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Demand for Higher Education Programs

Results through January 2022

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Higher Education Institutions

Market and Financial Data

Student Demand   Employment
Competition   Skills & Wages
Demographics   Benchmarks

Academic Economics

Advanced Analytics
Machine Learning
Predictive Models

PES+ (Program Evaluation Software and Services)	Price	Place
Markets	Elasticity	GeoTargeting
Economics	Structure	Site Selection
Dashboards	Optimization	Consolidation

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Agenda

- Google Search Trends
- Employment
- International Student Demand
- Non-Degree Courses
- Program of the Month
- Summary

Google Search Trends

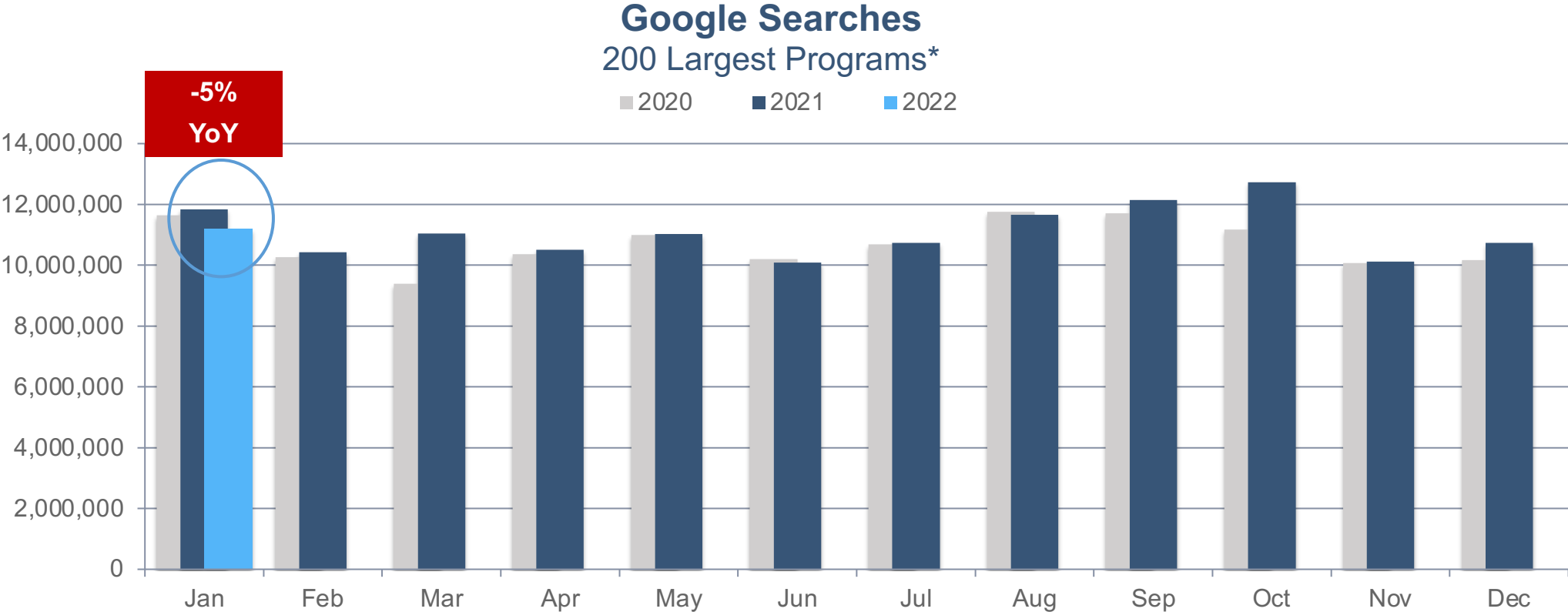# Google Three-Year Search Trends

Google Searches
200 Largest Programs*

■ 2020 ■ 2021 ■ 2022

*Google Searches for 20 keywords for each of the 200 largest programs based on IPEDS completion volume.

Google Search Trends: Programs

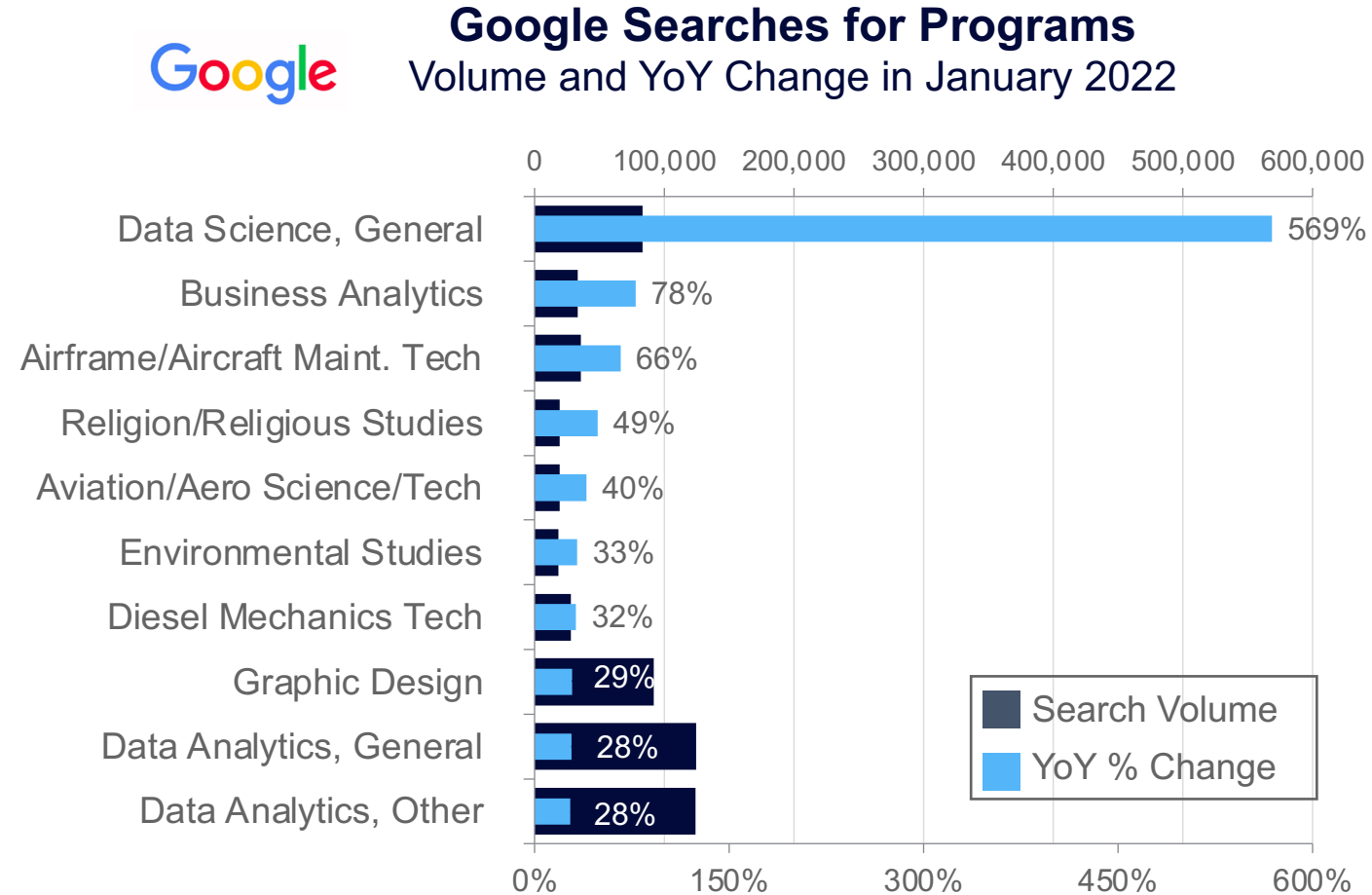**Google program searches fell 5% year-over-year in January.**

Google Searches
200 Largest Programs*

■ 2020   ■ 2021   ■ 2022

-5% YoY

*Google Searches for 20 keywords for each of the 200 largest programs based on IPEDS completion volume.

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Google: Fastest-Growers

In January, searches for Data Science rose 569% year-over-year.

- Other data-analytics fields saw double-digit growth:
  - Business Analytics
  - Data Analytics, General
  - Data Analytics, Other

- Two trades programs were popular:
  - Aircraft Tech
  - Diesel Tech

- Religion continues to crop up as a fast-grower

Google Searches for Programs
Volume and YoY Change in January 2022

Program	YoY % Change
Data Science, General	569%
Business Analytics	78%
Airframe/Aircraft Maint. Tech	66%
Religion/Religious Studies	49%
Aviation/Aero Science/Tech	40%
Environmental Studies	33%
Diesel Mechanics Tech	32%
Graphic Design	29%
Data Analytics, General	28%
Data Analytics, Other	28%

Legend:
- Search Volume
- YoY % Change

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Google Brand Search

Searches for college brands rose 10% in January.

- Searches for higher education brands have risen every month since August.

