

Do international students want what you're offering? Assessing your institution's program portfolio

By Rajika Bhandari, Ph.D.
For Oxford International



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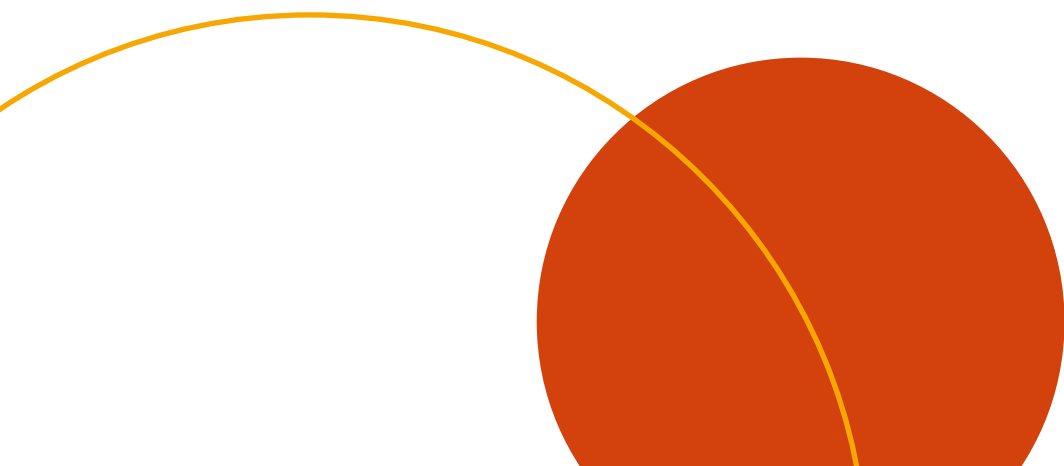


About the author

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Overview

While the number of international students coming to the U.S. has recovered since the peak of the pandemic, U.S. institutions continue to face significant competition from each other and from other countries to attract international students to their campuses. Although the discourse around attracting and recruiting international students has focused primarily on demographics and national policies, a key issue that does not receive sufficient attention is how the academic interests and aspirations of prospective international students have shifted over time and the extent to which institutions' offerings have kept pace with a new generation of international students.

Yet global surveys reveal that 60% of prospective international students report that the specific programs or courses offered are the primary driver of where to study, ahead of the specific institution and before the destination country.¹ Further, when choosing a program of study, the top three factors driving students' decisions are internship opportunities (36.9%), practical curriculum (23.6%), and a resume-enhancing program (17.2%).

To guide U.S. institutions on how they can better align their overall program offerings with current demand from international students, this report addresses the following key questions:

- How has demand for various subject areas and programs of study shifted over time amongst international students who plan to study in the U.S.?
- How do current shifts and trends across industry, the labor market, and national policies impact and shape international student demand?
- What are the key takeaways for U.S. institutions on how to rethink and align their programs and course offerings to attract international students?

Framed by these three broad questions and based on available reports, secondary data sources, and expert opinion, this report enables fresh thinking and equips institutional leaders with ideas and tools to rethink their academic programming and develop new and innovative academic programs that are designed to reach a diverse range of future international students. Aligning academic offerings with student demand also has implications for the resilience and sustainability of institutions, and for the future success and employability of international students.



What do international students want to study in the U.S.?

International students have long been attracted to U.S. universities for a variety of reasons, including the quality of education, the diversity of programs, and the opportunities for research and practical experience. While traditional fields like engineering and business remain popular, international students' preferences have evolved to include more technology, health, and interdisciplinary programs.

¹ <https://4722110.fs1.hubspotusercontent-na1.net/hubfs/4722110/SSR%20full%20report%202023.pdf>

Traditional top fields of study

Globally and for the U.S., the broad fields that attract international students have remained consistent over time. Nonetheless, significant shifts have occurred at the sub-field level that are not always captured in the aggregate. These shifts reflect broader trends such as evolving global demand and geopolitical factors, as well as changes in the U.S. job market and immigration policies.

STEM (Science, Technology, Engineering, and Mathematics)

- **Computer Science and Information Technology:** This field remains a top choice for international students, driven by the global demand for technology professionals and the strong job prospects in the U.S. International students are particularly attracted to programs in artificial intelligence (AI), data science, cybersecurity, and software development. Between 2023 and 2024, demand for AI and for machine learning amongst all globally mobile students grew by 36% and 34%, respectively.²
- **Engineering:** Mechanical, electrical, civil, and chemical engineering programs continue to draw large numbers of international students. The appeal lies in the robust job market, opportunities for research, and the high regard for U.S. engineering degrees.
- **Mathematics and Statistics:** Programs in these fields are also popular, especially for students interested in data analytics, financial engineering, and actuarial science.

