Demand for Higher Education Programs

Results through January 2022
## Higher Education Institutions

### Market and Financial Data
- Student Demand
- Competition
- Demographics
- Employment
- Skills & Wages
- Benchmarks
- Academic Economics

### Advanced Analytics
- Machine Learning
- Predictive Models

### PES+ (Program Evaluation Software and Services)

<table>
<thead>
<tr>
<th>Price</th>
<th>Place</th>
</tr>
</thead>
<tbody>
<tr>
<td>Markets</td>
<td>Elasticity</td>
</tr>
<tr>
<td>Economics</td>
<td>Structure</td>
</tr>
<tr>
<td>Dashboards</td>
<td>Optimization</td>
</tr>
</tbody>
</table>
Agenda

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

Google Searches
200 Largest Programs*

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

Source: Gray’s Keyword Searches Dashboard
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.
Employment
In January 2022, job postings grew 30% year-over-year.
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 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.
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.

Top 11-20 Programs: January 2022

<table>
<thead>
<tr>
<th>Program</th>
<th>2020</th>
<th>2021</th>
<th>2022</th>
</tr>
</thead>
<tbody>
<tr>
<td>Education</td>
<td></td>
<td></td>
<td>4,321</td>
</tr>
<tr>
<td>Design and Visual Communications</td>
<td></td>
<td></td>
<td>4,259</td>
</tr>
<tr>
<td>Finance</td>
<td></td>
<td></td>
<td>4,137</td>
</tr>
<tr>
<td>Computer Software Engineering</td>
<td></td>
<td></td>
<td>4,135</td>
</tr>
<tr>
<td>Psychology</td>
<td></td>
<td></td>
<td>4,033</td>
</tr>
<tr>
<td>Civil Engineering Technology</td>
<td></td>
<td></td>
<td>3,787</td>
</tr>
<tr>
<td>Informatics</td>
<td></td>
<td>3,734</td>
<td>3,661</td>
</tr>
<tr>
<td>Economics</td>
<td></td>
<td></td>
<td>3,611</td>
</tr>
<tr>
<td>Architecture</td>
<td></td>
<td>3,477</td>
<td>3,234</td>
</tr>
<tr>
<td>Marketing</td>
<td></td>
<td></td>
<td>3,234</td>
</tr>
</tbody>
</table>

Source: Gray’s International Student Demand Dashboard
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

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

Source: Gray’s International Student Demand Dashboard
Non-Degree Courses
Coursera: Largest Courses

January 2022 vs. Cumulative Enrollment

Bubble size is proportional to the month-over-month percent change in enrollment:
- 3.4%
- -0.8%

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

Source: Gray’s Non-Degree - Coursera Dashboard
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

Source: Gray’s Non-Degree - Coursera Dashboard
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.
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

<table>
<thead>
<tr>
<th>CIP Code</th>
<th>Total Percentile</th>
<th>Student Demand Percentile</th>
<th>Competitive Intensity Percentile</th>
<th>Employment Percentile</th>
<th>Degree Fit Percentile</th>
</tr>
</thead>
<tbody>
<tr>
<td>51.2801 Registered Nursing</td>
<td>100</td>
<td>100</td>
<td>88</td>
<td>99</td>
<td>50</td>
</tr>
<tr>
<td>14.1901 Mechanical Engineering</td>
<td>99</td>
<td>99</td>
<td>97</td>
<td>99</td>
<td>50</td>
</tr>
<tr>
<td>24.0101 Biology/Biological Sciences, Genl</td>
<td>99</td>
<td>99</td>
<td>93</td>
<td>99</td>
<td>50</td>
</tr>
<tr>
<td>52.0201 Business Admin. and Mgmt, General</td>
<td>99</td>
<td>99</td>
<td>87</td>
<td>99</td>
<td>50</td>
</tr>
<tr>
<td>11.0701 Computer Science</td>
<td>97</td>
<td>97</td>
<td>93</td>
<td>97</td>
<td>50</td>
</tr>
<tr>
<td>52.0801 Finance, General</td>
<td>97</td>
<td>97</td>
<td>93</td>
<td>97</td>
<td>50</td>
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<tr>
<td>21.0003 Information Technology</td>
<td>91</td>
<td>91</td>
<td>91</td>
<td>91</td>
<td>50</td>
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<tr>
<td>52.0101 Accounting</td>
<td>99</td>
<td>99</td>
<td>99</td>
<td>99</td>
<td>50</td>
</tr>
<tr>
<td>52.1401 Marketing/Marketing Mgmt, General</td>
<td>99</td>
<td>99</td>
<td>99</td>
<td>99</td>
<td>50</td>
</tr>
<tr>
<td>14.0801 Civil Engineering, General</td>
<td>99</td>
<td>99</td>
<td>99</td>
<td>99</td>
<td>50</td>
</tr>
<tr>
<td>30.7102 Business Analytics</td>
<td>99</td>
<td>99</td>
<td>99</td>
<td>99</td>
<td>50</td>
</tr>
<tr>
<td>52.5203 Logistics, Materials, and Supply Chain Mgmt</td>
<td>99</td>
<td>99</td>
<td>99</td>
<td>99</td>
<td>50</td>
</tr>
<tr>
<td>45.0101 Economics, General</td>
<td>99</td>
<td>99</td>
<td>99</td>
<td>99</td>
<td>50</td>
</tr>
<tr>
<td>14.1003 Electrical/Electronics Eng'g</td>
<td>99</td>
<td>99</td>
<td>99</td>
<td>99</td>
<td>50</td>
</tr>
<tr>
<td>45.0603 Econometrics and Quantitative Economics</td>
<td>99</td>
<td>99</td>
<td>99</td>
<td>99</td>
<td>50</td>
</tr>
<tr>
<td>14.0201 Aero/Astro/Space Engineering</td>
<td>99</td>
<td>99</td>
<td>99</td>
<td>99</td>
<td>50</td>
</tr>
<tr>
<td>26.0102 Biomedical Sciences, General</td>
<td>99</td>
<td>99</td>
<td>99</td>
<td>99</td>
<td>50</td>
</tr>
<tr>
<td>14.0701 Chemical Engineering</td>
<td>99</td>
<td>99</td>
<td>99</td>
<td>99</td>
<td>50</td>
</tr>
<tr>
<td>14.0501 Industrial Engineering</td>
<td>99</td>
<td>99</td>
<td>99</td>
<td>99</td>
<td>50</td>
</tr>
<tr>
<td>45.0901 Mechanical Engineering</td>
<td>99</td>
<td>99</td>
<td>99</td>
<td>99</td>
<td>50</td>
</tr>
</tbody>
</table>