- Some students may be shifting away from picking programs and starting to emphasize the college or university first.
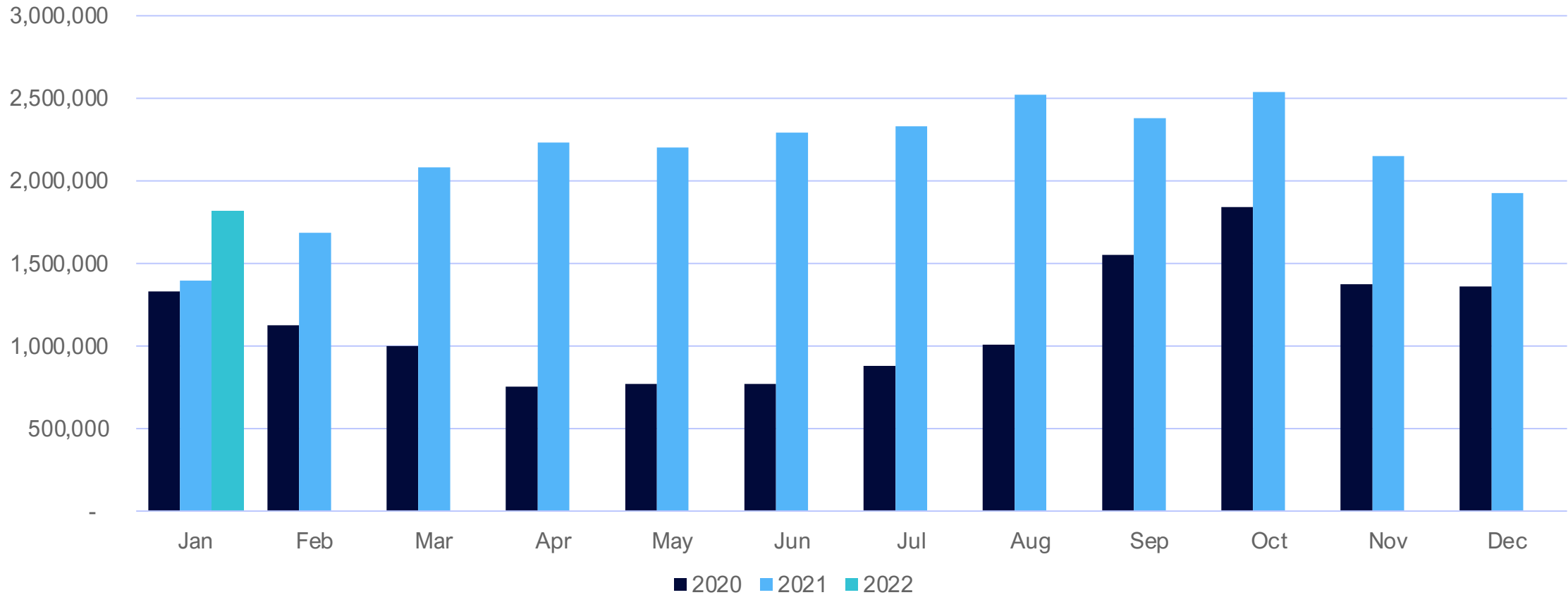
Google Brand Searches
Search Volume
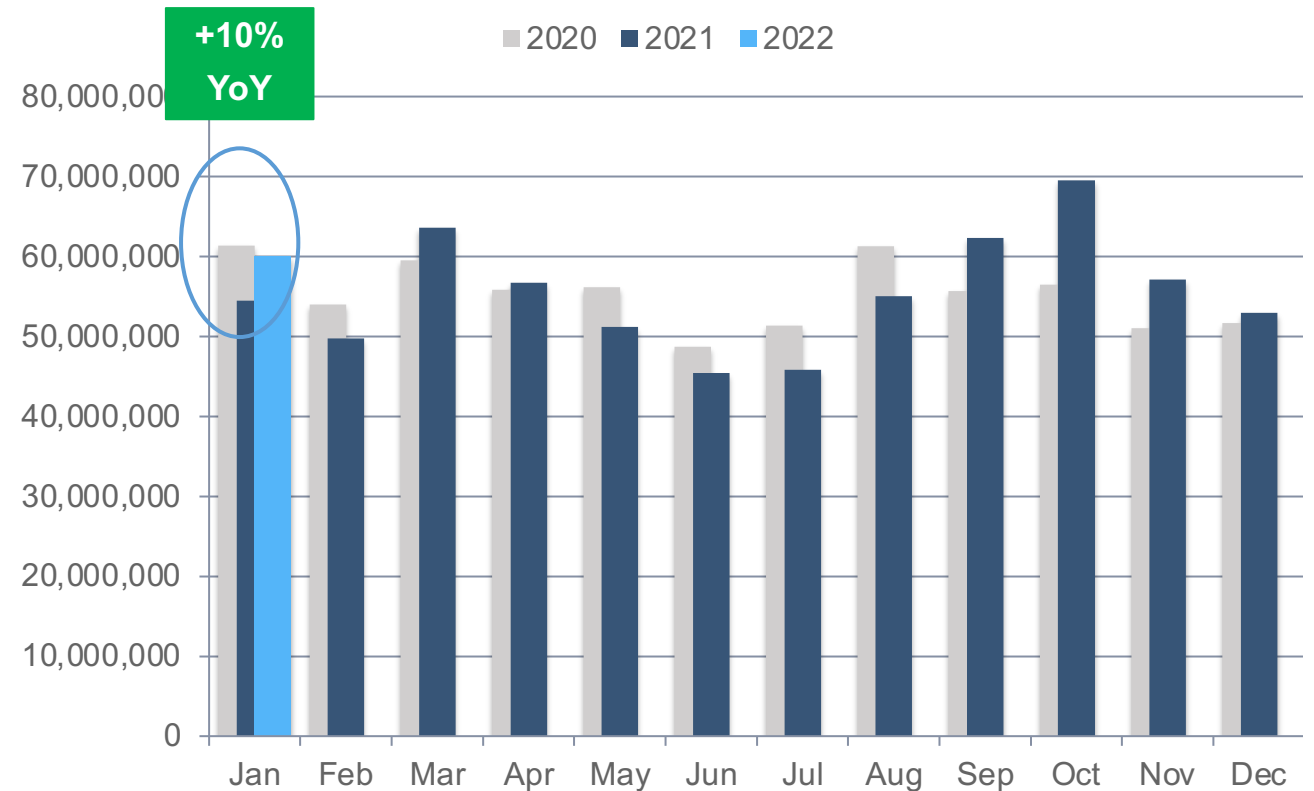
+10% YoY

Legend: ■ 2020 ■ 2021 ■ 2022

Employment

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In January 2022, job postings grew 30% year-over-year.

Job Postings by Month

Legend: ■ 2020 ■ 2021 ■ 2022

Job Posting Volumes: January 2022

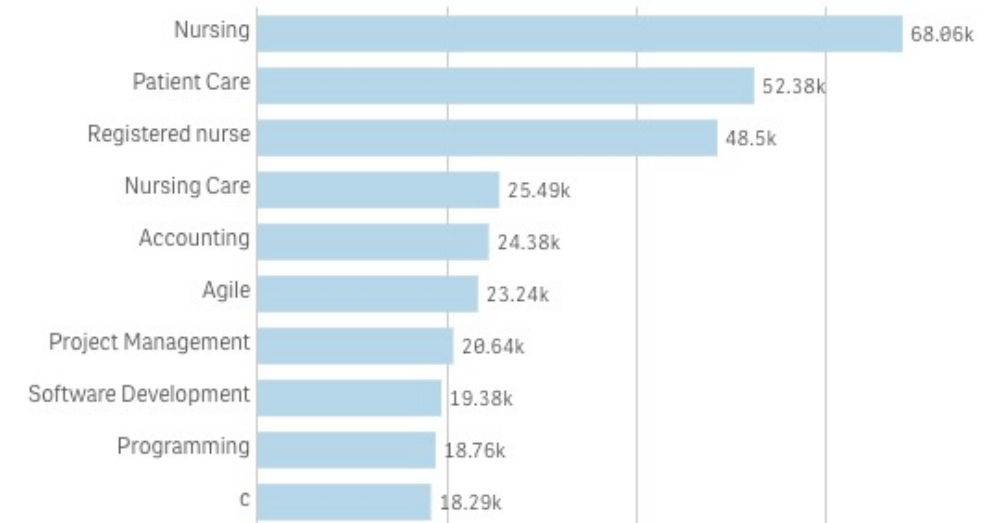**In January, the largest number of job postings requesting a post-secondary degree were for Tax Professionals.**

The most in-demand skills were in Nursing.

Job Postings by Job Posting Title

Job Posting Title	Postings
Tax Professional II	3.01k
Registered Nurse	2.46k
Patient Care Technician	2.26k
Pharmacist	1.32k
Project Manager	849
Software Engineer	765
Senior Software Engineer	744
Pharmacy Manager	617
Software Development Eng...	532
Financial Analyst	474

Job Postings by Skills

Skill	Postings
Nursing	68.06k
Patient Care	52.38k
Registered nurse	48.5k
Nursing Care	25.49k
Accounting	24.38k
Agile	23.24k
Project Management	20.64k
Software Development	19.38k
Programming	18.76k
c	18.29k

Job Posting Trends: January 2022

Patient Care Tech postings increased 604%.

- Tax season is underway: tax won two top 10 slots.

- Healthcare won four of the top 10.
  - Patient Care Tech
  - RN
  - OT
  - Pharmacy Manager

- Part time store managers were in high demand.

- Engineers won three spots in the top 10.