Open Doors International Students Data

Selected fields of study for international students, 2023/24



56% of international students in the U.S. studied in STEM fields

Source: The Open Doors Report on International Educational Exchange is a comprehensive information resource on international students and scholars at higher education institutions in the United States and U.S. students studying abroad. It is sponsored by the U.S. Department of State with funding provided by the U.S. Government and is published by IIE. For more information, visit www.opendoorsdata.org.



Business and Management

- **MBA Programs:** An MBA remains a strong draw, particularly for students from Asia and Europe. Many international students seek MBAs to gain leadership skills and advance their careers in global business.
- **Finance and Accounting:** Specializations in finance, accounting, and investment management are popular due to their strong job prospects and the global relevance of these skills.
- **Entrepreneurship:** As startups and innovation hubs continue to grow globally, more international students are pursuing programs focused on entrepreneurship and innovation.

Health and Life Sciences

- **Public Health:** With growing global awareness of healthcare challenges and the expanded job market in this area, international students are increasingly interested in public health programs, especially those focusing on global health, epidemiology, and health policy.
- **Biomedical Sciences and Biotechnology:** These fields attract students interested in cutting-edge research and innovations in healthcare, pharmaceuticals, and biotechnology.
- **Nursing and Healthcare Management:** There is a rising interest in nursing and healthcare management programs, particularly among students from countries facing healthcare workforce shortages.

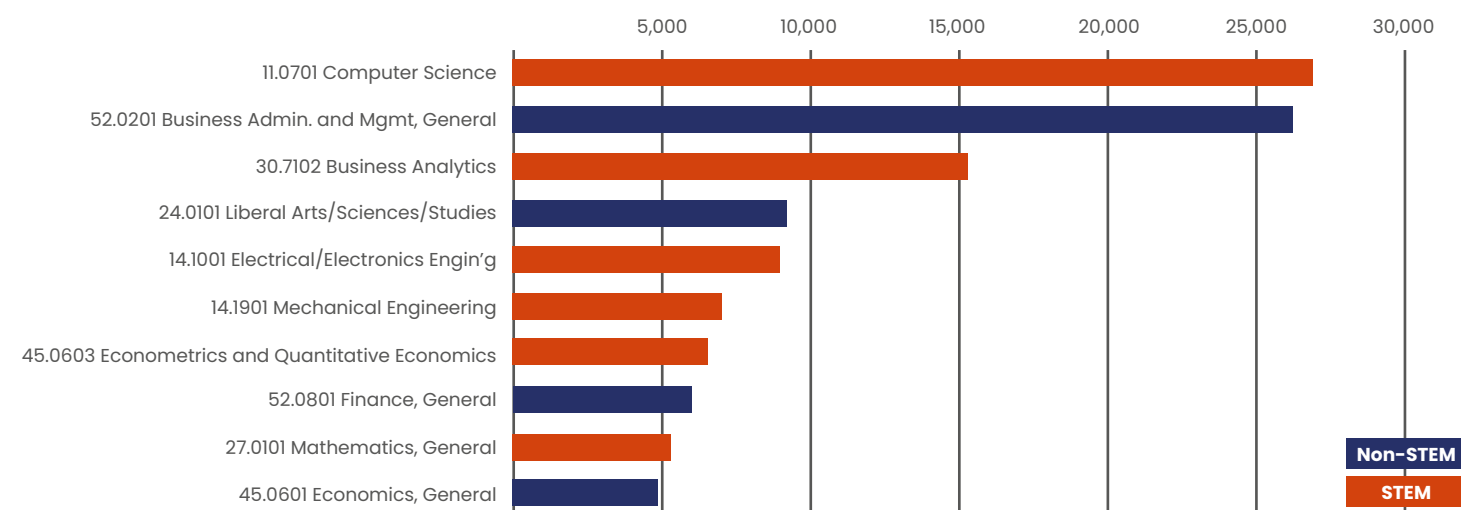
² <https://studyportals.com/reports/subject-opportunities-for-2024>

Social Sciences and Humanities

- **Economics:** Economics programs continue to be popular, particularly for students aiming for careers in finance, policy-making, or international development.
- **International Relations and Political Science:** These fields attract students interested in diplomacy, global governance, and international law, especially in the context of changing global power dynamics.
- **Psychology and Sociology:** While less dominant than STEM or business fields, there is a steady interest in psychology and sociology, particularly for students interested in research or social services.

