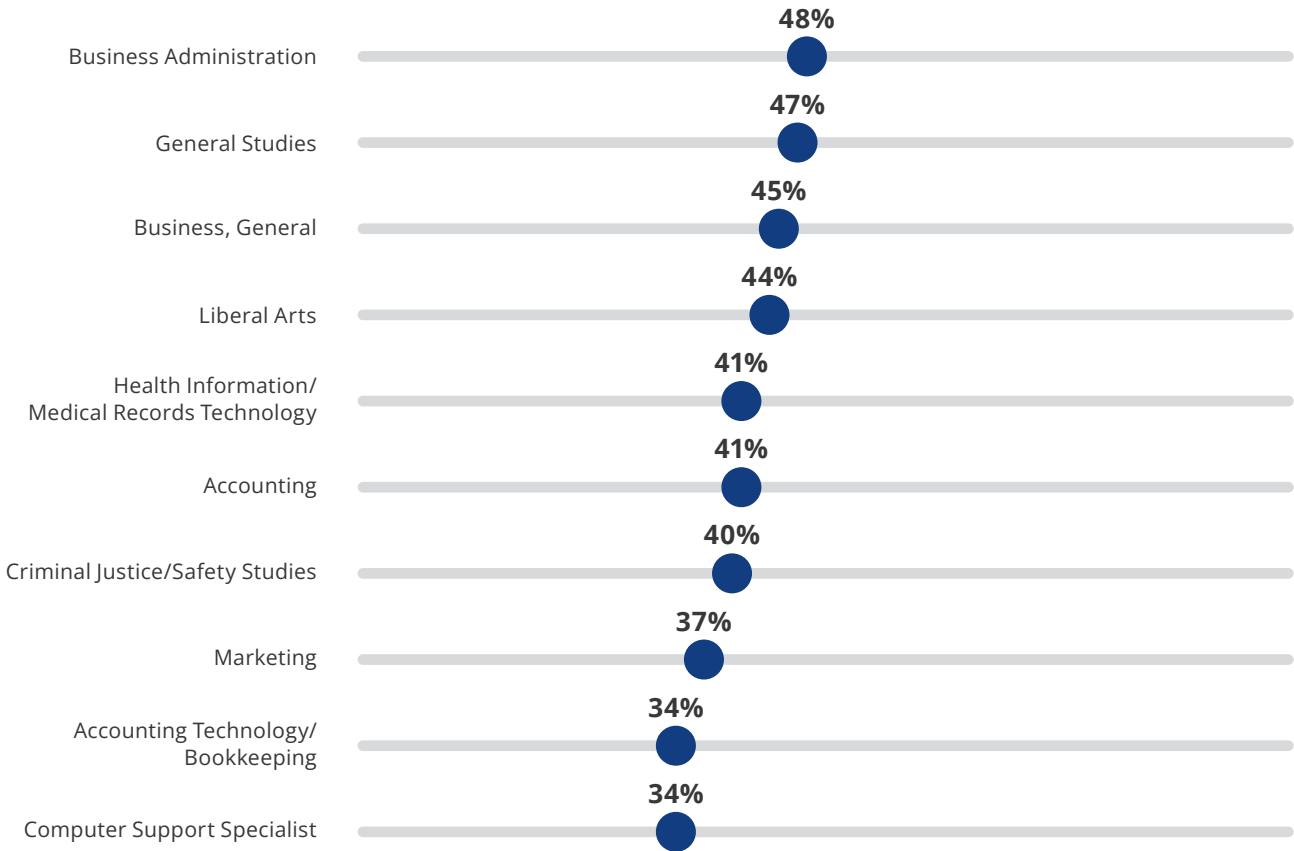


Largest associate programs by graduates in 2021



Most online associate programs

By percent online in 2021, programs with min. 1,000 grads

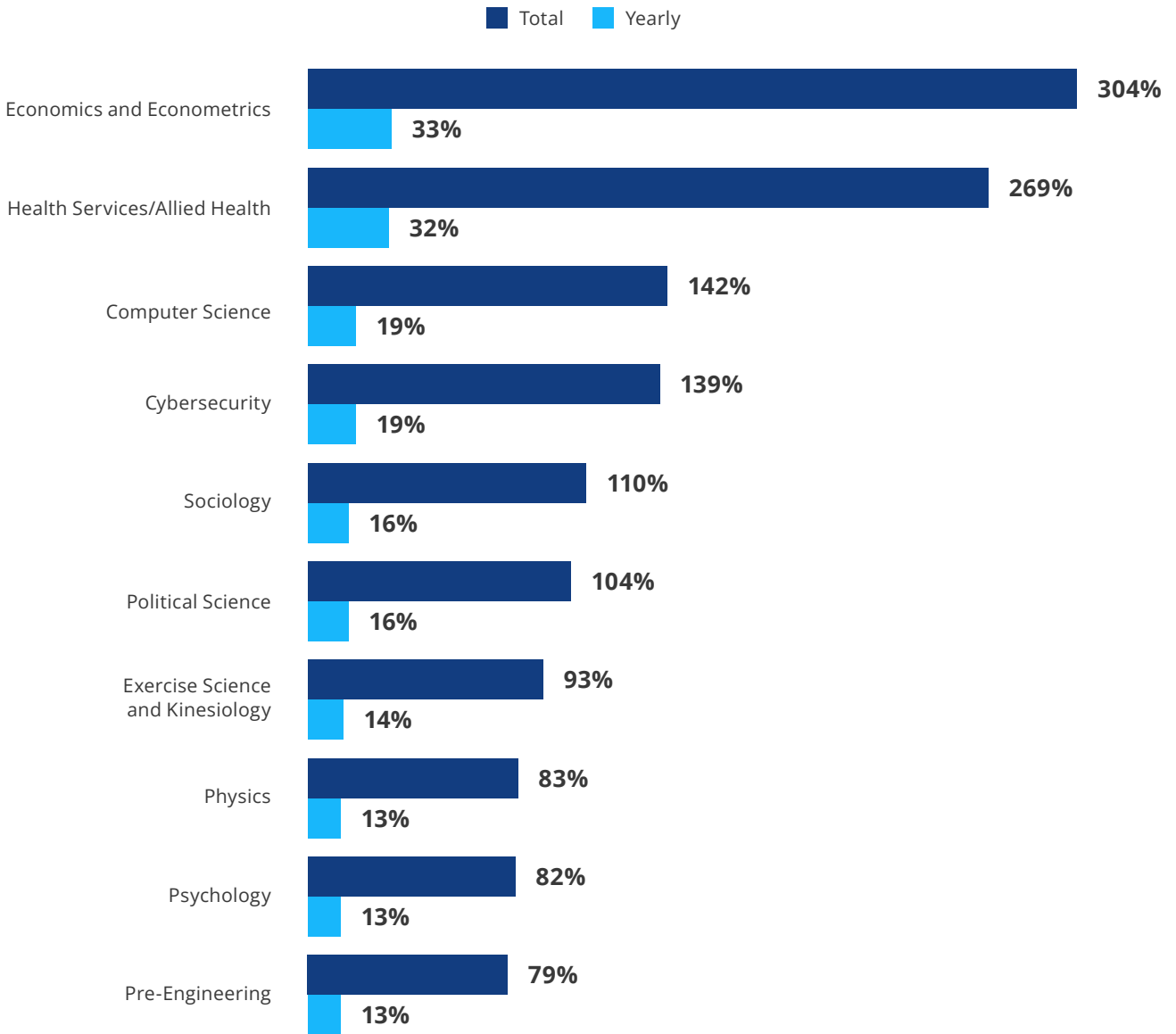


Seven out of the 10 most online associate degrees were in the liberal arts or business verticals.



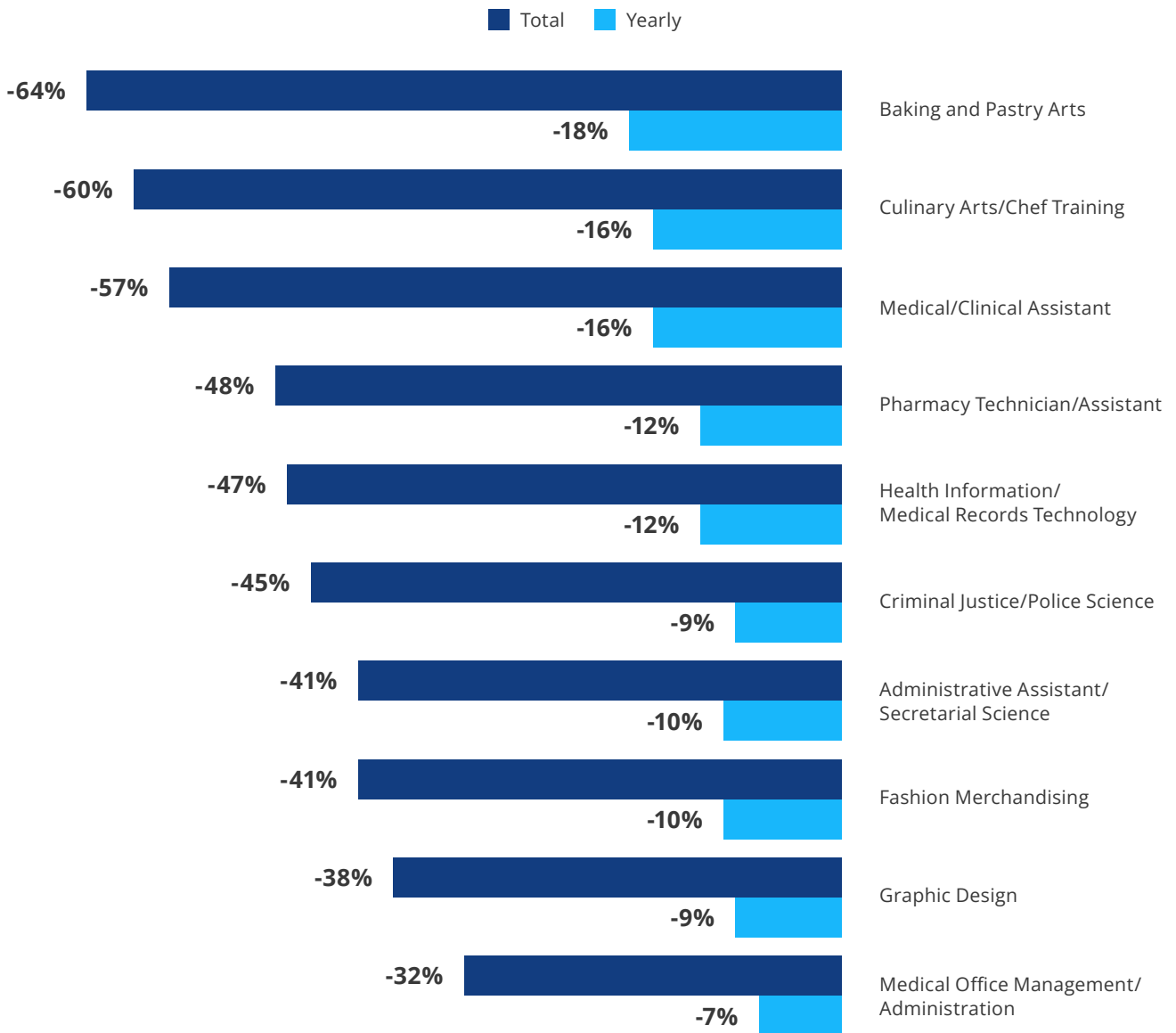
Fastest-growing associate programs

Growth since 2016, programs with min. 1,000 grads in 2021



Fastest-declining associate programs

Growth since 2016, programs with min. 1,000 grads in 2021



Associate degrees with the most significant declines share common themes: Most are in the culinary arts, medical support staffing, and creative arts and style fields.