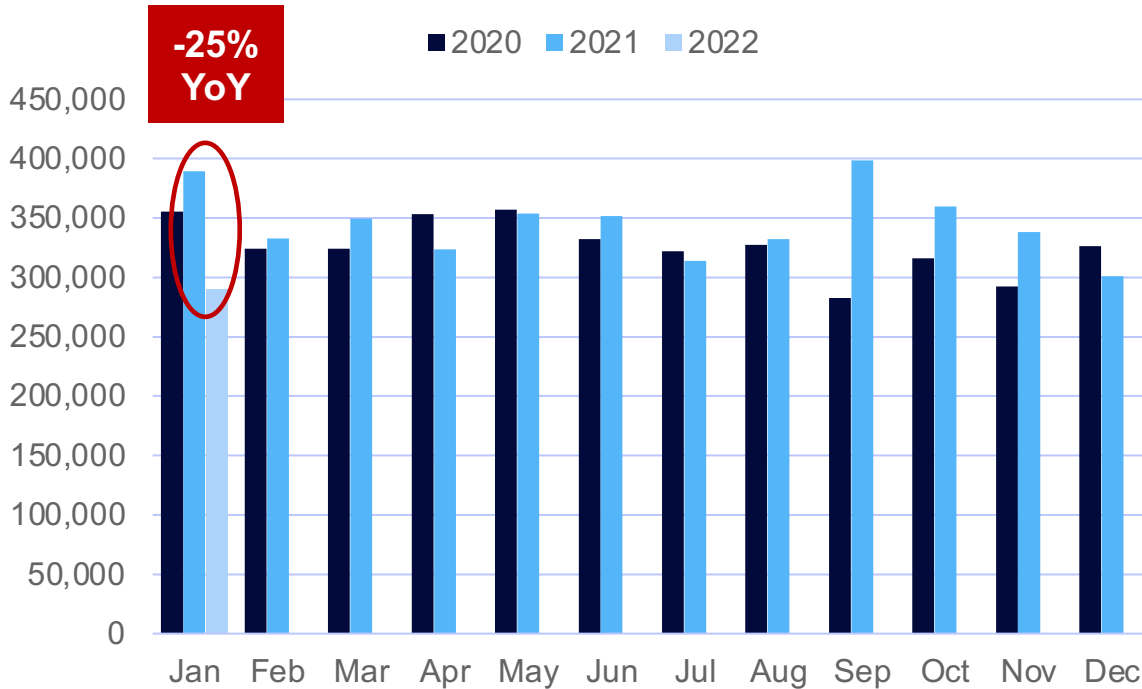**Monthly Change and Total Volume**
Job Postings
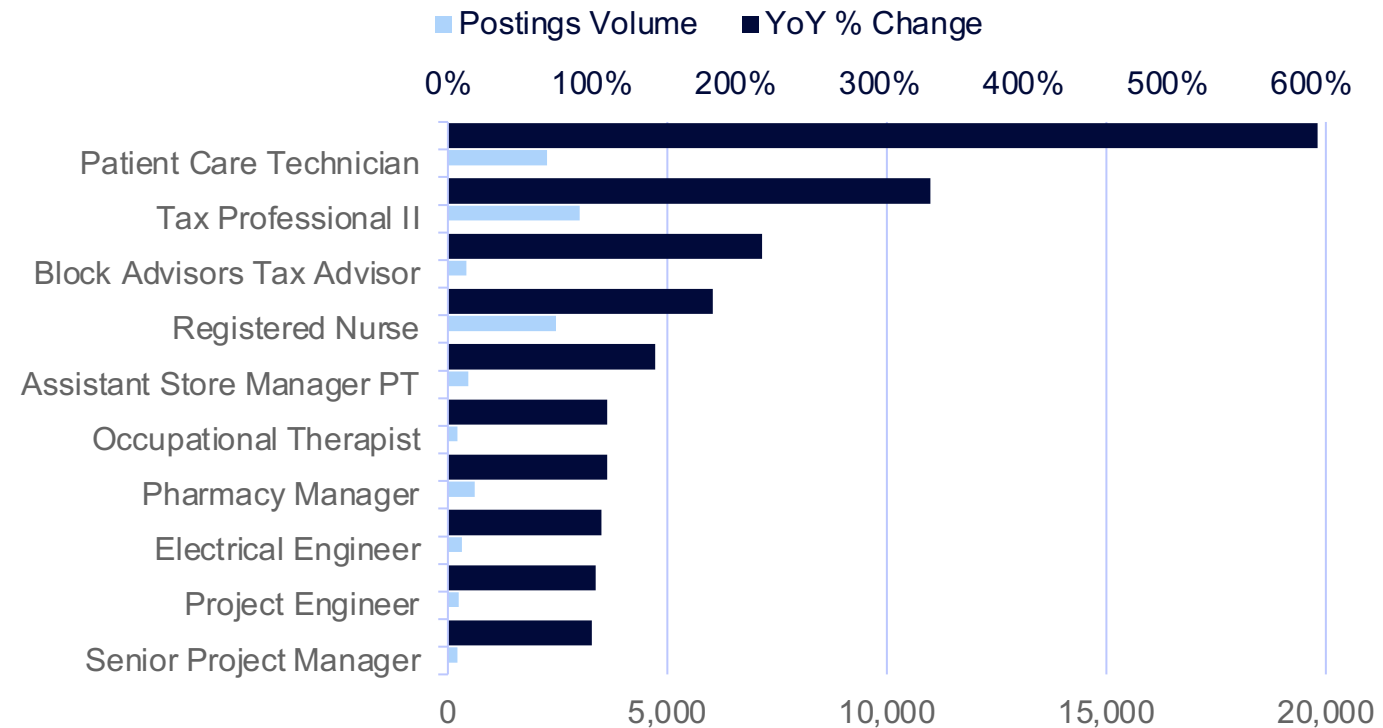
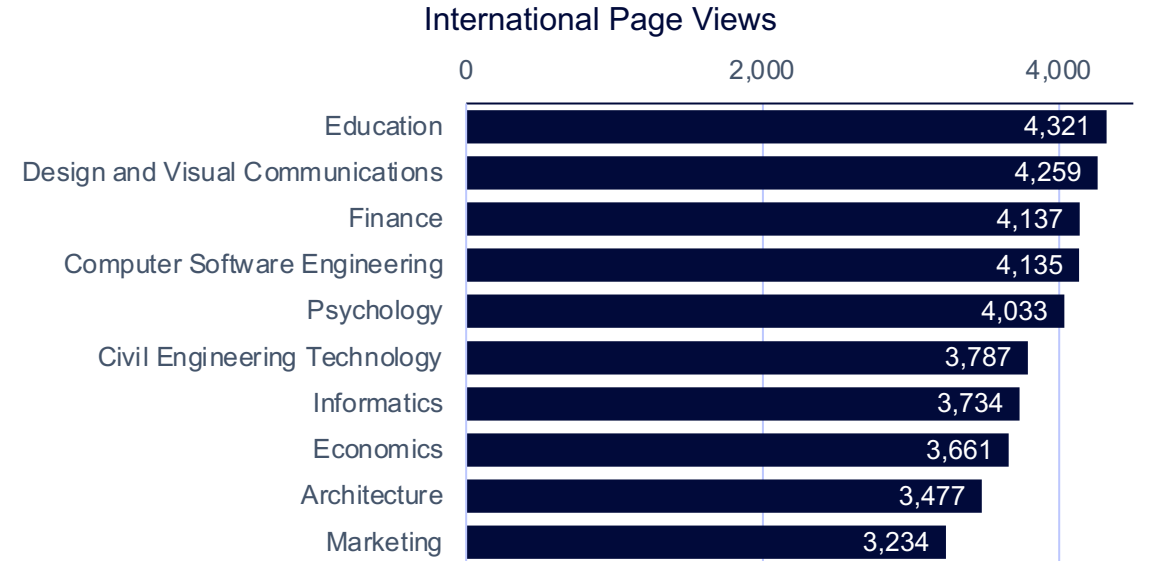# International Page Views

International Student Demand

International student interest in U.S. programs decreased 25% YoY in January.

Excluding the top 10, the most-viewed programs were Education and Design/Visual Communications.

International Page Views

-25% YoY

Legend: ■ 2020 ■ 2021 ■ 2022

Top 11-20 Programs: January 2022
International Page Views

Program	International Page Views
Education	4,321
Design and Visual Communications	4,259
Finance	4,137
Computer Software Engineering	4,135
Psychology	4,033
Civil Engineering Technology	3,787
Informatics	3,734
Economics	3,661
Architecture	3,477
Marketing	3,234

International Page Views: Education

India led the page views for Education.

California was the most popular destination.
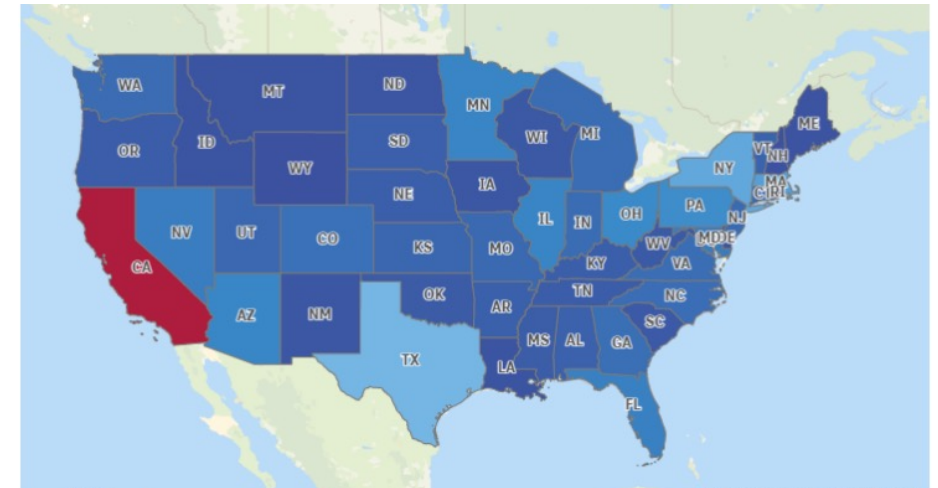
International Page Views by Originating Country
Education, January 2022

Country	Page Views
India	401
Nigeria	328
Bangladesh	245
Turkey	223
Iran	208
Ghana	201
Brazil	168
Pakistan	134
United Kingdom	97
Vietnam	90

Non-Degree Courses

Coursera: Largest Courses

January 2022 vs. Cumulative Enrollment

Share of January Enrollment

Bubble size is proportional to the month-over-month percent change in enrollment:

3.4%

- 0.8%

Taking Share

Losing Share

Machine Learning

Technical Support Fundamentals

Financial Markets

First Step Korean

English for Career Development

The Science of Well-Being

Learning How to Learn: Mental tools to master tough subjects

Introduction to Psychology

Programming for Everybody - Python

Algorithms, Part I

COVID-19 Contact Tracing

Successful Negotiation

Neural Networks and Deep Learning

Python Data Structures

Chinese for Beginners

Share of Cumulative Enrollment

*Excludes programs with a cumulative enrollment less than 65,000.

17

Health Informatics grew 17%.

This was the fastest-growing Coursera category.

▪ Within the category, Hacking COVID-19 led with 13% month-over-month growth.

▪ A Spanish-language program on Managing Epilepsy also grew over 10%.