Source: Gray’s PES+ Markets
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 Scorecard](image-url)
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

Source: Gray’s Keyword Searches Dashboard
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.
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.
Job Postings: Business Analytics

In January 2022, job postings increased 55%.

Job Postings Volume
Business Analytics
January 2022

- 2021
- 2022

Source: Gray’s PES+ Markets
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

<table>
<thead>
<tr>
<th>Job Title</th>
<th>Total Volume 2021-22</th>
</tr>
</thead>
<tbody>
<tr>
<td>Business Analyst</td>
<td>12,425</td>
</tr>
<tr>
<td>Data Analyst</td>
<td>6,975</td>
</tr>
<tr>
<td>Senior Business Analyst</td>
<td>3,111</td>
</tr>
<tr>
<td>Business Systems Analyst</td>
<td>3,110</td>
</tr>
<tr>
<td>Senior Data Analyst</td>
<td>2,446</td>
</tr>
<tr>
<td>Program Analyst</td>
<td>2,288</td>
</tr>
<tr>
<td>Business Analyst II</td>
<td>2,032</td>
</tr>
<tr>
<td>Business Intelligence Analyst</td>
<td>1,840</td>
</tr>
<tr>
<td>Systems Analyst</td>
<td>1,703</td>
</tr>
<tr>
<td>Sr. Business Analyst</td>
<td>1,226</td>
</tr>
</tbody>
</table>

### Top Skills

<table>
<thead>
<tr>
<th>Skill</th>
<th>Total Volume 2021-22</th>
</tr>
</thead>
<tbody>
<tr>
<td>SQL</td>
<td>59,831</td>
</tr>
<tr>
<td>Excel</td>
<td>39,611</td>
</tr>
<tr>
<td>Agile</td>
<td>34,701</td>
</tr>
<tr>
<td>Data Analysis</td>
<td>32,715</td>
</tr>
<tr>
<td>Database</td>
<td>27,681</td>
</tr>
<tr>
<td>Information Systems</td>
<td>26,809</td>
</tr>
<tr>
<td>Problem Solving</td>
<td>26,704</td>
</tr>
<tr>
<td>Methodologies</td>
<td>25,219</td>
</tr>
<tr>
<td>Databases</td>
<td>24,568</td>
</tr>
</tbody>
</table>
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.
Business Analytics Completions

2015-2020 Completions for All Award Levels Combined

Source: Gray’s PES+ Markets
**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.
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.

Source: Gray’s PES+ Markets
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.

Source: Gray’s PES+ Markets
Master’s Degrees in Business Analytics

2015-2020 Master’s Completions by Modality

- Completions
- Distance Education Completions

Source: Gray’s PES+ Markets
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.
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).

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

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

Source: Gray’s PES+ Markets
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

<table>
<thead>
<tr>
<th>Topic</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Demand Trends Webcast</td>
<td>Thursday March 31st at 2:00 pm ET</td>
</tr>
</tbody>
</table>

Contact: Robert Atkins
Robert.Atkins@grayassociates.com
THANK YOU, FROM OUR TEAM TO YOURS.