THE BACHELOR'S DEGREE MARKET

Overall bachelor's trends

Vertical steadiness, computer science to expand

The largest bachelor's verticals—business, health, social sciences, and engineering—have been consistent since our last report. With one-quarter of the graduates compared to business, the computer science field currently trails at seventh place in overall numbers. However, its steady 10% average yearly growth since the 2016 school year is poising it to surpass psychology and biology, becoming the fifth-largest vertical in a few years.

Education's light at the end of the tunnel?

Following six straight years of graduate declines, the education vertical has grown each of the last

three years. Three degrees are primarily driving this turnaround: the largest education bachelor's degree, **Elementary Education** (1% yearly), as well as **Early Childhood Education** (1% yearly) and **General Education** (7% yearly, 17% growth from 2020 to 2021).

International growth and declines

Year-over-year international graduate declines in 2021 were primarily in business (-8%), engineering (-10%), and arts majors (-10%). However, international graduates in computer science continued to grow unabated at 11% Y/Y.



#1 Business

2021 BACHELOR'S METRICS

416,966

Total grads

19%

Share of bachelor's degree market

1,746

Institutions reporting grads

27%

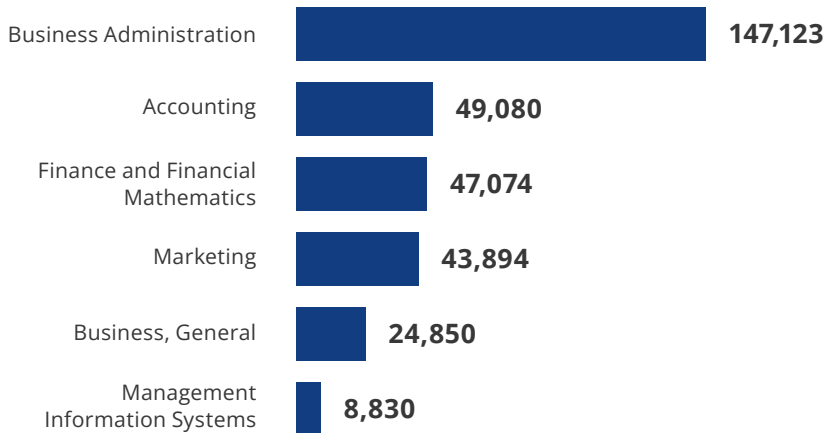
Programs online

1%

Avg. growth since 2016

Largest business programs

By graduates in 2021



A highly concentrated market

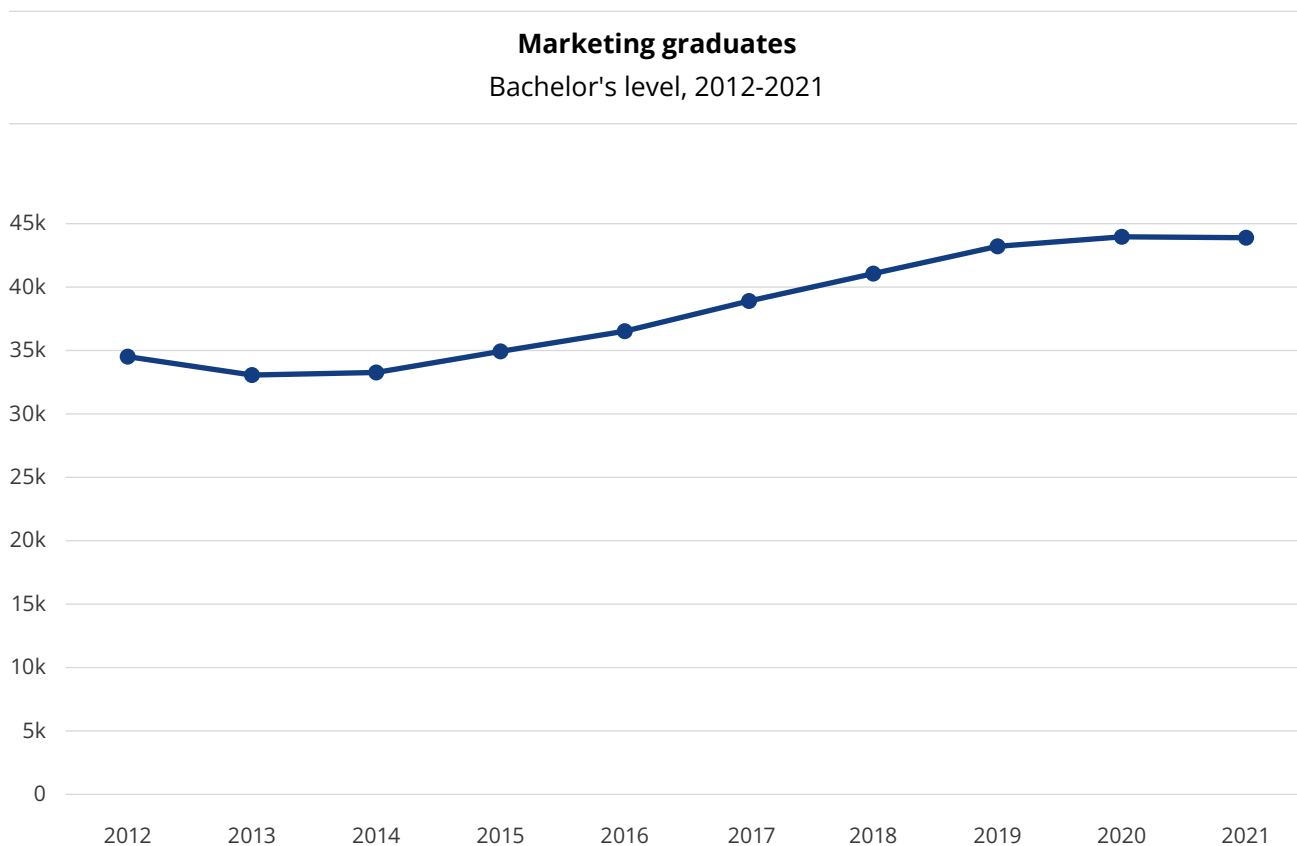
The business vertical is very concentrated, with the six largest programs amounting to 77% of business undergraduate completions in 2021.

One of the biggest programs to note is **Finance** and its STEM-designated counterpart, **Financial Mathematics**. As of 2021, graduates at the bachelor's level are still primarily in Finance, with only 403 of the combined total 47,074 grads coming from Financial Mathematics. However, it's *much* different at the master's level, with a nearly even 50/50 split in grads between these two CIPs.

Still number one

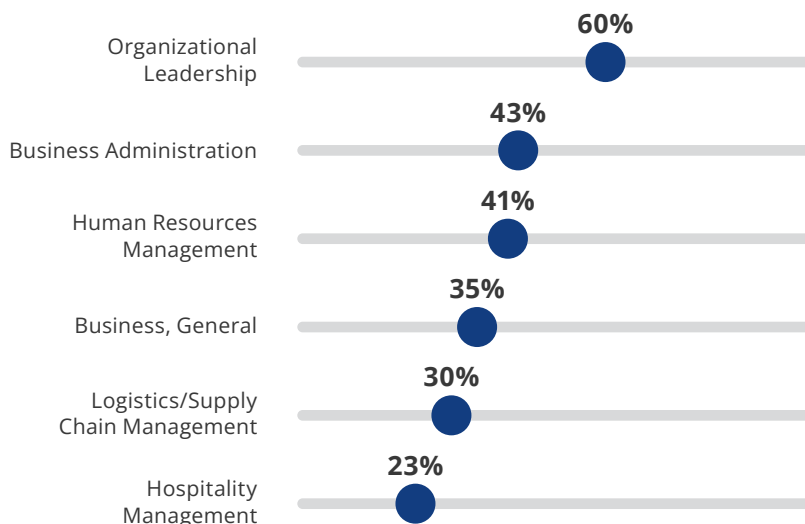
Business has been the largest bachelor's vertical since at least 2004. While disciplines like health and computer science have grown more quickly in recent years, the sheer size of the bachelor's business degree market remains unmatched.

In the meantime, **Marketing**—the fourth-largest program—may have peaked. The degree averaged 5% Y/Y grad growth from 2014 to 2019, with only 1% growth over the last two years.



Most online business programs

By percent online in 2021, minimum 100 schools reporting grads

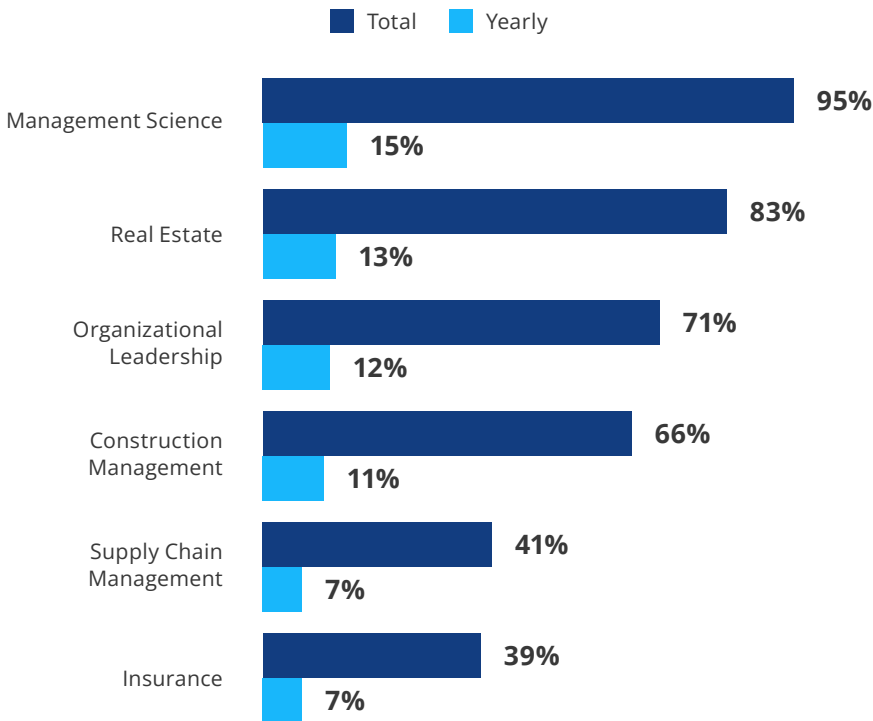


Labor forecast: lodging managers

These jobs associated with the highly online **Hospitality Management** program market are projected to grow by 18% through 2031.¹⁰

Fastest-growing business programs

Growth since 2016, programs with min. 1,000 grads in 2021



Labor forecast: logisticians

Logistician jobs associated with the highly online program, **Supply Chain Management**, are projected to grow 27.7% through 2031.¹¹