Top Programs for International Students

2021 International Student Completions – All Award Levels



Source: Gray Associates Program Evaluation System

In addition to the Open Doors data³ on international student enrollment, analysis by Gray DI that utilizes 2021 IPEDS⁴ completions data also shows the predominance of certain fields, including Computer Science and Business programs, each of which graduated over 25,000 international students in 2021. Business Analytics programs had over 15,000 international graduates.⁵

³ www.opendoorsdata.org

⁴ Integrated Postsecondary Education Data System: <https://nces.ed.gov/ipeds>

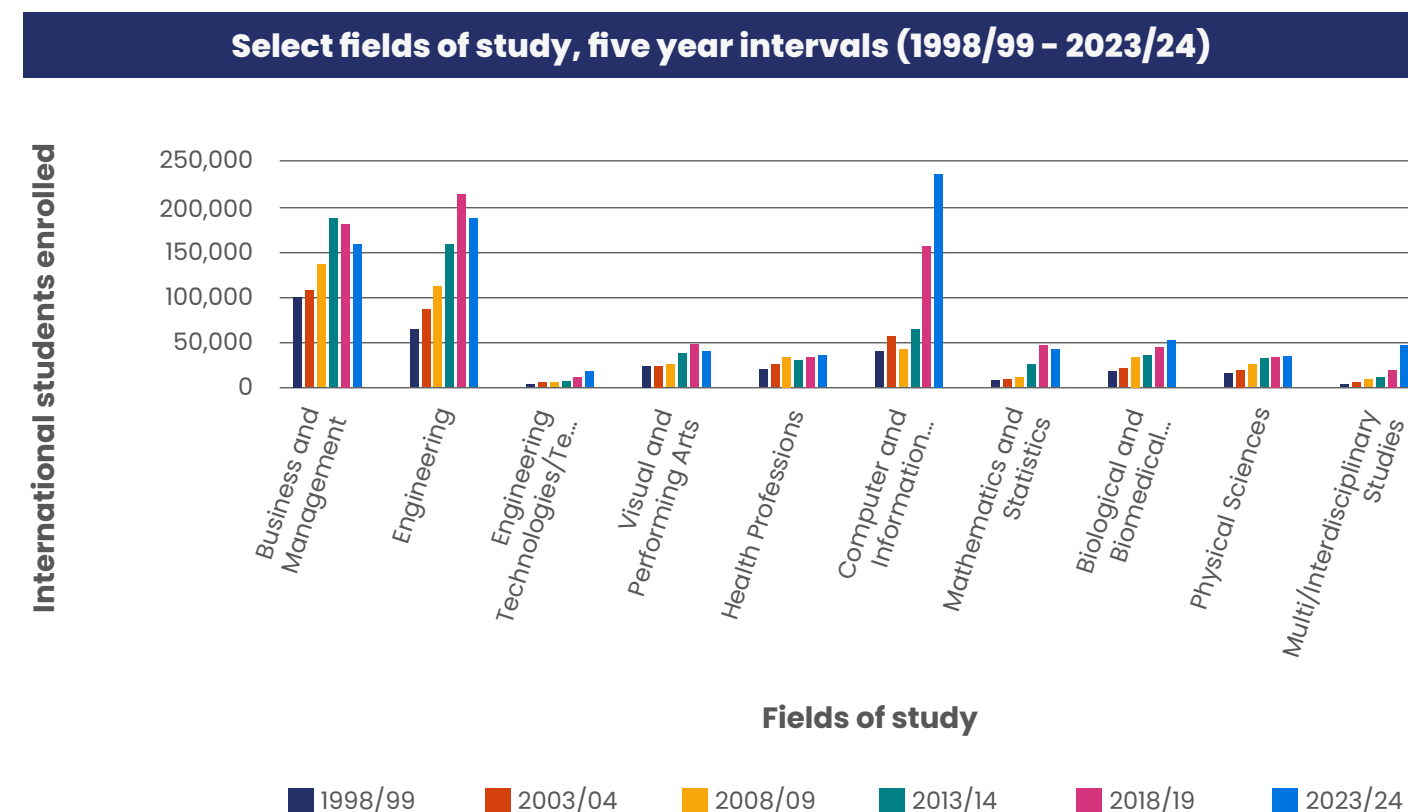
⁵ <https://www.graydi.us/blog/graydata/competition-is-fierce-how-us-colleges-can-stand-out-to-international-students>