▪ Two very large programs continued to grow:
  – Introduction to Healthcare
  – Biomedical Visualization

Monthly Growth & Cumulative Enrollment January 2022

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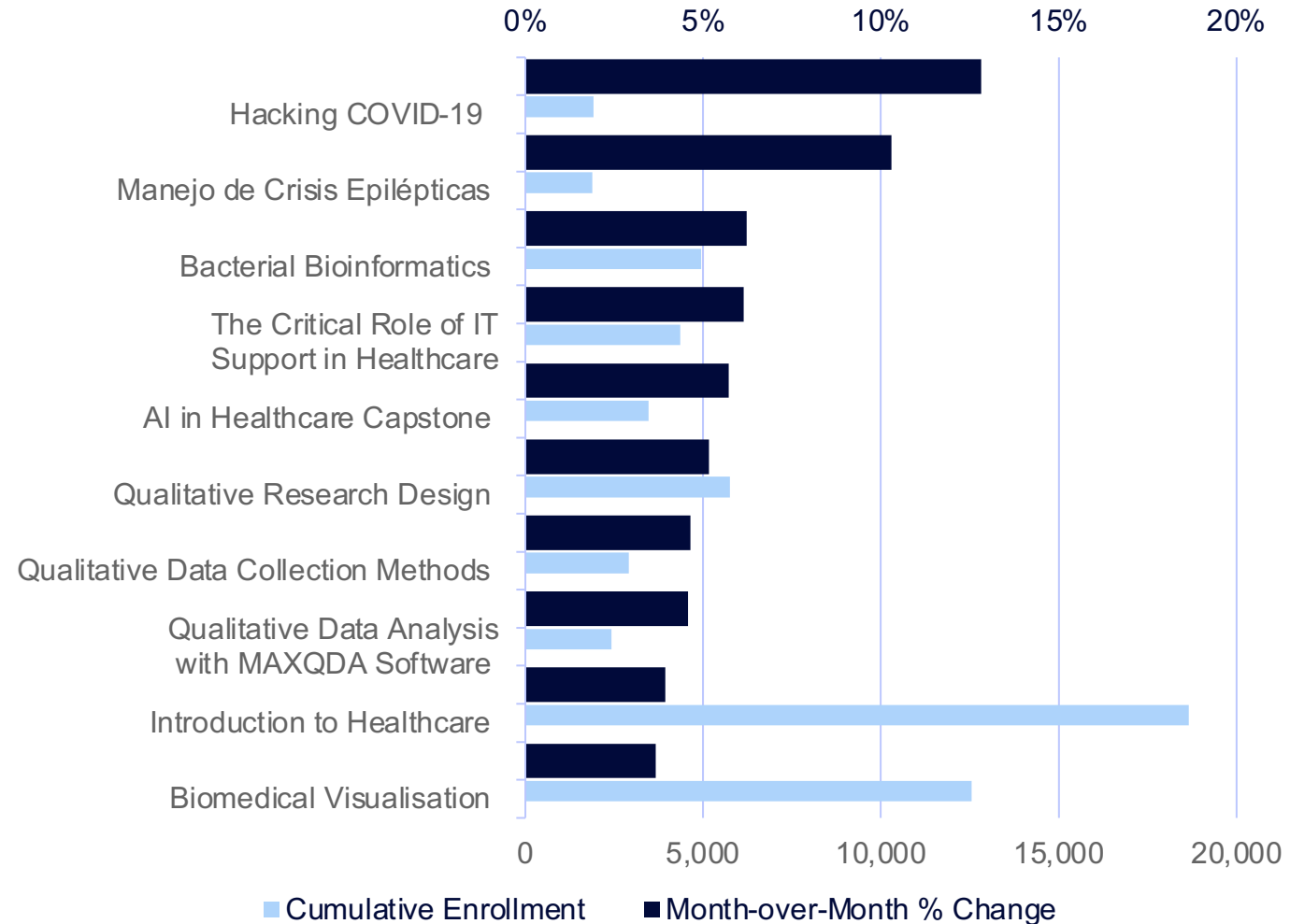
On Coursera, interest is growing in Finance courses.

Of the five finance courses with the highest growth in January, three are related to Decentralized Finance.

Cumulative Enrollment and January Unit Change
Finance Category

Chart categories (top to bottom):
- Decentralized Finance (DeFi) Infrastructure
- Key Success Factors in Supply Chain Finance
- Cryptocurrency and Blockchain
- Blockchain and Cryptocurrency Explained
- Principles of Sustainable Finance
- Fundamentals of Equities
- Introduction to Financial Engineering and Risk…
- Financial Modeling
- Introduction to Finance: The Basics
- Derivatives - Options & Futures
- Financial Investment & Risk Management
- Introduction to Risk Management
- Forex - Trading Around the World
- Credit Risk Management: Frameworks and…
- How Software Ate Finance

X-axis: 0, 5,000, 10,000, 15,000, 20,000, 25,000, 30,000, 35,000, 40,000

Legend: ■ Month-over-Month Unit Change ■ Cumulative Enrollment

Program of the Month

Integrated Program Evaluation

Program Markets: Program Rank

We score on Student Demand, Employment, Competitive Intensity, and Degree Fit.

National Program Ranking
Bachelor's Award Level

Percentiles by CIP
(Double-click Field headers to change sorting.)

CIP	Total Percentile	Student Demand Percentile	Competitive Intensity Percentile	Employment Percentile	Degree Fit Percentile
51.3801 Registered Nursing	100	100	96	99	50
14.1901 Mechanical Engineering	99	99	93	98	50
26.0101 Biology/Biological Sciences, Gen'l	99	99	93	93	50
52.0201 Business Admin. and Mgmt, General	99	99	87	99	50
11.0701 Computer Science	99	99	36	99	50
52.0801 Finance, General	99	99	30	99	50
11.0103 Information Technology	99	99	21	97	50
52.0301 Accounting	99	99	8	99	50
52.1401 Marketing/Marketing Mgmt, General	99	99	1	98	50
14.0801 Civil Engineering, General	99	98	90	99	50
30.7102 Business Analytics	99	98	87	93	50
52.0203 Logistics, Materials, and Supply Chain Mgmt	99	98	36	99	50
45.0601 Economics, General	99	98	30	94	50
14.1001 Electrical/Electronics Engin'g	99	98	21	99	50
45.0603 Econometrics and Quantitative Economics	99	97	97	88	50
14.0201 Aero/Astro/Space Engineering	99	96	99	96	50
26.0102 Biomedical Sciences, General	99	96	93	97	50
14.0701 Chemical Engineering	99	94	98	91	50
14.3501 Industrial Engineering	99	94	96	98	50
42.0101 Psychology, General	98	98	87	12	50

Total Percentile	0	20+	40+	70+	90+	95+	98+	100
Total Score	-37	-15	-11	5	15	22	29	140

Program Scorecard: Percentiles

All data are color-coded by their percentile rank in the local market compared to over 1,400 IPEDS programs (CIP codes).

Percentile Color-Code:

<40%	40%+	70%+	90%+	95%+	98%+
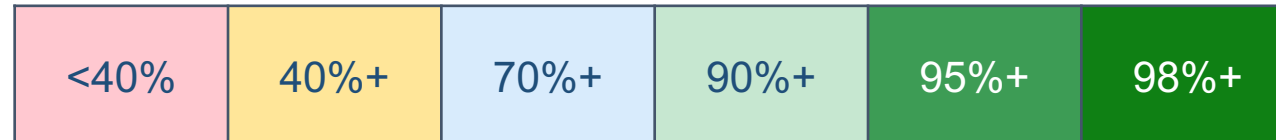
Program Scorecard: Student Demand

Business Analytics scores in the 98th percentile for Student Demand.

- Many international students are interested in Business Analytics programs in the U.S.

- High volumes of students are completing this program on-campus.

- Online completions rank in the 94th percentile.

- Growth is strong across all data sources.

Student Demand
Score: 25 Percentile: 98

| Category	Pctl	Criterion	Value	Score
Size	97	Inquiry Volume (12 Months)	11,689	3
	99	Int'l Page Views (12 Months)	27,551	NS
	55	Google Search Volume (3 Months)*	81,220	4
	97	On-ground Completions at In-Market Institutions	8,326	9
	94	Online Completions by In-Market Students	285	2
	96	Sum of On-ground and Online Completions	8,611	2
Growth	98	Inquiry Volume YoY Change (Units)	5,039	1
	96	Google Search YoY Change (Units)*	21,439	0
	99	Completion Volume YoY Change (Units)	1,506	3
	89	Inquiry Volume YoY Change (%)	76%	NS
	96	Google Search YoY Change (%)*	36%	0
	85	Completion Volume YoY Change (%)	21%	1

Google: Business Analytics

Searches for business analytics programs rose 78%.

- Searches for this program have been rising since May 2021.

- In January, growth rates more than doubled.

Google Searches
Search Volume for Business Analytics
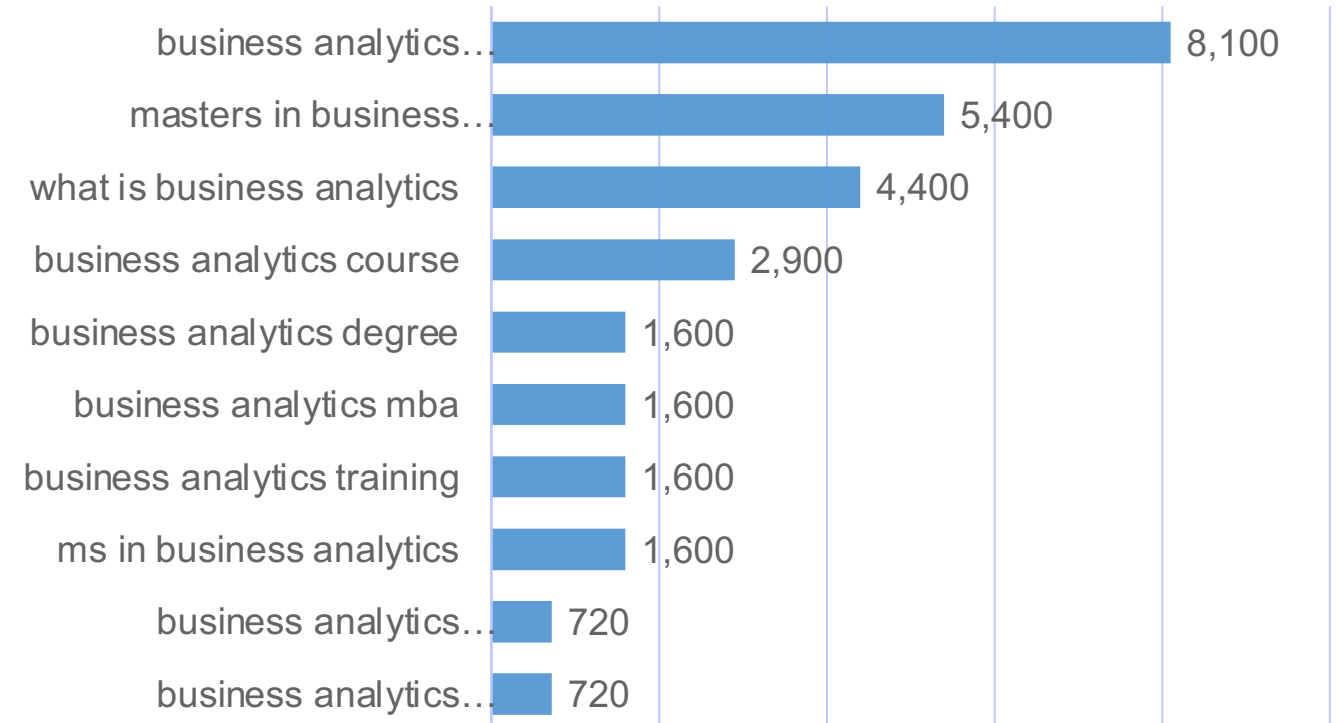