A STEM story

Management Science

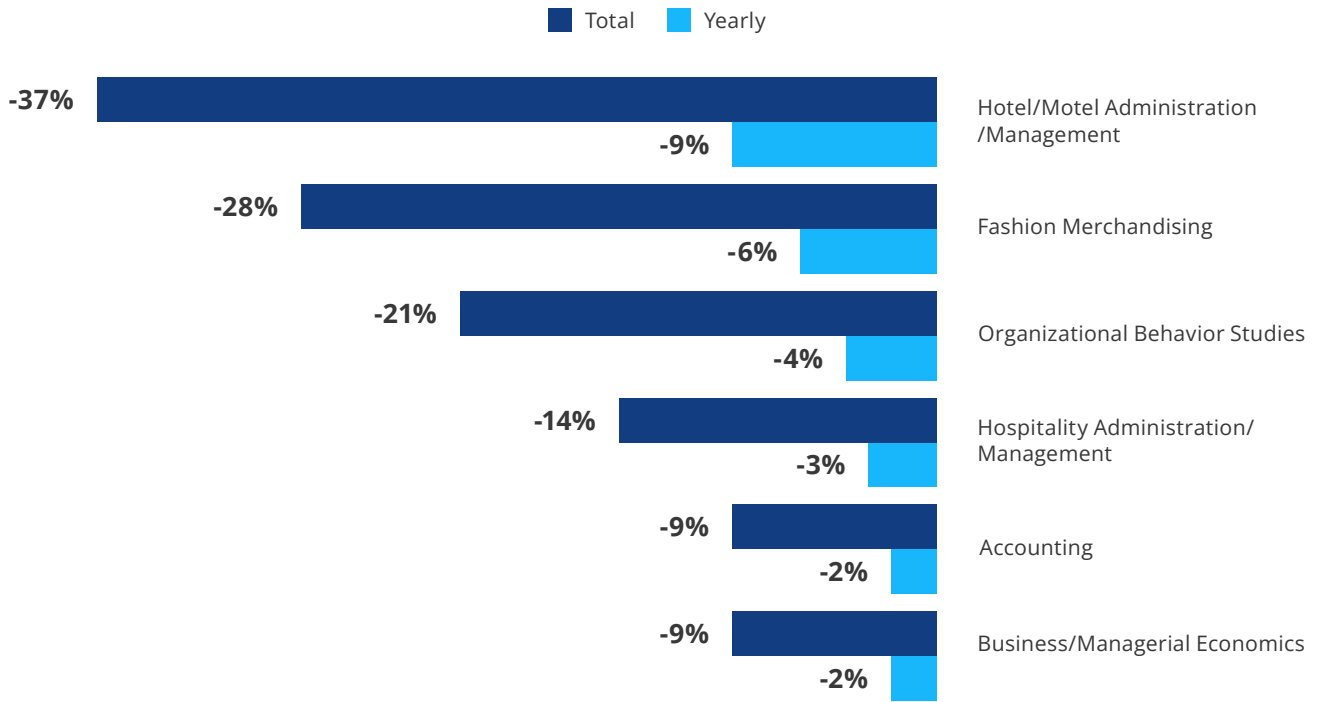
is growing, but it's not all organic. Several higher ed institutions have reclassified some business programs to this STEM-designated program to attract more international students.

Another factor here may be the CIP codes schools report programs into. Universities' CIP reporting tends to align as a whole, but some inorganic growth may be due to a few institutions choosing divergent codes here, thus muddling the picture.



Fastest-declining business programs

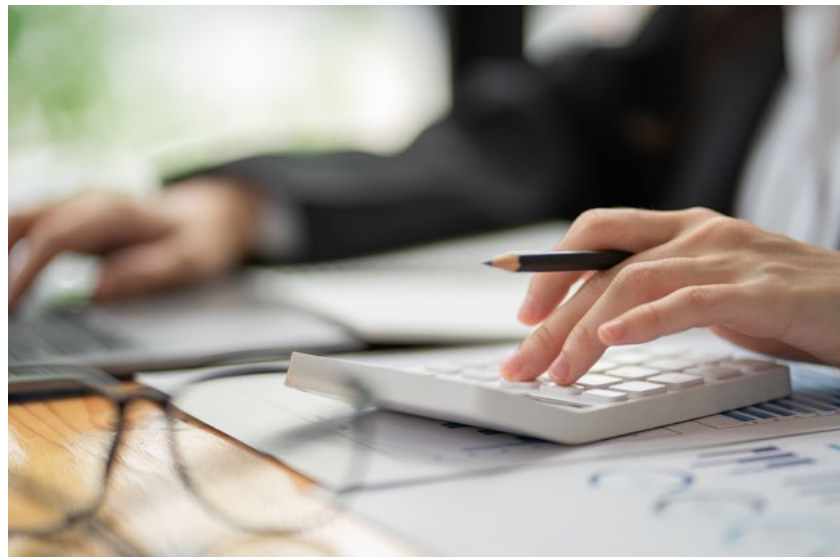
Growth since 2016, programs with min. 1,000 grads in 2021



Accounting disinterest

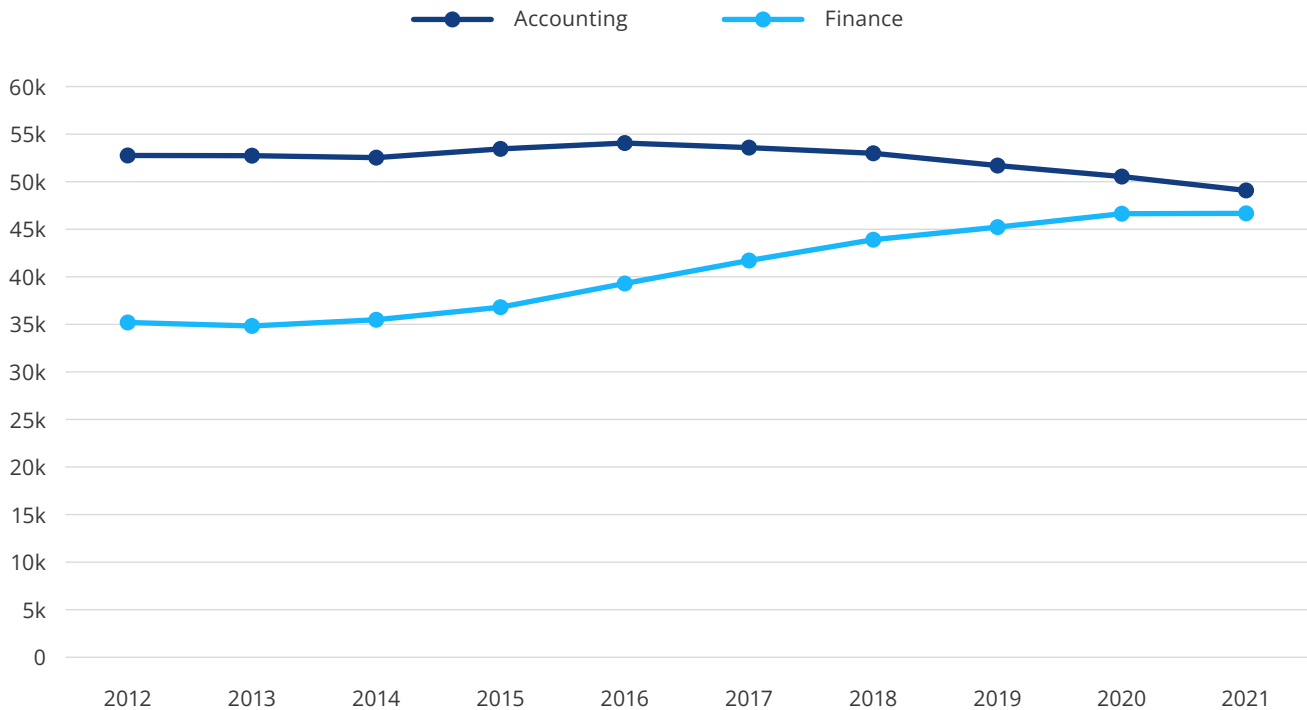
Unlike when universities switch their programs to STEM-designated CIP codes, **Accounting** appears to be declining organically. One likely reason: **Finance** grads have been increasing, suggesting learners are opting for the latter program instead.

Institutions with master's-level Accounting can appeal to non-accounting undergraduates by offering a graduate-level, non-CPA pathway into the field.



Accounting vs. Finance graduates

Bachelor's level, 2012-2021





#2 Health

2021 BACHELOR'S METRICS

274,562

Total grads

13%

Share of bachelor's degree market

1,544

Institutions reporting grads

28%

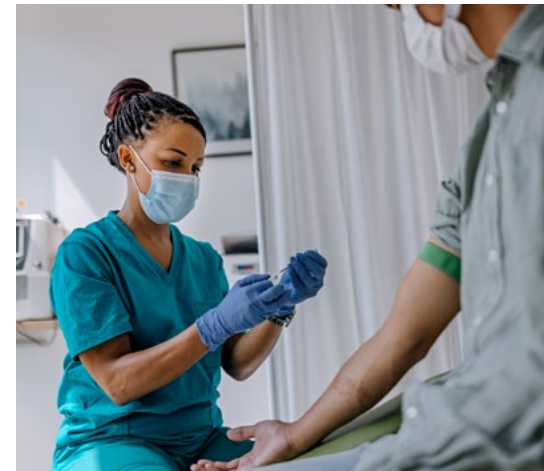
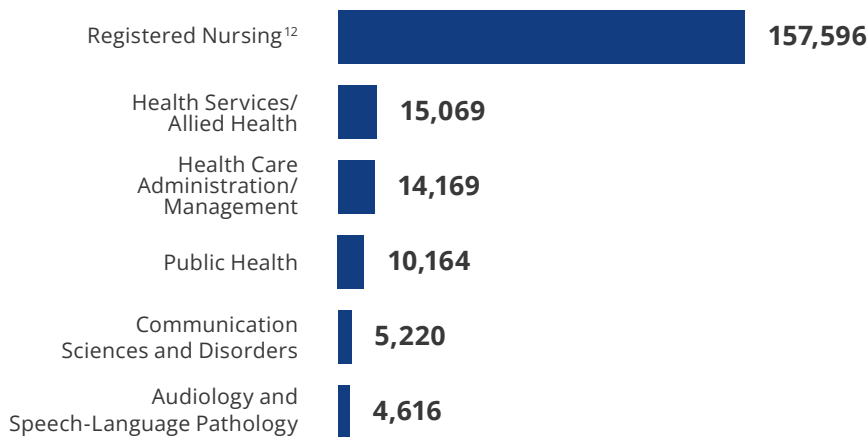
Programs online

3%

Avg. growth since 2016

Largest health programs

By graduates in 2021



Growing interest, not competition

The number of schools with health graduates has stayed between 1,500 and 1,550 since 2015. However, continued graduate growth means the median number of health grads per institution has increased by 11%, from 64 to 71.