Shifts in preference over time

While the STEM fields and business and management continue to dominate as fields of study and careers that attract international students, important shifts have occurred over time within these broad areas and across other disciplines. The chart below shows international enrollments across key and emerging fields over a 25-year period and at five-year intervals within this timeframe. While the overall fields of business and engineering still account for the largest absolute enrollments of international students, there are other fields that have experienced sharper growth over the past several years. These include the following:

- **Multi/interdisciplinary studies:** Although they account for a smaller number of international students in terms of absolute numbers, interdisciplinary studies witnessed more than a doubling of enrollments between 2018/19 and 2023/24: a 125.8% growth, from 21,052 to 47,526 students. Such programs include, for example, biotechnology, which bridges biology, chemistry, engineering, and business to develop and apply technology in medicine, agriculture, and other fields. Similarly, sustainability studies offer the intersection of environmental science, economics, policy, and ethics to address sustainable development and resource management.
- **Computer and information sciences:** witnessed a 51.2% growth over the past five years and include the fast-growing areas of AI, machine learning, data science, and cybersecurity.
- **Engineering technologies/technicians** grew by 31.6% over the past five years
- **Biological and biomedical sciences:** grew by 17.2%
- **Health professions:** grew by 1.7%



Five Factors driving these shifts

A focus on Innovation: International students are drawn to the U.S. because it has invested heavily in cutting-edge research facilities, technological advancements, and startup ecosystems, creating unparalleled opportunities for innovation. In 2022, the U.S. invested an estimated \$886 billion in research and development (R&D), and innovation-related occupations are projected to experience significant growth in the coming years.

The top five industries driving R&D growth include AI and machine learning; biotechnology and life sciences; renewable energy and sustainability; semiconductor and electronics; and pharmaceuticals and healthcare. The U.S. Bureau of Labor Statistics (BLS) anticipates that employment in R&D within the physical, engineering, and life sciences sectors will increase by 12.7% from 2021 to 2031.⁶ On their part, U.S. universities have embedded innovation within their curricula for both undergraduate and graduate students, preparing students to navigate and lead in rapidly changing industries.

Shift Toward Practical and Career-Oriented Programs: Over the past decade, international students have continued to gravitate toward programs that offer strong practical training and clear career paths, such as those with built-in internships, co-op opportunities, or strong industry connections. This evolution reflects a desire for a tangible return on investment, particularly given the high cost of U.S. education, and is also related to the length

of time that international students in certain fields are able to work in the U.S. post-study, an issue discussed in a subsequent section of this report. A related issue is the noticeable and concerning decline in international students pursuing traditional humanities subjects, such as literature or history, as students increasingly prioritize fields with clearer career prospects and higher earning potential.

Rising Demand for Interdisciplinary Programs: As indicated above, interdisciplinary programs have seen a sharp growth in international enrollments. More students are seeking interdisciplinary programs that combine fields like technology and business, health and data science, or engineering and sustainability. This reflects the changing nature of global industries, where cross-disciplinary knowledge and skills are increasingly valuable.

Entrepreneurship: A growing number of international students are interested in studying entrepreneurship, and business schools have seen higher enrollment in entrepreneurship courses from international students. Several factors contribute to this trend, including increasing globalization and digital economies that have expanded opportunities for entrepreneurial ventures across borders. International students often see entrepreneurship as a way to leverage their global exposure and diverse networks and are able to benefit from U.S. visa policies that enable aspiring international entrepreneurs to set up innovative

ventures.⁷ At the same time, international students can face unique barriers when it comes to entrepreneurship: navigating a new country's business culture and legal environment can be complex, and funding for startups may be harder for non-citizens to obtain.⁸

Growing Focus on Public Health and Sustainability: The COVID-19 pandemic and increasing global awareness of environmental issues have led to a surge in interest and investment in public health, global health, and sustainability-related programs. Students are looking to make an impact in these critical areas, and U.S. universities offer some of the leading programs in these fields.

⁶ <https://www.bls.gov/spotlight/2023/a-look-at-projected-employment-in-professional-scientific-and-technical-services-2021-31/>

⁷ <https://www.uscis.gov/working-in-the-united-states/options-for-noncitizen-entrepreneurs-to-work-in-the-united-states>

⁸ <https://www.nafsa.org/ie-magazine/2024/11/12/being-change-former-international-students-solve-struggles-they-faced>



Innovation-focused initiatives:

Arizona State University's **School for the Future of Innovation in Society** emphasizes responsible innovation that anticipates challenges and integrates diverse perspectives.