+78% YoY

Legend: 2020, 2021, 2022
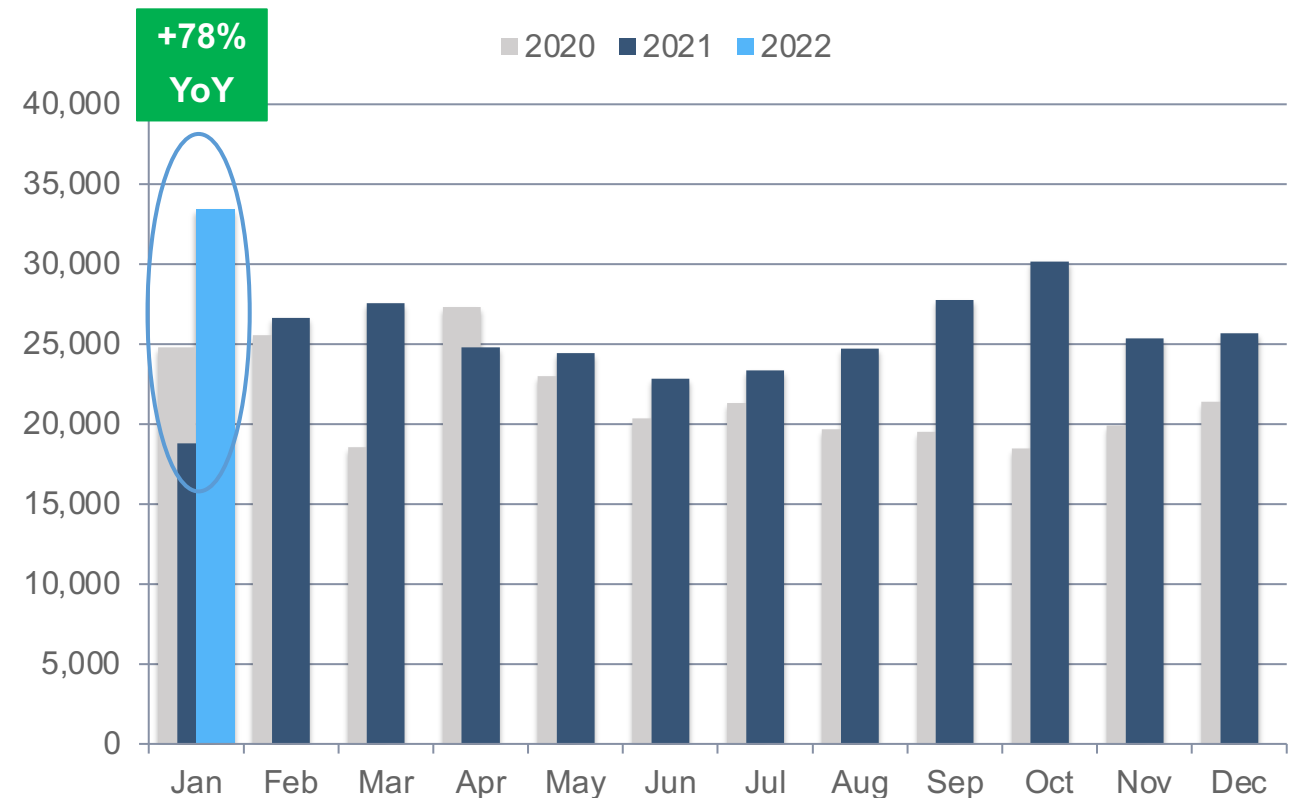
Most-Searched Keywords: Business Analytics

Business Analytics Certificate had 8,100 searches in January.

- The Master's in Business Analytics came in second, which is remarkable for a graduate program.

- Business analytics MBA also made a strong showing.

- These graduate business analytics offerings are likely to cannibalize traditional MBA programs.

Keyword Search Volumes
Business Analytics
January 2022

Keyword	Volume
business analytics…	8,100
masters in business…	5,400
what is business analytics	4,400
business analytics course	2,900
business analytics degree	1,600
business analytics mba	1,600
business analytics training	1,600
ms in business analytics	1,600
business analytics…	720
business analytics…	720

Program Scorecard: Employment

Business Analytics ranks in the 93rd percentile for Employment.

- Direct Preparation opportunities are healthy.

- 3-year historical growth ranks in the 81st percentile.

- Saturation is high.

- ACS wages for Bachelor's degree graduates in Business Analytics ranks in the 91st percentile.

Employment*
Score: 10 Percentile: 93

| Category	Pctl	Criterion	Value	Score
Size: Direct Prep	87	Job Postings Total (12 Months)*	26,816	1
	83	BLS Current Employment*	90,386	1
	84	BLS Annual Job Openings*	8,984	0
Size: Bachelors with ACS	94	Job Postings Total (12 Months)*	3,970	NS
	94	BLS Current Employment*	41,856	NS
Growth (Direct Prep)	86	BLS 1-Year Historical Growth*	1.3%	0
	81	BLS 3-Year Historic Growth (CAGR)*	3.3%	2
	82	BLS 10-Year Future Growth (CAGR)*	1.3%	NS
Saturation (Direct Prep)	38	Job Postings per Graduate*	0.8	-1
	46	BLS Job Openings per Graduate*	0.4	-1
Wages (Direct Prep)	66	BLS 10th-Percentile Wages*	$45,584	NS
	65	BLS Mean Wages*	$74,528	NS
American Community Survey Bachelor's Degree Outcomes	91	Wages (Age < 30)	$61,267	6
	80	Wages (Age 30-60)	$109,745	4
	24	% with Any Graduate Degree	24%	NS
	35	% with Masters	22%	NS
	11	% with Doct/Prof Degree	2%	NS
	65	% Unemp. (Age <30)**	3%	-1
	73	% Unemp. (Age 30-60)**	2%	-1
	82	% in Direct Prep Jobs	14%	NS

Job Postings: Business Analytics

In January 2022, job postings increased 55%.

Job Postings Volume
Business Analytics
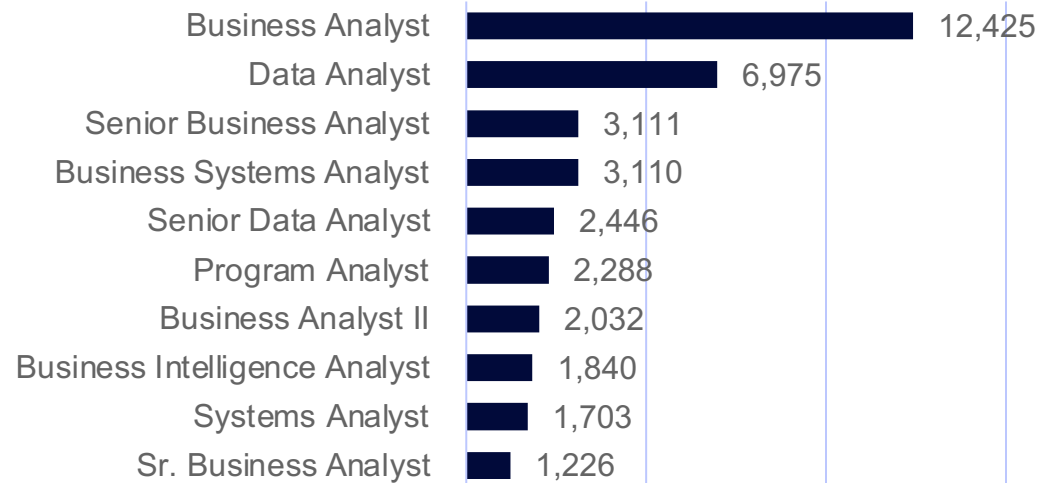January 2022
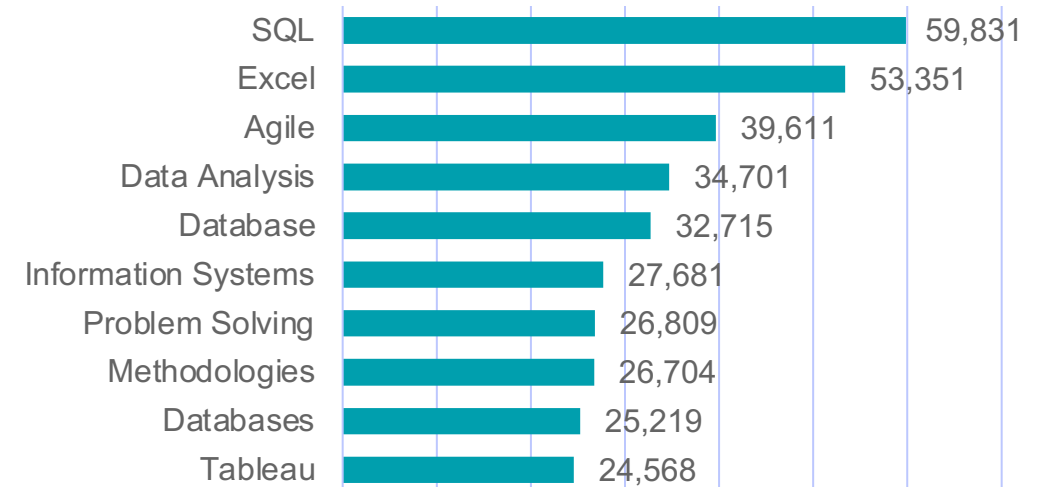
■ 2021 ■ 2022
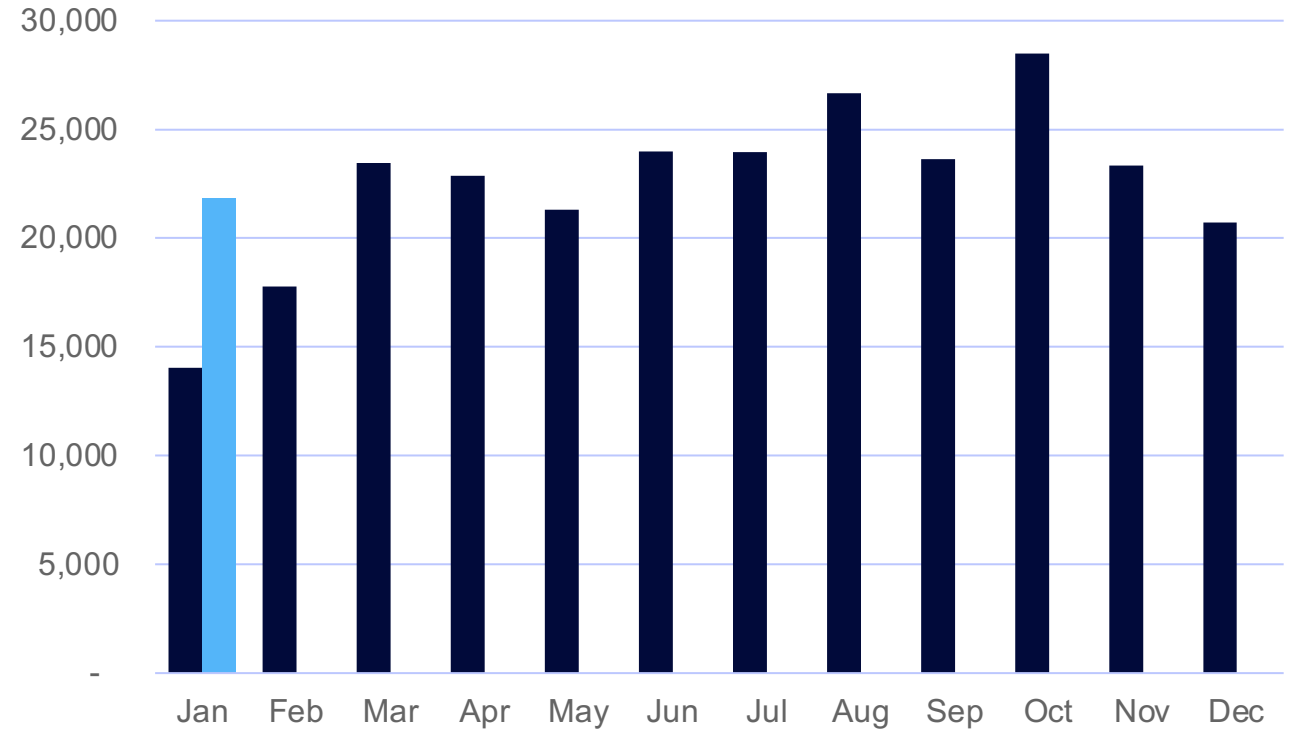
Job Postings: Business Analytics