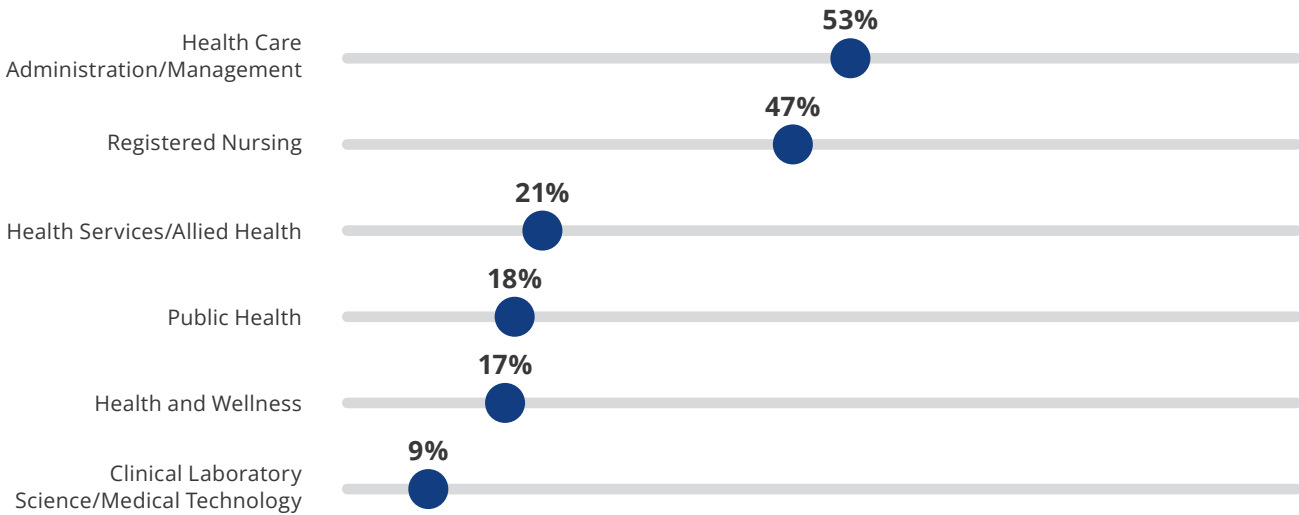
Watch your health (programs)

The **Bachelor of Science in Nursing's** (BSN and RN-BSN combined) juggernaut status continues. It's kept growing at an average of 4% Y/Y even though it already graduates more than 150,000 students yearly.

Despite the (RN-)BSN behemoth, the degree to watch is **Public Health**. It's among the largest, most online, and fastest-growing health programs. And with public health infrastructure gaps exposed in the last few years, interest in this degree may only increase.

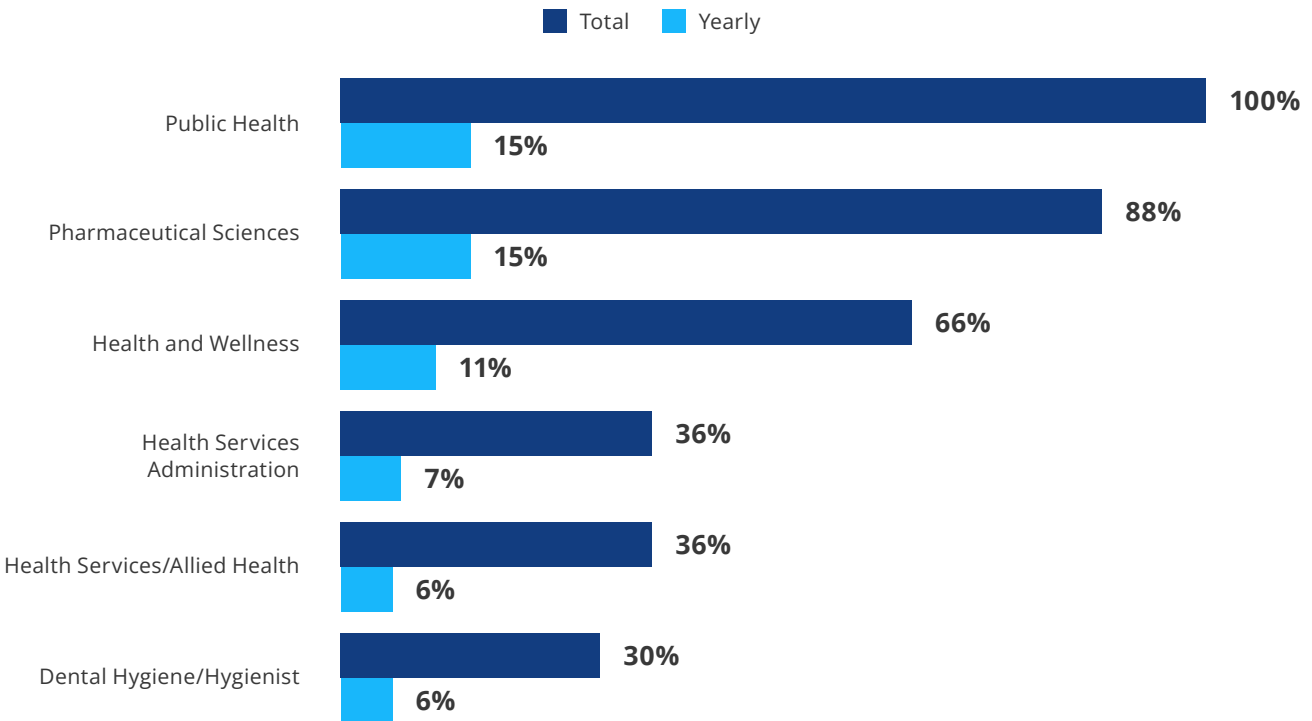
Most online health programs

By percent online in 2021, min. 100 schools reporting grads



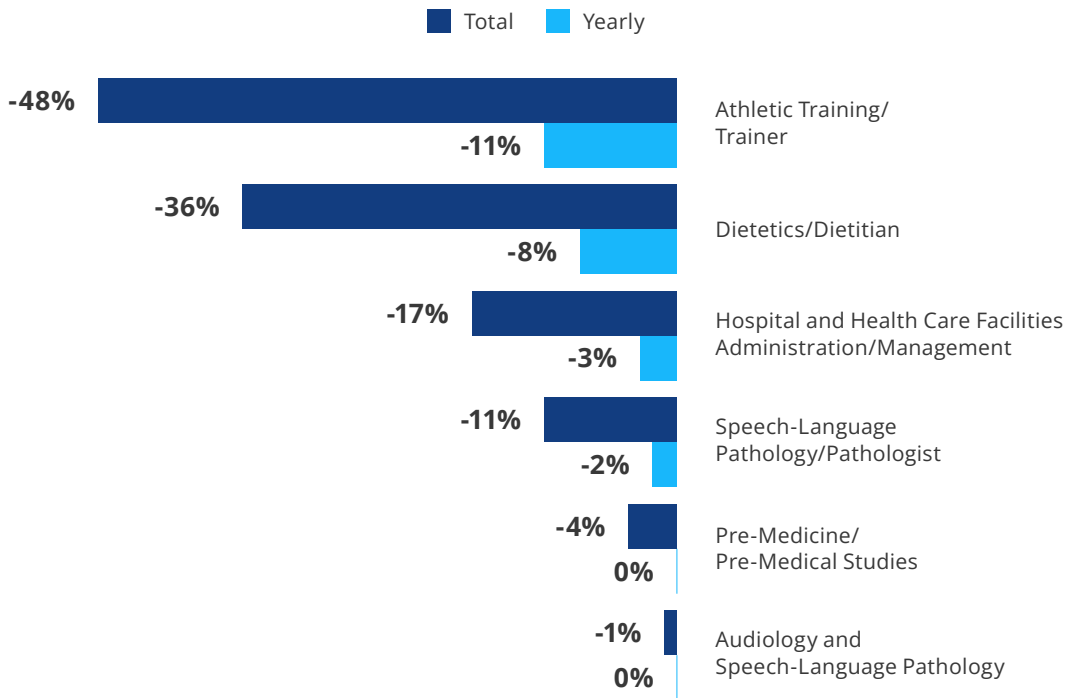
Fastest-growing health programs

Growth since 2016, programs with min. 1,000 grads in 2021



Fastest-declining health programs

Growth since 2016, programs with min. 1,000 grads in 2021



The specialists' decline

Many of the fastest-declining bachelor's-level health programs are more specialized degrees, which appear to be dropping due to a preference for more general programs. For instance, **Athletic Training's** -48% overall decline since 2016 may be due to an organic preference for the larger, more general **Exercise Science and Kinesiology** degree, which has grown 13% in the same timeframe (see [Additional bachelor's programs](#)).

Meanwhile, **Dietetics/Dietitian** degrees have declined by -36% in favor of **Nutrition Sciences**, which has grown 71% overall since 2016.

But these aren't the only programs that seem to be trending this way. As one of the largest programs (14,169 grads in 2021), it appears that learners prefer the generalist **Health Care Administration/Management** over the more specific **Hospital and Health Care Facilities Administration/Management**, which has declined by -17% overall since 2016.

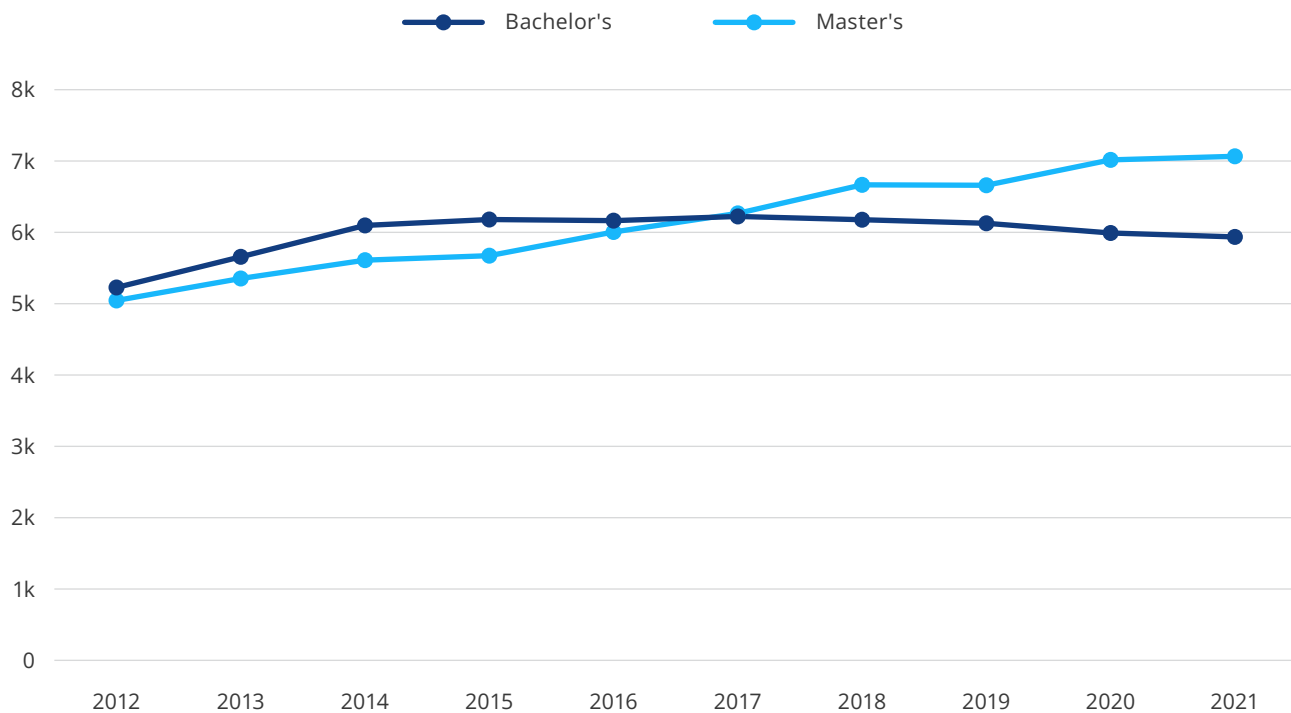
Right degrees, wrong level

Speech-Language Pathology (-11%) and **Audiology** (-1%) are declining at the bachelor's level but growing at the master's level. Initial licensure requirements vary state by state, but they generally require a master's degree at minimum.



Audiology and Speech-Language Pathology graduates

Bachelor's vs. master's level, 2012-2021





#3 Social sciences

2021 BACHELOR'S METRICS

154,807

Total grads

7%

Share of bachelor's degree market

1,277

Institutions reporting grads

8%

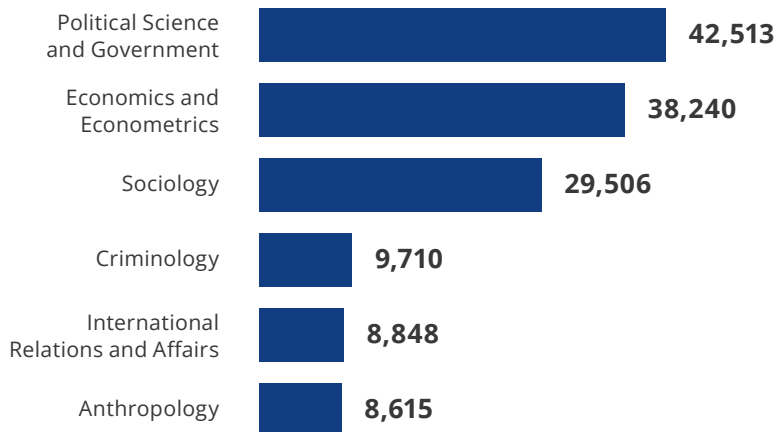
Programs online

3%

Avg. growth since 2016

Largest social sciences programs

By graduates in 2021



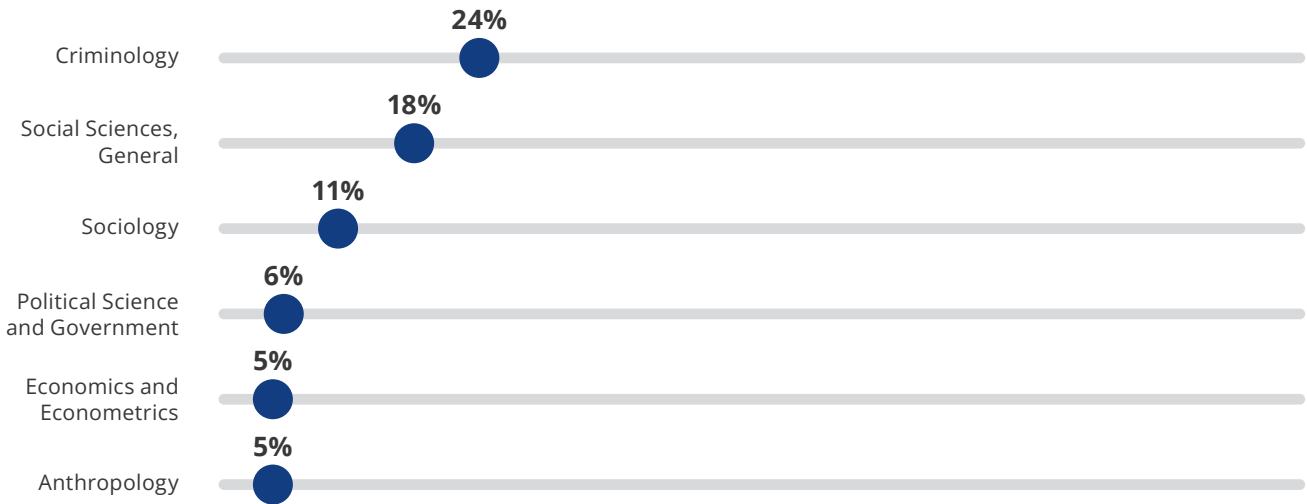
Large(ly) on-campus

The social sciences vertical remains one of the largest in the bachelor's market. However, its growth has been flat, hovering around 150,000 graduates annually since 2016. Moreover, compared to business, the field is even more concentrated, with the six largest programs accounting for 89% of social sciences grads in 2021.

As for the students themselves? They tend to be traditional, on-campus learners seeking a classic, Socratic teaching method with conversational dialogue. As such, this discipline is more theoretical and research-oriented rather than hands-on. For this reason, it's remarkable that the share of online programs is so low (8%). Unlike some degrees in biology or health, social sciences programs need minimal practical instruction.

Most online social sciences programs

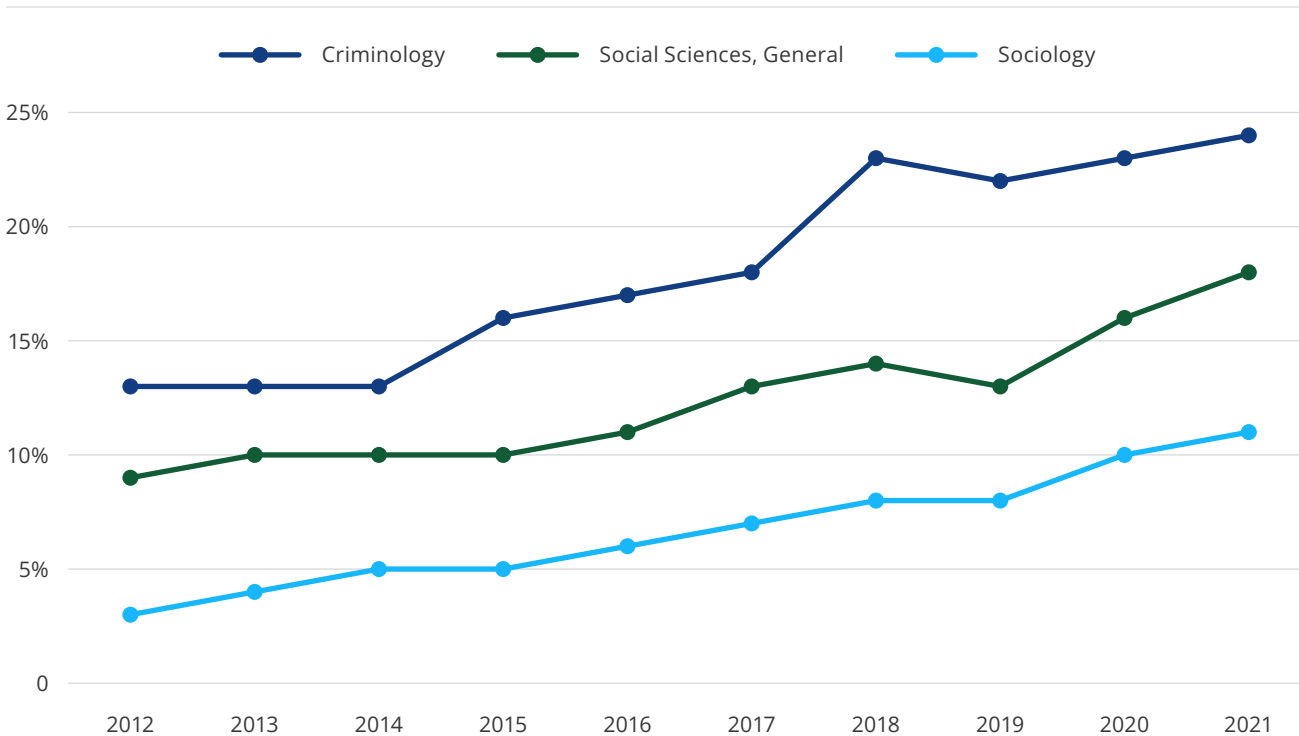
By percent online in 2021, min. 100 schools reporting grads



Top three social sciences online

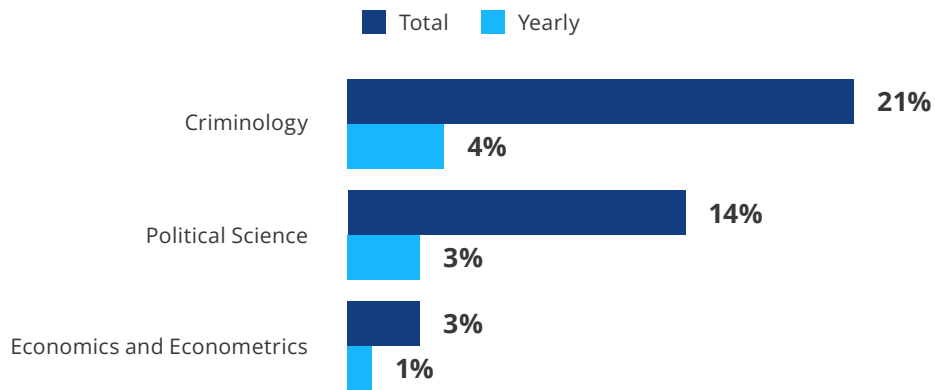
Overall, the social sciences vertical has taken a small share of programs online. However, **Criminology**, **Social Sciences**, and **Sociology** programs have steadily trended online over the past decade.

% of social sciences degrees available online
3 most online programs, 2012-2021



Fastest-growing social sciences programs

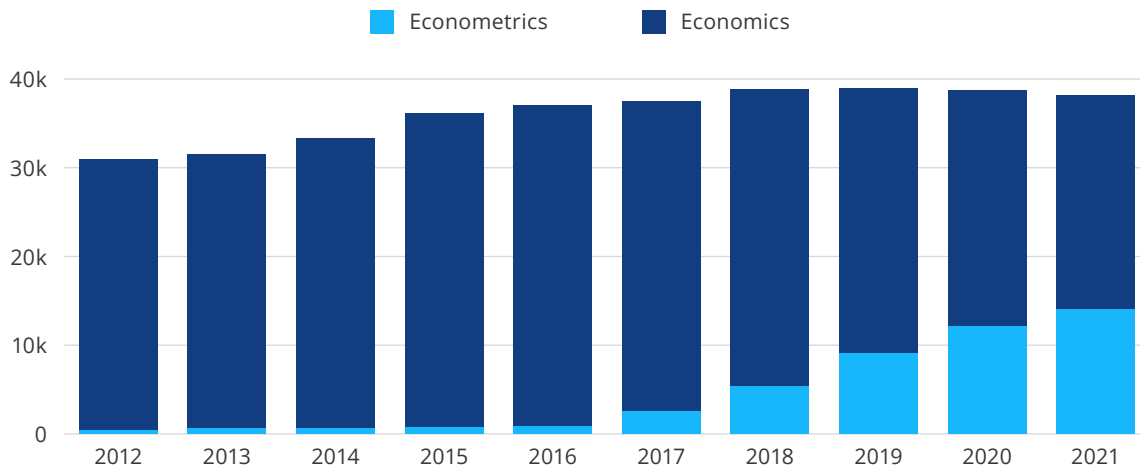
Growth since 2016, programs with min. 1,000 grads in 2021