From 2021 to 2022, Business Analysts with SQL skills were in high demand.

- The most in-demand skill was SQL, followed by Excel and Agile.

Top Job Titles
Total Volume 2021-22

Job Title	Volume
Business Analyst	12,425
Data Analyst	6,975
Senior Business Analyst	3,111
Business Systems Analyst	3,110
Senior Data Analyst	2,446
Program Analyst	2,288
Business Analyst II	2,032
Business Intelligence Analyst	1,840
Systems Analyst	1,703
Sr. Business Analyst	1,226

Top Skills
Total Volume 2021-22

Skill	Volume
SQL	59,831
Excel	53,351
Agile	39,611
Data Analysis	34,701
Database	32,715
Information Systems	27,681
Problem Solving	26,809
Methodologies	26,704
Databases	25,219
Tableau	24,568

# Program Scorecard: Competitive Intensity

Business Analytics is in the 87th percentile for competitive intensity.

- Many new competitors entered the market.

- Program size is strong and growing.

- Google cost per click is high.

- National online competition is moderate.

Competitive Intensity
Score: 3 Percentile: 87

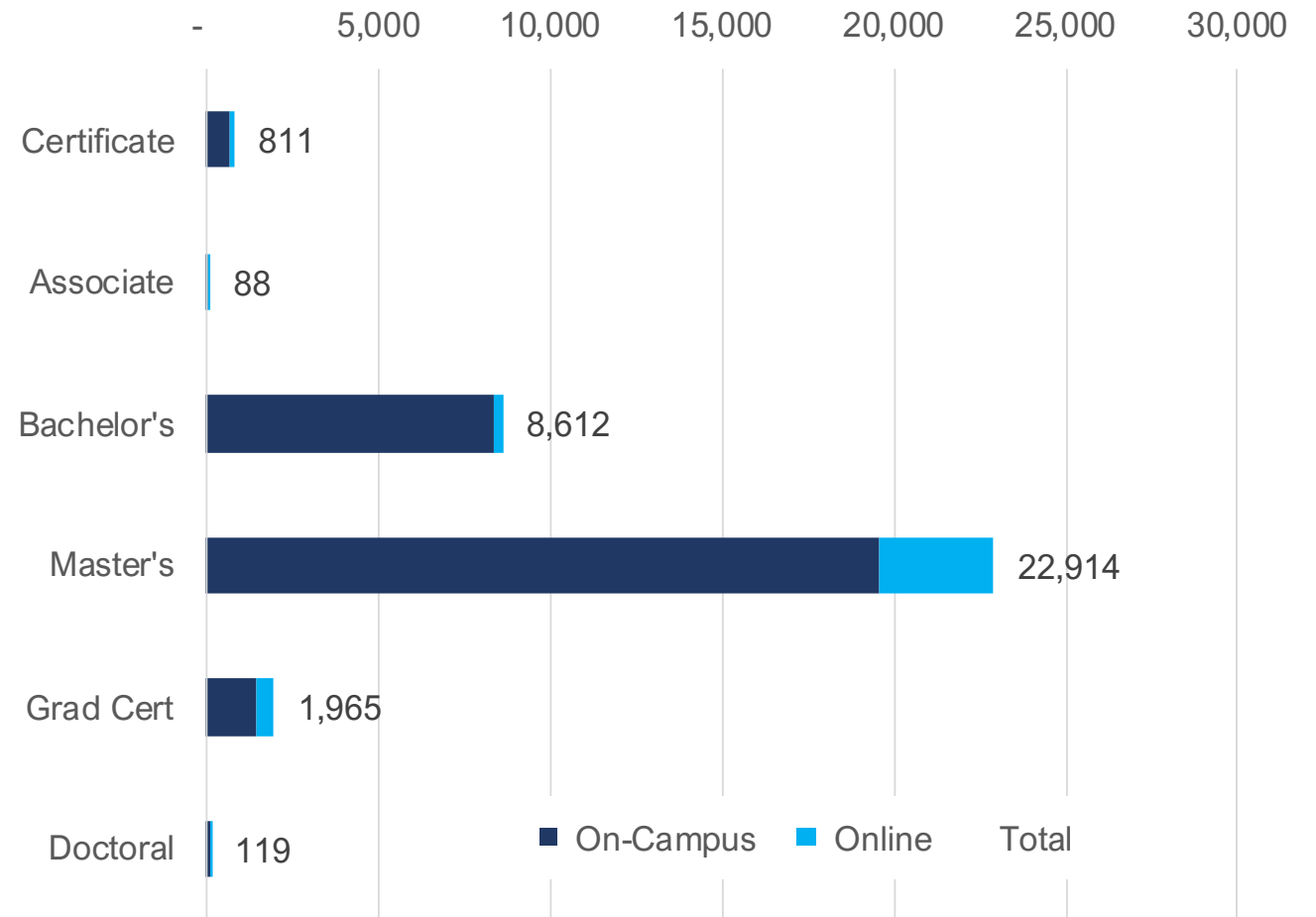| Category	Pctl	Criterion	Value	Score
Volume of In-Market Competition	94	Campuses with Graduates**	157	0
	97	Campuses with Grads YoY Change (Units)**	8	-2
	95	Institutions with Online In-Market Students**	16	NS
In-Market Program Sizes	95	Average Program Completions	53	4
	88	Median Program Completions	24	0
	97	YoY Median Prog. Compl. Change (Units)	7	2
	91	YoY Median Prog. Compl. Change (%)	47%	2
In-Market Saturation	46	Average Cost per Inquiry**	$47.00	0
	91	Google Search * Cost per Click**	$23.00	-3
	88	Google Competition Index**	65%	0
National Online Competition	96	National Online Institutions (Units)**	21	NS
	79	Nat'l Online % of Institutions	9%	NS
	66	Nat'l Online % of Completions	3%	NS

Business Analytics Completions

2015-2020 Completions for All Award Levels Combined
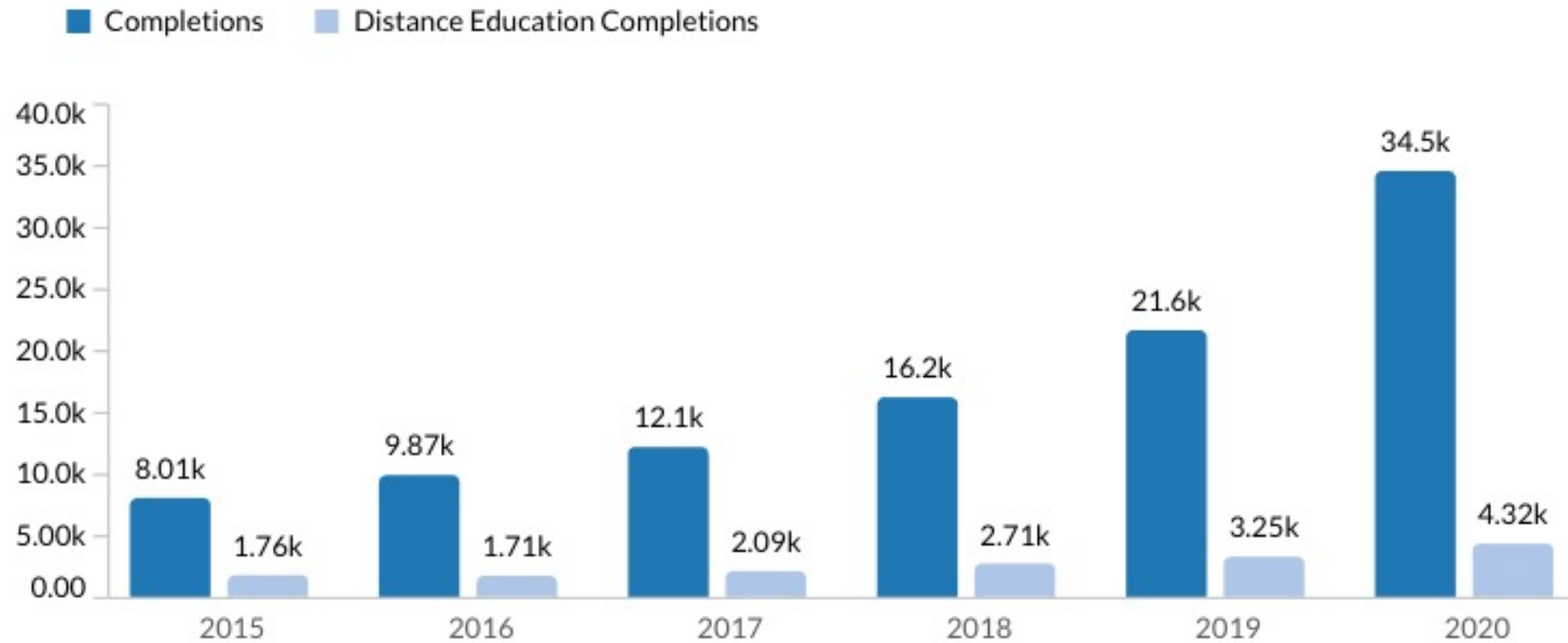
Business Analytics

2020 Completions by Modality and Award Level

- Master's degrees account for about two-thirds of these completions.