Data in context: Econom(etr)ics

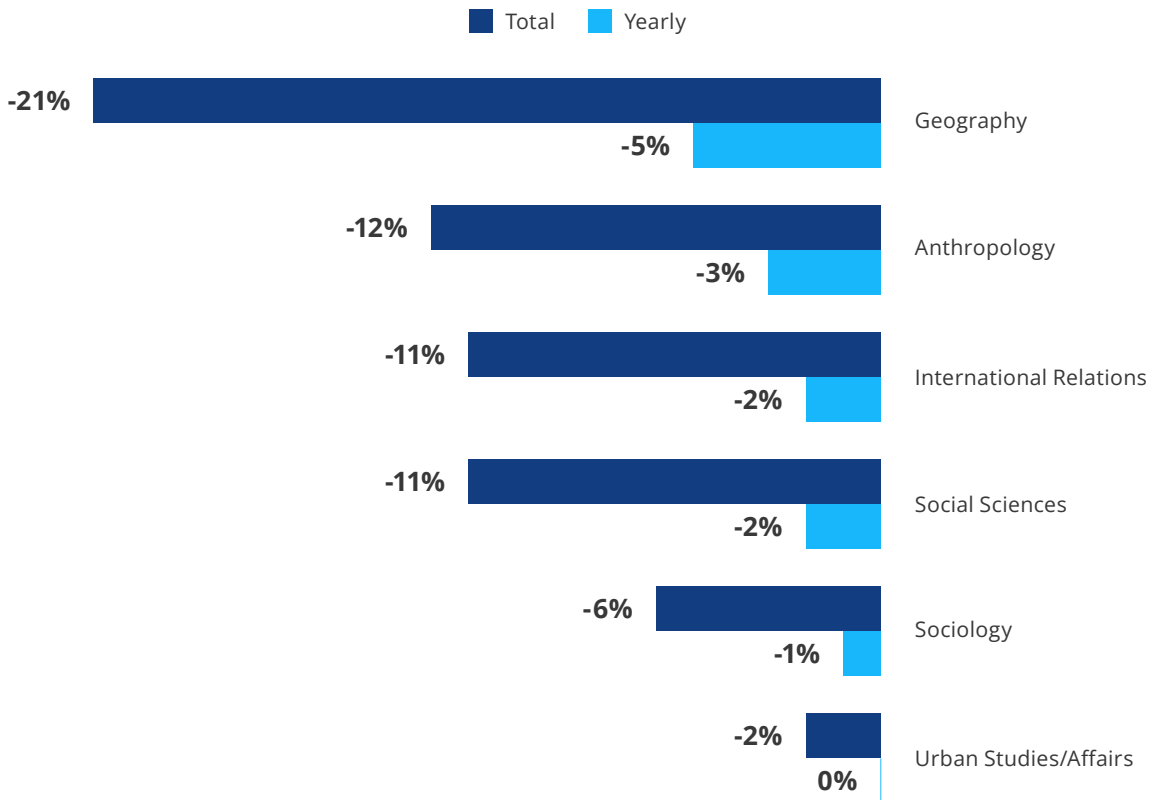
IPEDS data can mislead when viewed out of context. For example, if we only considered Econometrics in isolation, we'd see 1600% total grad growth since 2016, or 84% Y/Y on average. But we know that universities have increasingly reported their **Economics** programs into the STEM-designated **Econometrics** to attract international students, so we combine them. The full picture? An overall steady market with modest growth, followed by slight declines over the last few years.

Economics and Econometrics graduates Combined at the bachelor's level, 2012-2021



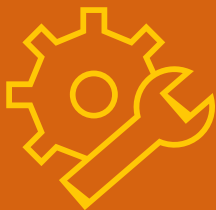
Fastest-declining social sciences programs

Growth since 2016, programs with min. 1,000 grads in 2021



Geography's downhill slope

Geography is on the swiftest decline of all bachelor's-level social sciences programs. Why? Likely due to an organic lack of interest. No related CIP codes are growing at a pace similar to the program's decline.



#4 Engineering

2021 BACHELOR'S METRICS

147,254

Total grads

7%

Share of bachelor's degree market

761

Institutions reporting grads

5%

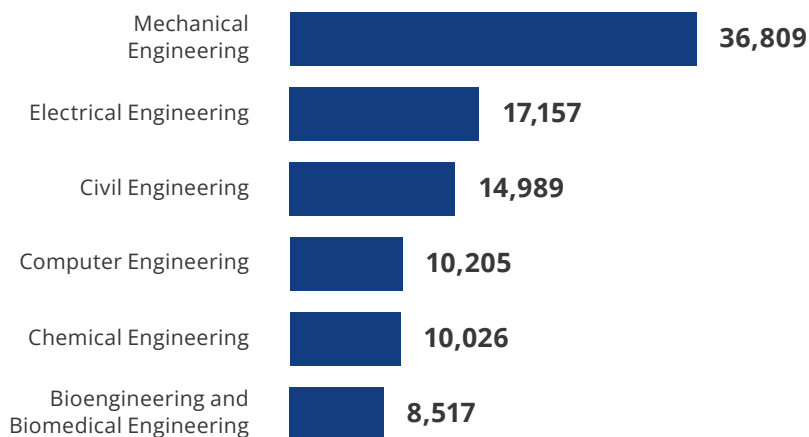
Programs online

3%

Avg. growth since 2016

Largest engineering programs

By graduates in 2021



International interest, low online adoption persist

Engineering is a growing vertical, and only three technology-related engineering degrees have averaged Y/Y declines in graduates since 2016. International graduates declined slightly from 2020 to 2021, but the field is still popular among this demographic. In 2021, engineering had the second-most international graduates (13,934) of any undergraduate vertical, amounting to 9.5% of engineering graduates. Business—the largest vertical—had the most international grads overall (27,603) but a smaller share (6.6%) of international grads than engineering.

Broad application

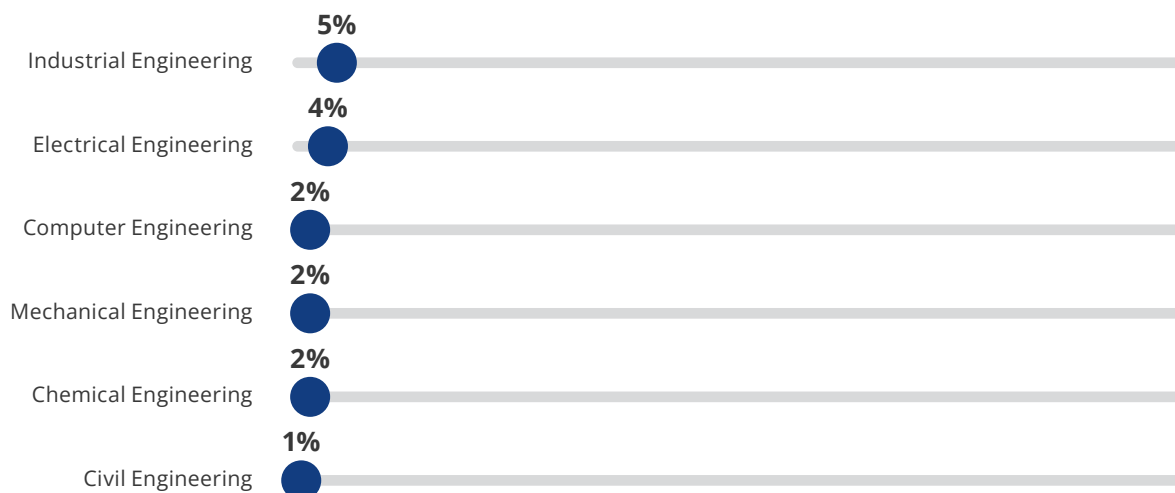
Computer Engineering

is a wide-ranging degree that can include the study of both hardware and software systems.

And while this vertical is popular, few programs are offered online (5%). Only biology had a lower percentage (2%) among the verticals with at least 100,000 bachelor's grads in 2021.

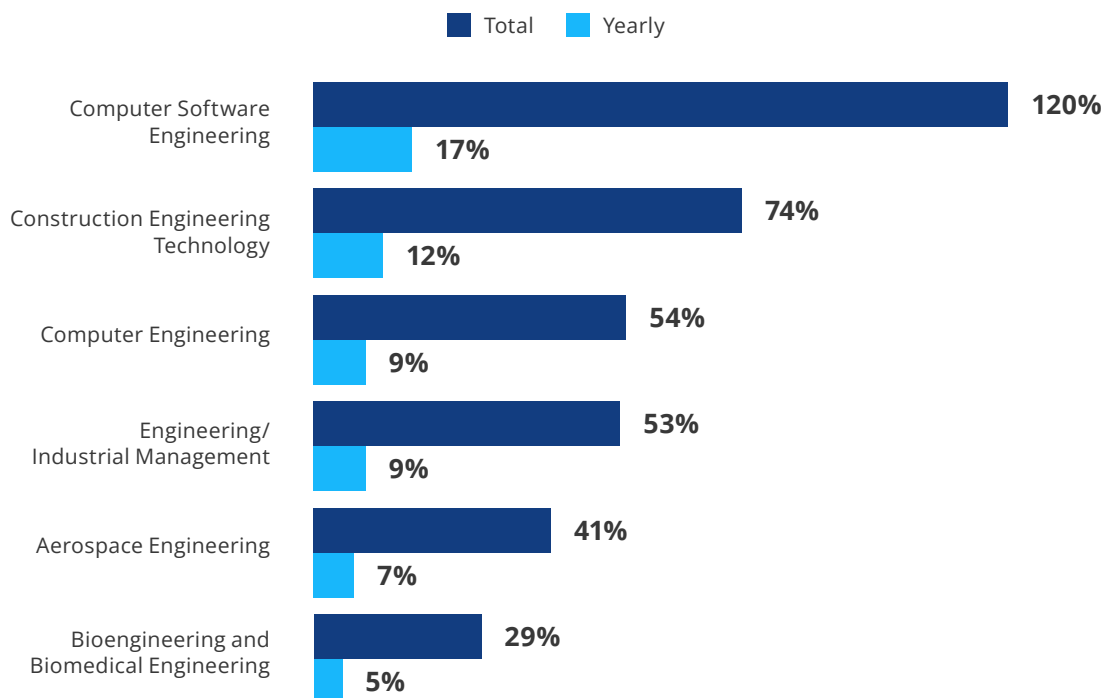
Most online engineering programs

By percent online in 2021, min. 100 schools reporting grads



Fastest-growing engineering programs

Growth since 2016, programs with min. 1,000 grads in 2021

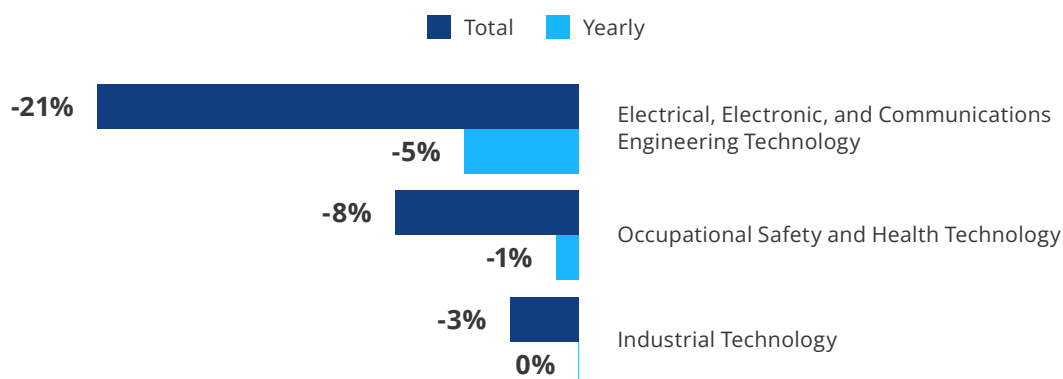


Small, becoming mighty

While **Computer Software Engineering** is growing, fewer than 2,000 students graduated in 2021. This degree is similar to the much larger **Computer Science** degree, which had 39,000 grads in 2021 (see [Additional bachelor's programs](#)). However, Computer Software Engineering includes more discrete mathematics, probability, and statistics instruction than its programmatic cousin.

Fastest-declining engineering programs

Growth since 2016, programs with min. 1,000 grads in 2021



Labor forecast: engineering occupations

Engineering degrees are extremely career-aligned. Here are two reasons:

1. Many of the largest engineering bachelor's degrees feed into high-paying occupations that the BLS projects to grow through 2031.¹³

Occupation	Occupational growth 2021-2031	Median annual wage 2021
Chemical engineers	13.9%	\$105,550
Bioengineers	9.8%	\$97,410
Civil engineers	6.9%	\$88,050
Mechanical engineers	2.2%	\$95,300
Electrical engineers	1.6%	\$100,420

2. These occupations only require a bachelor's degree for entry; no advanced degree is required. In fact, fewer than half of people in engineering occupations hold graduate-level degrees.

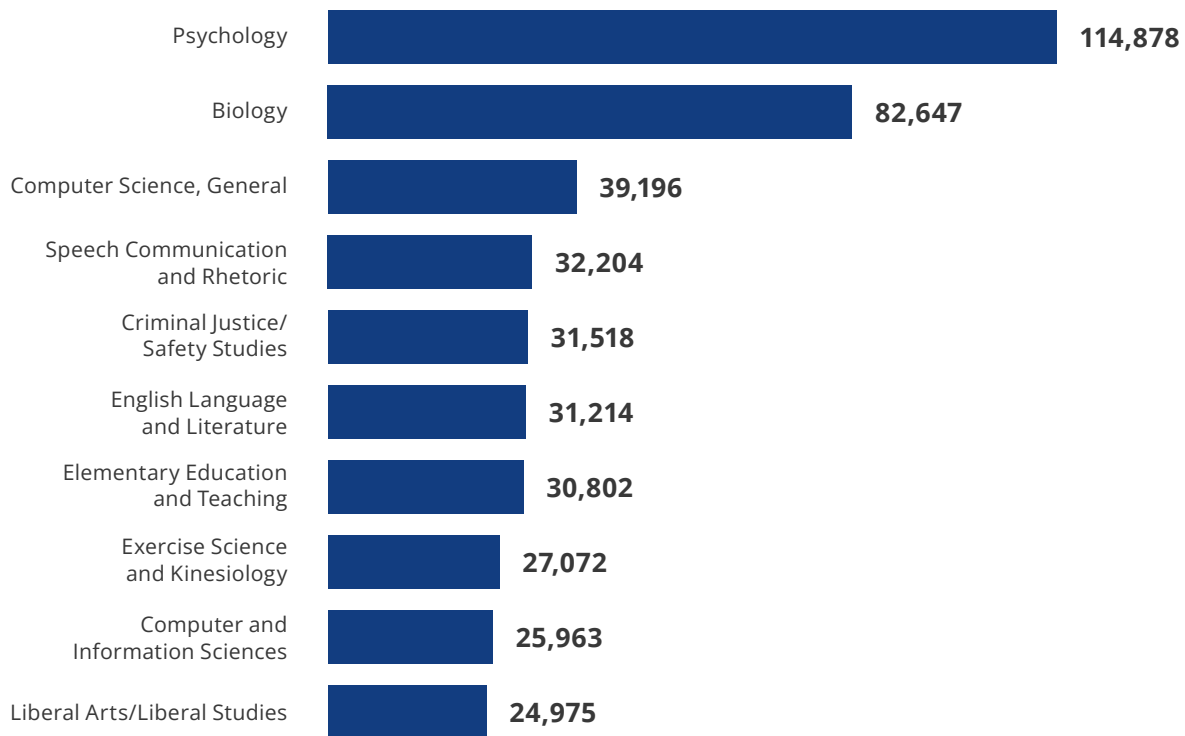


Additional bachelor's programs

This section looks at notable degrees outside the four largest bachelor's-level verticals. Among these, the largest remaining programs include several core undergraduate majors: **Psychology**, **Biology**, and **Liberal Arts**.

Largest additional programs

By graduates in 2021



Concentrated generalists

While psychology was the sixth-largest vertical in 2021, general **Psychology** was the third-largest degree overall. Additionally, this discipline is incredibly concentrated, with 85% of all students in the vertical graduating from the general Psychology program.

Meanwhile, computer science, the seventh-largest vertical, has more than doubled its graduates over the past decade, increasing 10% on average per year since 2016. Like psychology, the vertical is relatively concentrated. **Computer Science** and **Computer and Information Sciences**, two of the largest additional programs, account for 60% of the vertical's graduates. The discipline attracts many international students, as 10.6% of 2021 computer science graduates came from abroad to study.

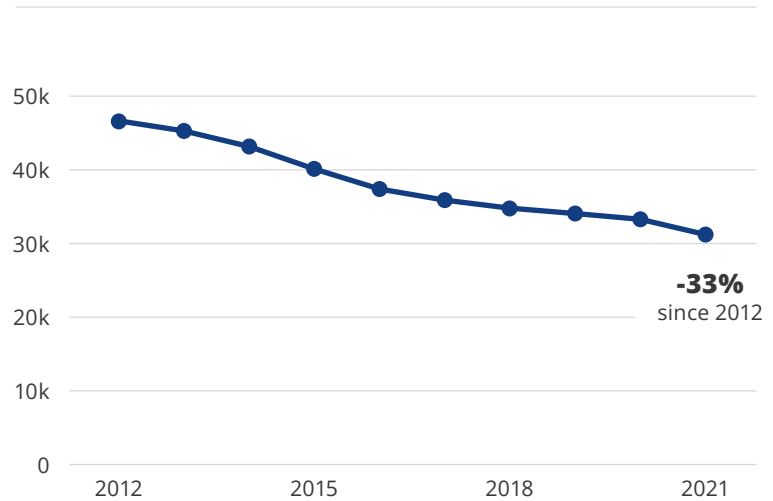
A steady descent

English Language and Literature

is still a large degree, but it's been steadily declining. Grads have decreased each year since 2012.

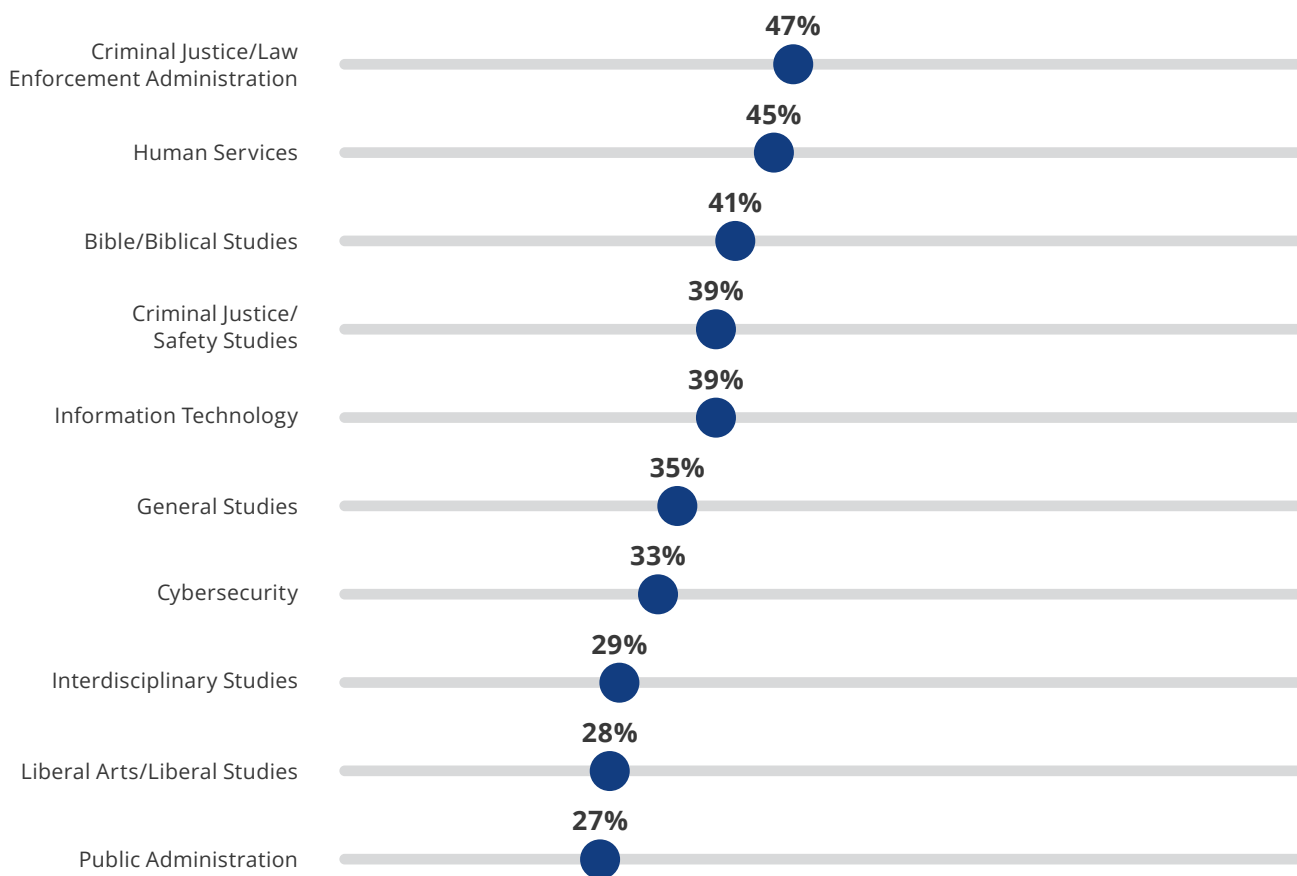
English Language and Literature graduates