- Bachelor's degrees account for most of the rest.

- Master's degree and graduate certificates are growing extremely quickly, with 5-year CAGRs of more than 45%.

- Online has a minimal share of these completions at most levels.

- Online growth has been less dramatic than on-campus, but both are very high.

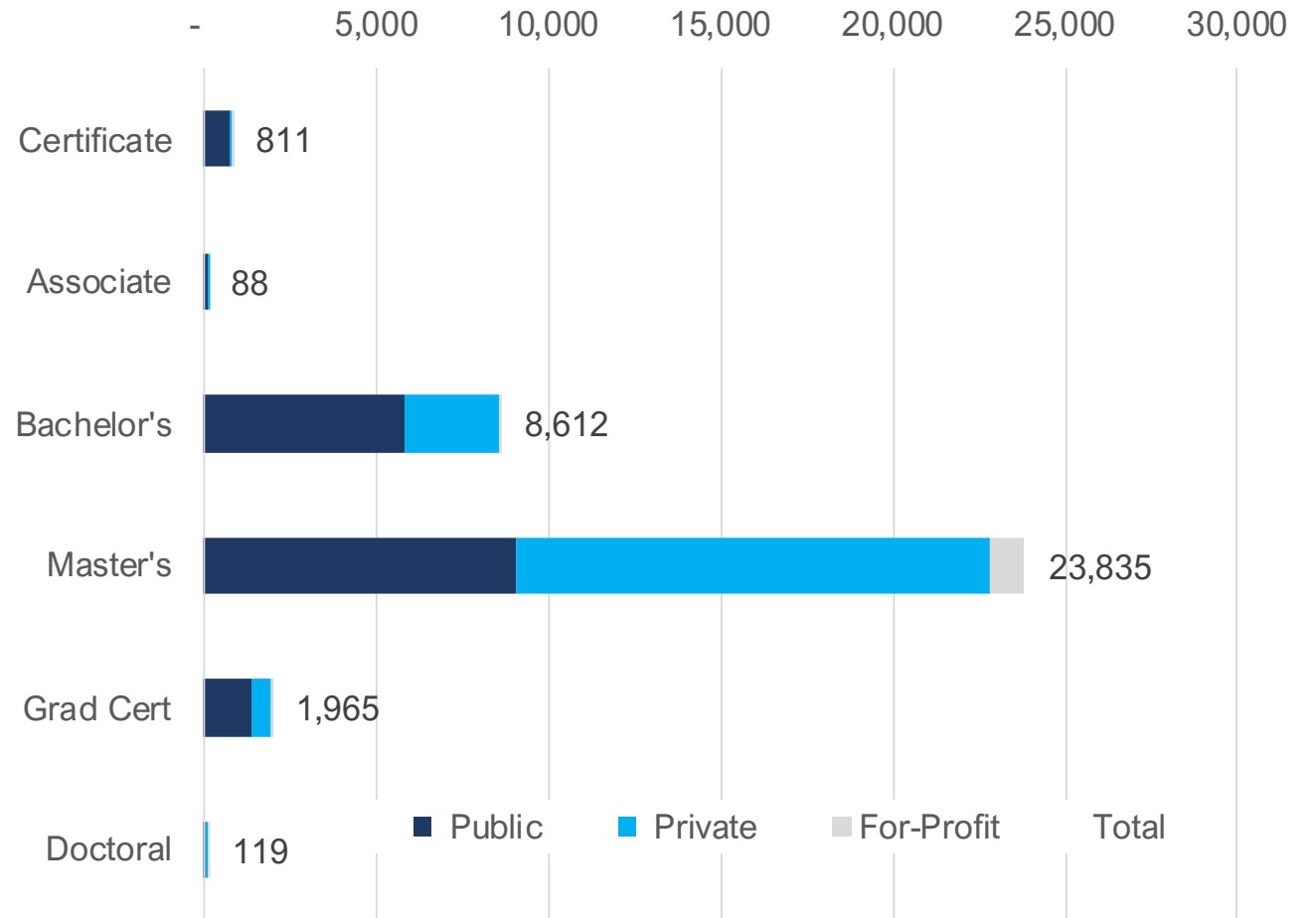| Award Level	Value
Certificate	811
Associate	88
Bachelor's	8,612
Master's	22,914
Grad Cert	1,965
Doctoral	119

■ On-Campus ■ Online Total

Business Analytics

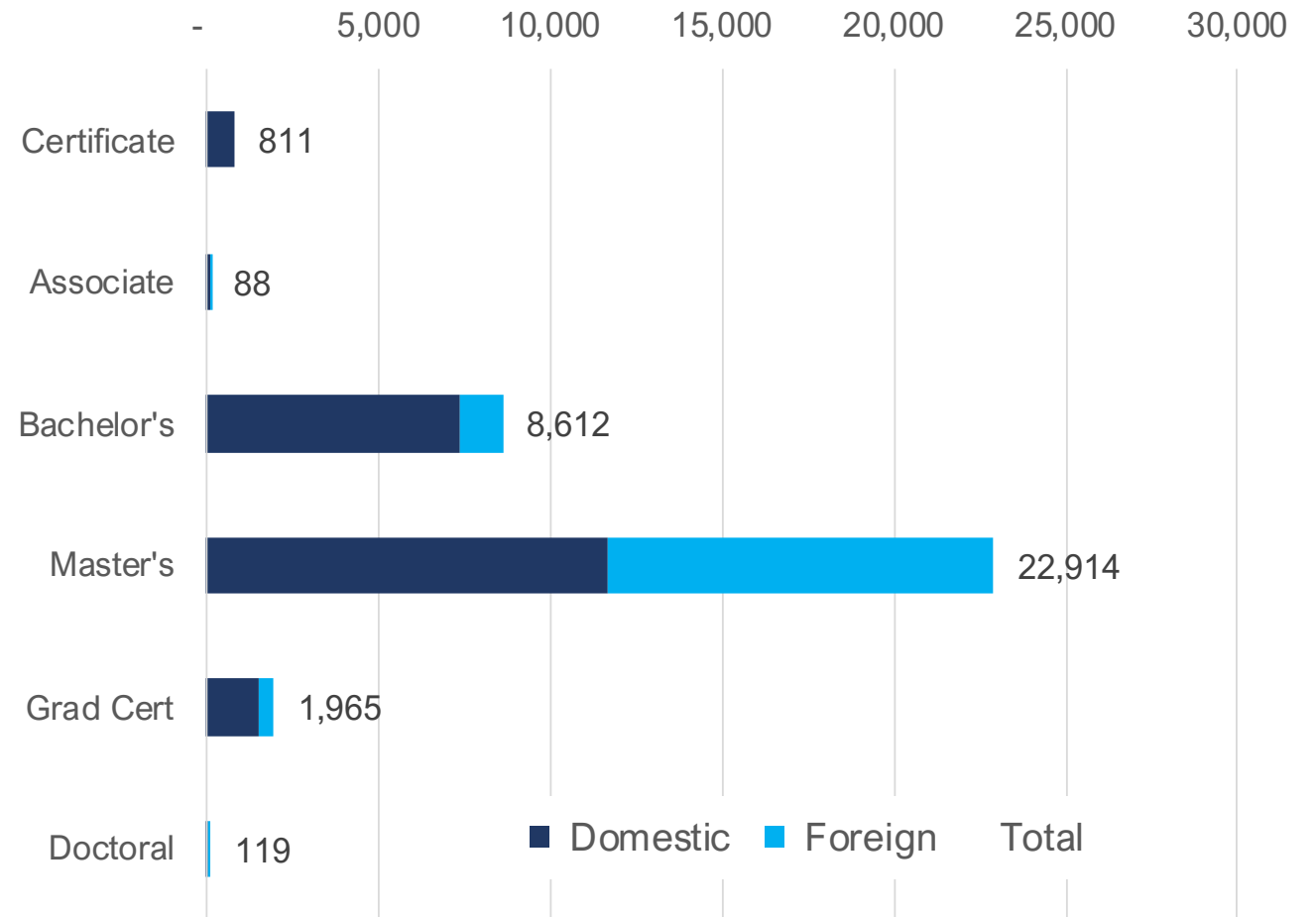## 2020 Completions by Sector and Award Level

- Public institutions grant the most Bachelor's degrees and certificates in Business Analytics.

- Private not-for-profit institutions grant the most Master's degrees in Business Analytics.

- For-profit institutions have a very small presence in these programs.