Bachelor's-level declines, 2012-2021



Additional, most online programs

By percent online in 2021, min. 100 schools reporting grads



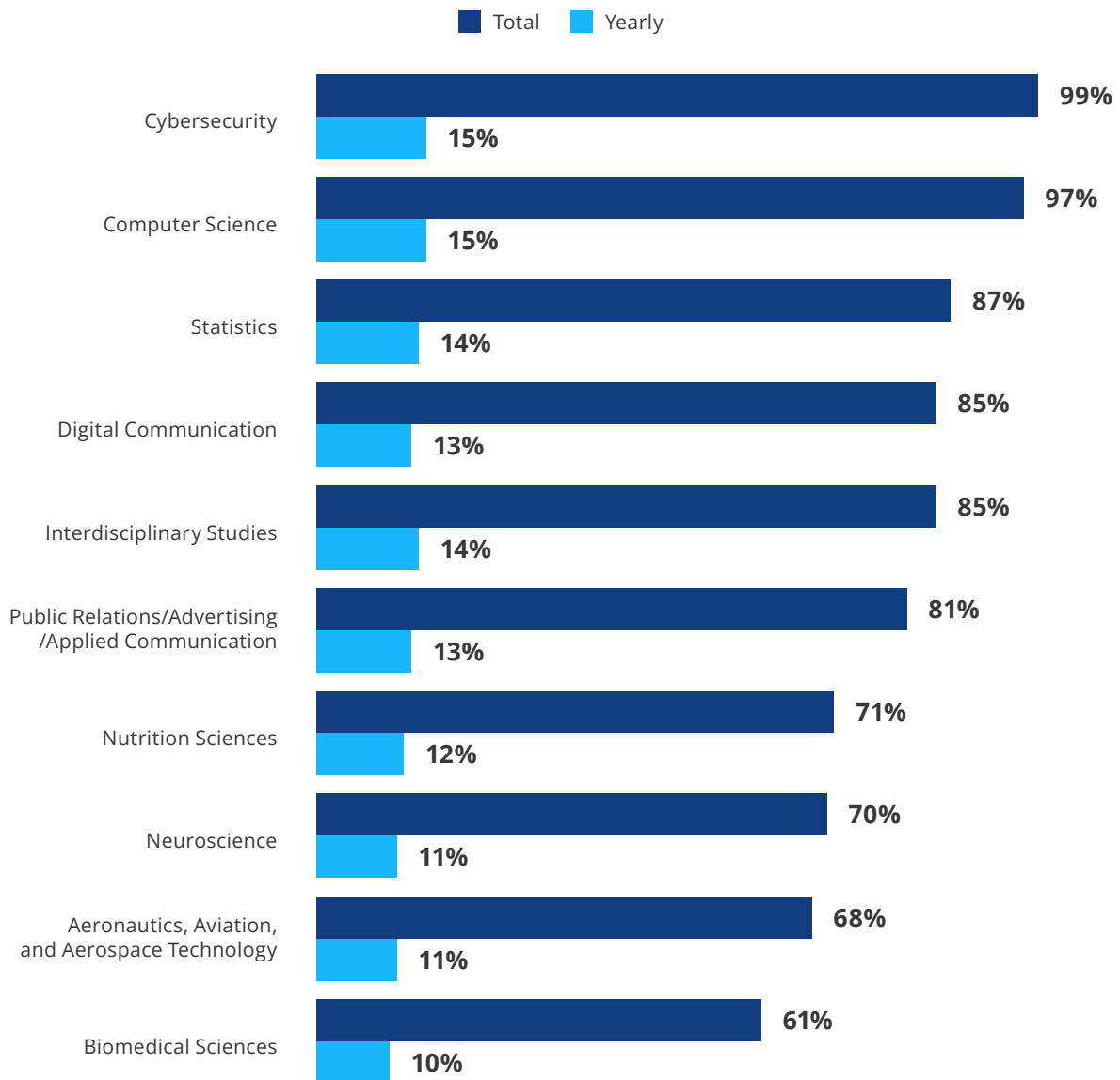
A degree-to-role mismatch

Offering a program online isn't a singular guarantee for success, and other factors may need consideration. For instance, nearly half of **Law Enforcement Administration** programs were offered online in 2021, but grads have declined by -23% since 2016. The reason? Students don't typically go into administrative positions straight out of school. Instead, they spend a few years gaining experience first. Without the immediate leap into a managerial role, **Safety Studies** may be the preferred criminal justice degree at the bachelor's level.



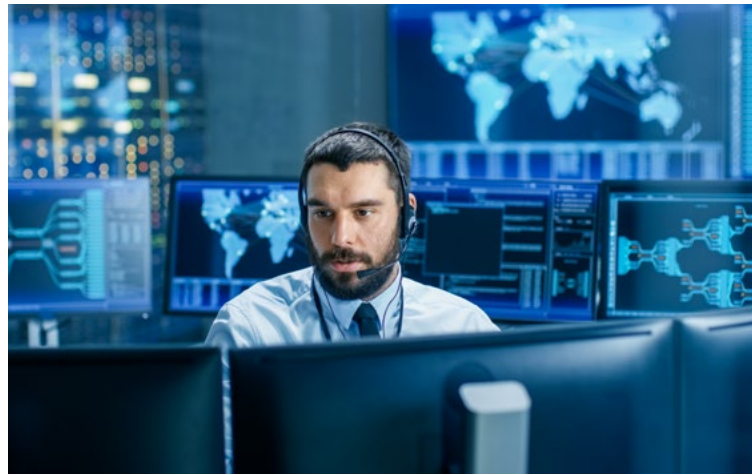
Additional, fastest-growing programs

Growth since 2016, programs with min. 2,000 grads in 2021



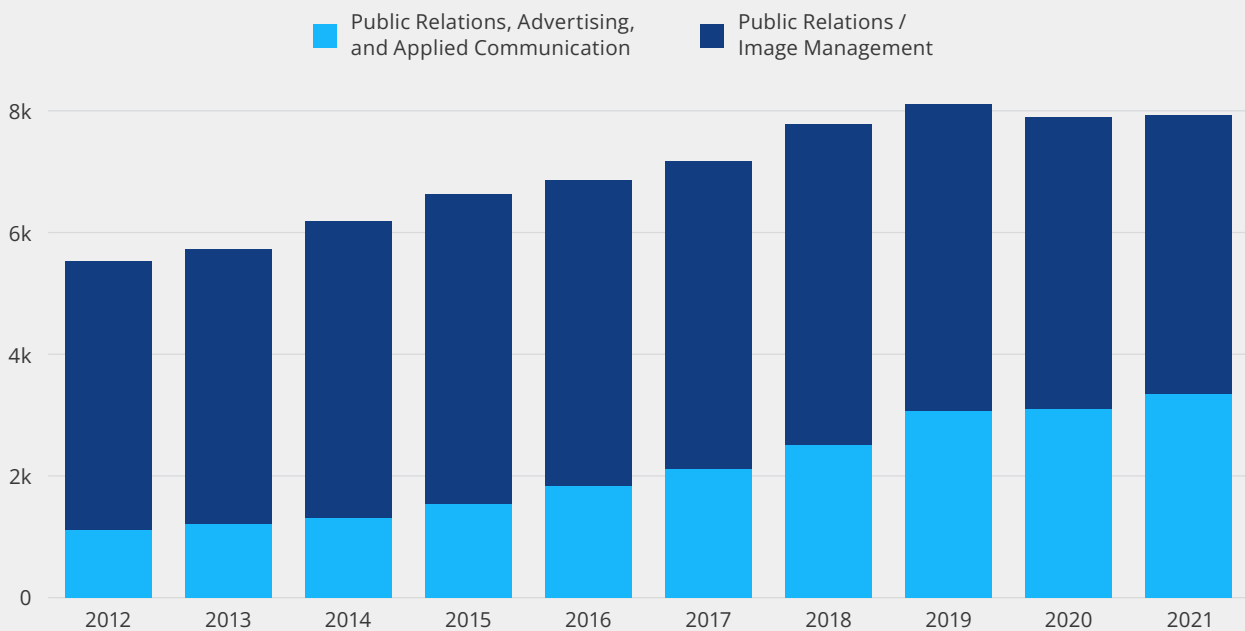
Growth in math and tech

Many of these fastest-growing degrees revolve around technology, math, or computers. For instance, **Cybersecurity** continues strong growth, with the number of grads and schools offering degrees increasing each of the last five years.



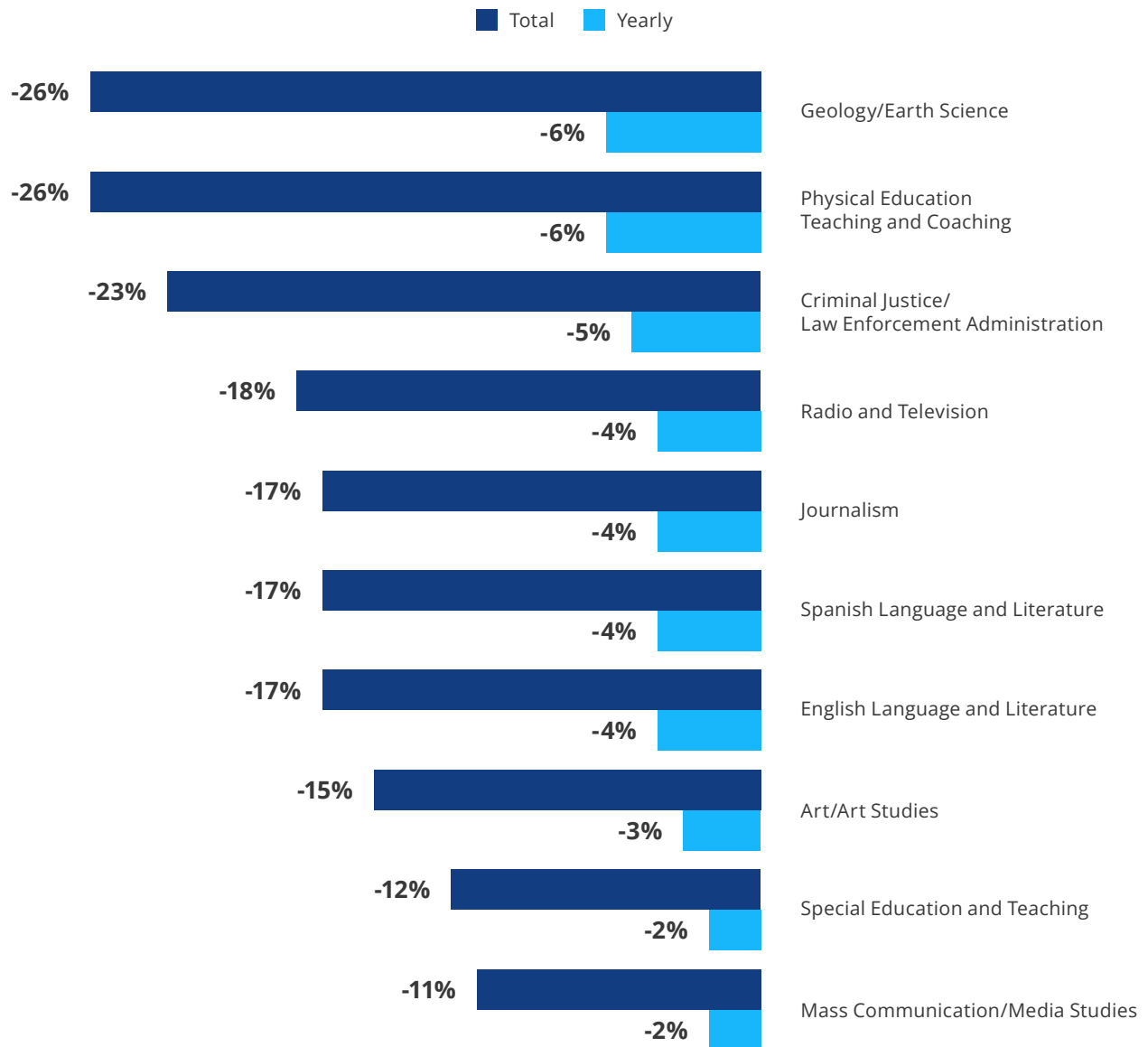
Data in context: communications degrees

Public Relations/Advertising/Applied Communication is growing at the expense of **Public Relations/Image Management**. However, the two make a relatively steady market for bachelor's graduates when combined.



Additional, fastest-declining programs

Growth since 2016, programs with min. 3,000 grads in 2021



Highly online, long decline

As noted earlier, **Law Enforcement Administration** is highly available online. However, graduates have been on a long, downhill slope since peaking in 2014, dropping -23% since 2016 and -29% overall since 2014.

Journalism and humanities slump

In general, the degrees with the most significant declines are in the humanities—**Spanish Language and Literature, English Language and Literature, and Art/Art Studies**—and journalism—**Journalism, Radio and Television, and Mass Communication/Media Studies**.



CONCLUSION

Throughout this report, we've explored trends in the undergraduate education market, highlighting potential opportunities and risks. But keep in mind: this data is a snapshot in time. Programs that have performed well in the past may offer diminishing returns in the future. By contrast, current niche markets (e.g., epigenetics or artificial intelligence) may become more mainstream with developing demand.

Applying this data to your institution

The information and insights in this report are valuable for any higher ed institution, but it's crucial to consider them in the context of your university's unique portfolio. What may be a powerful opportunity for one college may not be viable for another. For example, regional labor market demands may impact a program's success. Furthermore, new programs often have the best chance to succeed when added to a suite of degrees centered around an anchor program (e.g., Business Administration or Nursing). Similarly, a health degree may not perform well at an institution known for its business degrees.

We're here to help

Want to know what this market data means to your university? Wiley University Services can give you a complimentary in-depth and up-to-date analysis of your institutional profile, identify the best opportunities for your college and help you bring those programs to market. We'll provide insight that allows you to make the most strategic, high-ROI investments that align with students' needs and labor market demand. Whether you need to build your strategy, capabilities, or capacities, we'll help build your vision for as long as you need us.



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