Certificate — 811
Associate — 88
Bachelor's — 8,612
Master's — 23,835
Grad Cert — 1,965
Doctoral — 119

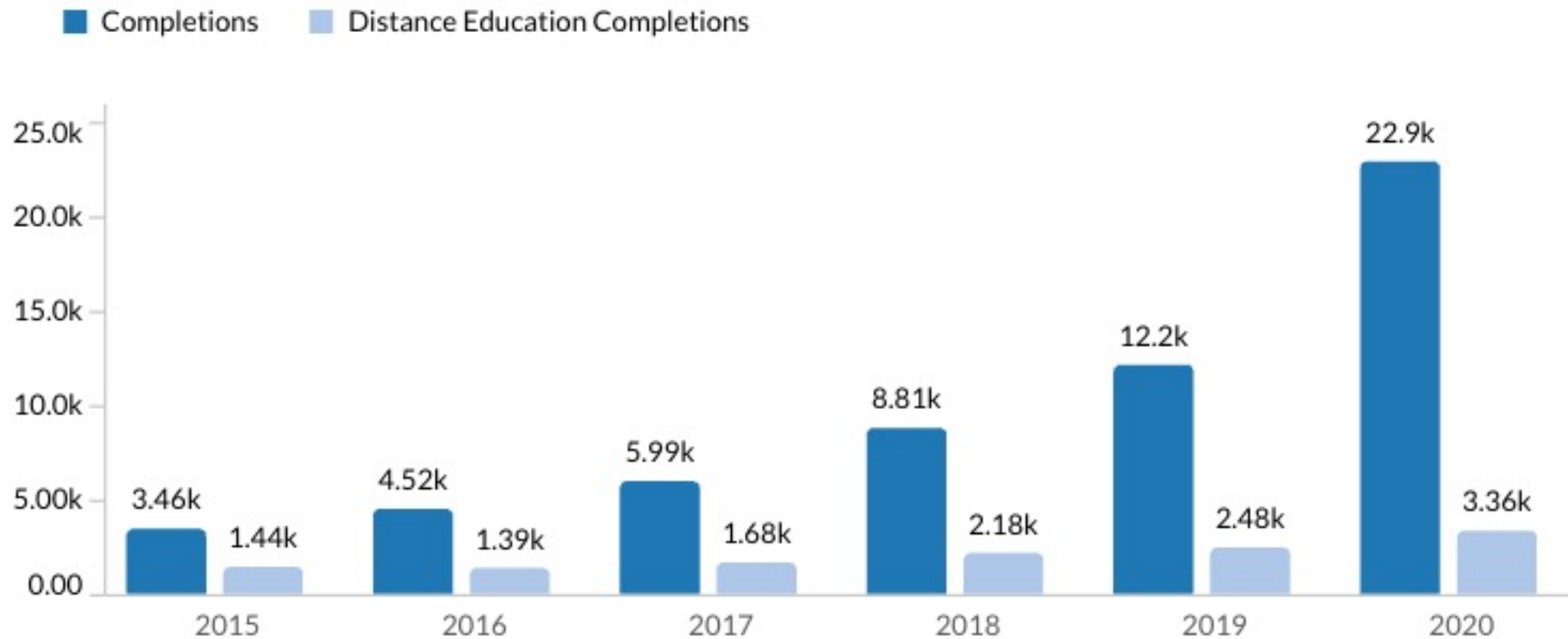■ Public ■ Private ■ For-Profit   Total

Business Analytics

2020 Completions by Nationality and Award Level

- At the Master's level, the number of foreign and domestic students are nearly equal.

- While the number of doctoral graduates in Business Analytics is small, these students are mostly foreign.

- In contrast, most Business Analytics completions at undergraduate levels or for graduate certificates are by domestic students.

Chart: 2020 Completions by Nationality and Award Level

Award Level	Total
Certificate	811
Associate	88
Bachelor's	8,612
Master's	22,914
Grad Cert	1,965
Doctoral	119

Legend: Domestic, Foreign, Total
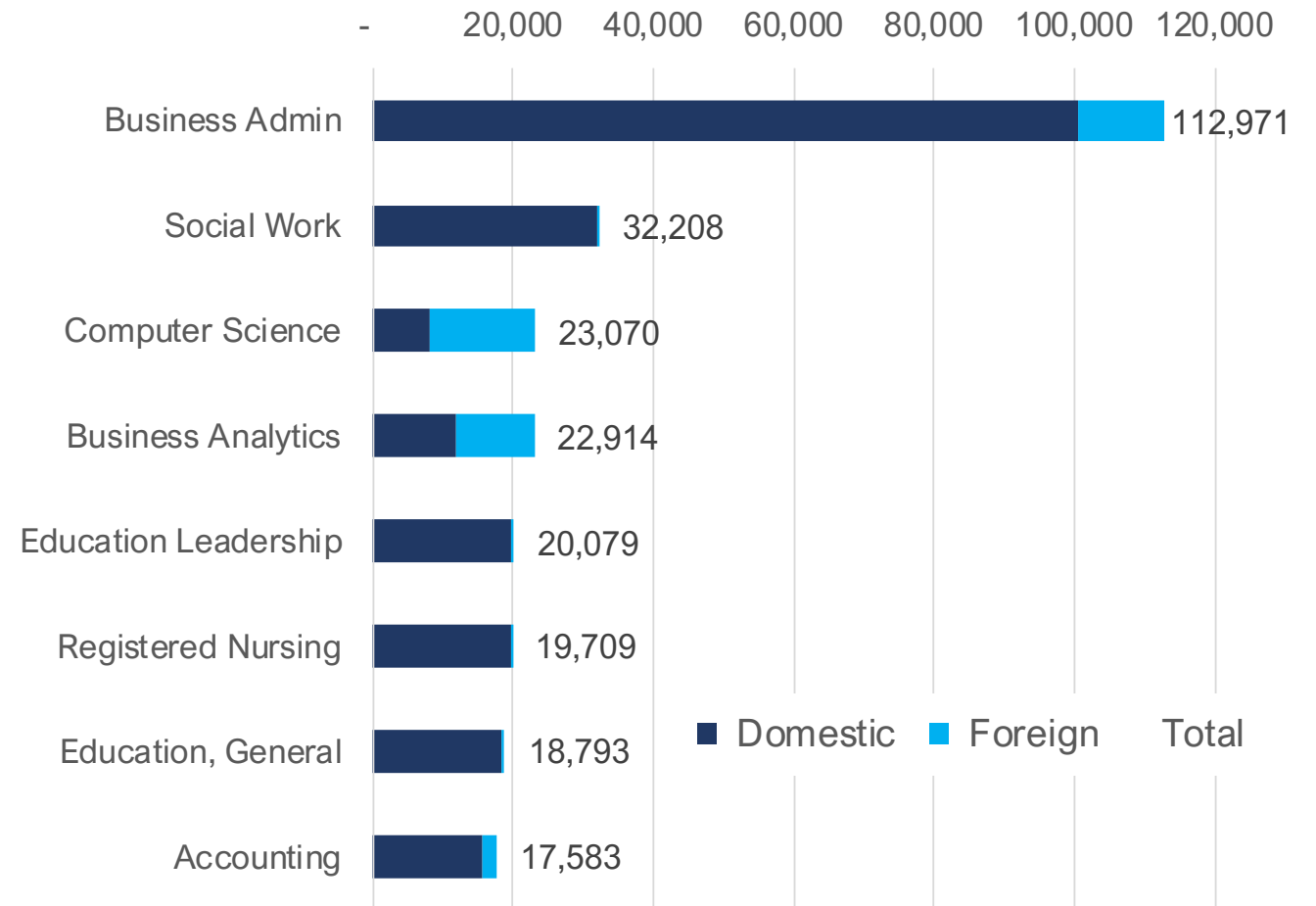
Master's Degrees in Business Analytics

2015-2020 Master's Completions by Modality

Biggest Master's Programs

2020 Completions by 6-Digit CIP

- Business Analytics is now the #4 program in the country for Master's degrees awarded.

- Master's degrees in Business Analytics have been growing 46% annually over the past five years.

Chart: Horizontal bar chart with axis labels - 20,000 40,000 60,000 80,000 100,000 120,000

Program	Total
Business Admin	112,971
Social Work	32,208
Computer Science	23,070
Business Analytics	22,914
Education Leadership	20,079
Registered Nursing	19,709
Education, General	18,793
Accounting	17,583

Legend: ■ Domestic ■ Foreign Total

Business Analytics

Top 10 Master's Programs (2020 Completions)

- Four of the top 10 programs are at highly selective private institutions that accept less than 10% of freshman applicants.

- Three of the top 10 serve student populations that are at least 80% foreign.

- One program is at the biggest public online Master's-degree provider.

- Only two of these top-10 Master's in Business Analytics programs are at top-10 institutions for all Master's-degrees (NYU and Columbia).

Campus	2020 Completions	IPEDS: % of Applicants Accepted	IPEDS: % International - Nonresident
Columbia University in the City of New York	1,540	7%	50%
University of Chicago	985	7%	25%
The University of Texas at Dallas	829	79%	87%
New York University	813	21%	17%
University of California-Los Angeles	724	14%	20%
Massachusetts Institute of Technology	676	7%	41%
Arizona State University Campus Immersion	636	88%	47%
Northwestern University	569	9%	31%
Northeastern University Lifelong Learning Network	547	-	80%
University of Rochester	523	35%	80%

Business Analytics

Top 10 Bachelor's Programs (2020 Completions)

- Eight of the top 10 Bachelor's in Business Analytics programs are at public institutions.

- Four of the top 10 institutions accept more than 80% of freshman applicants.

- In contrast, the two private institutions on this list (NYU and UPenn) are both highly selective and have high-status graduate business schools.

- Only NYU is on the top-10 lists for both Bachelor's and Master's programs in Business Analytics.

Campus	2020 Completions	IPEDS: % of Applicants Accepted	IPEDS: % International - Nonresident
University of California-Davis	593	46%	29%
Virginia Polytechnic Institute and State University	442	66%	5%
University of Virginia-Main Campus	346	23%	8%
George Mason University	344	89%	8%
University of South Carolina-Columbia	260	68%	7%
Ohio University-Main Campus	245	87%	0%
New York University	239	21%	48%
University of Pennsylvania	215	9%	39%
University of Iowa	213	84%	35%
Bridgewater State University	162	82%	1%

Summary

- Google searches for programs declined 5% year-over-year.

- Google searches for brands increased 10% year-over-year.

- As tax season approaches, job posting volume and year-over-year change are high for tax professionals.

- Google searches for Data Science increased 569% year-over-year.

- Business Analytics has been growing extremely quickly at the Bachelor's and Master's levels.

- At the Master's level, the biggest Business Analytics programs are primarily at elite institutions or serve primarily foreign students.

Upcoming Webinars

Topic	Date
Demand Trends Webcast	*Thursday* March 31st at 2:00 pm ET

Contact:
Robert Atkins

Robert.Atkins@grayassociates.com

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THANK YOU, FROM OUR TEAM TO YOURS.