Purdue University's **Innovation College** serves as an incubator for new pedagogical approaches and transdisciplinary program development.

The **Pathways to Innovation Program**, funded by the National Science Foundation, has been implemented in 25 U.S. institutions to incorporate innovation and entrepreneurship into undergraduate engineering education.

The role of the job market and national policies

A range of factors, including economic and workforce trends and visa policies, can push or pull international students towards certain fields and influence their choices.

Fastest growing vs. fastest declining jobs			
Top 10 fastest growing jobs		Top 10 fastest declining jobs	
1.	AI and Machine Learning Specialists	1.	Bank Tellers and Related Clerks
2.	Sustainability Specialists	2.	Postal Service Clerks
3.	Business Intelligence Analysts	3.	Cashiers and ticket Clerks
4.	Information Security Analysts	4.	Data Entry Clerks
5.	Fintech Engineers	5.	Administrative and Executive Secretaries
6.	Data Analysts and Scientists	6.	Material-Recording and Stock-Keeping Clerks
7.	Robotics Engineers	7.	Accounting, Bookkeeping and Payroll Clerks
8.	Big Data Specialists	8.	Legislators and Officials
9.	Agricultural Equipment Operators	9.	Statistical, Finance and Insurance Clerks
10.	Digital Transformation Specialists	10.	Door-To-Door Sales Workers, News and Street Vendors, and Related Workers

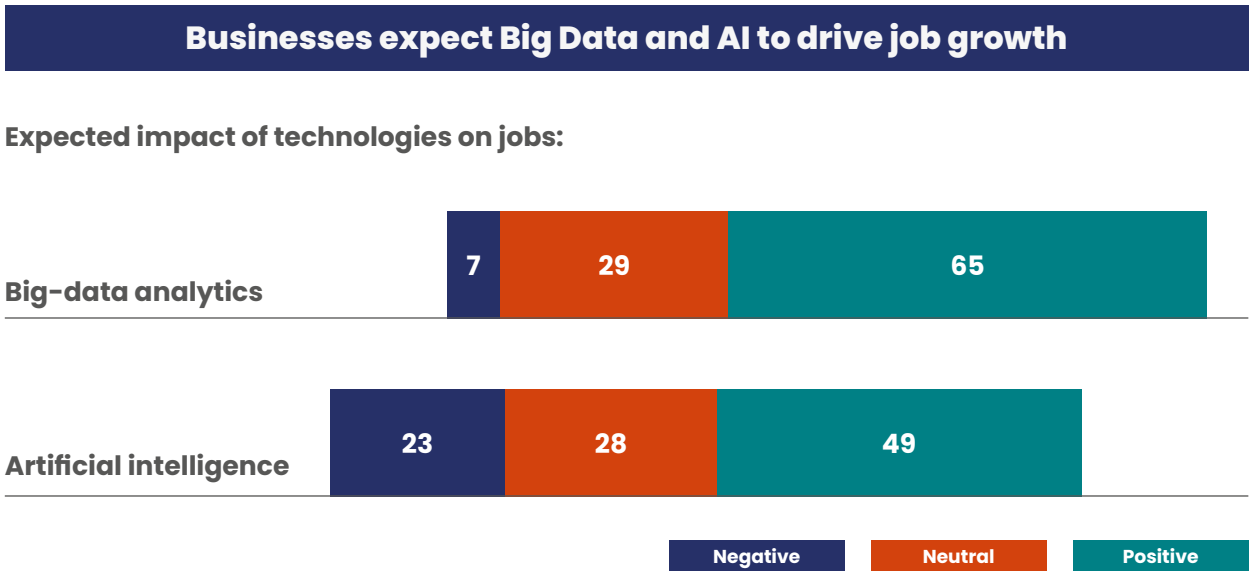
Source: World Economic Forum, Future of Jobs Report 2023

Note: The jobs which survey respondents expect to grow most quickly from 2023 to 2027 as a fraction of present employment figures



U.S. Job Market Trends: As the demand for technology professionals, data scientists, and healthcare workers has grown globally, international students have gravitated toward these fields. According to the World Economic Forum’s latest *Jobs of the Future* report, the top five fastest-growing careers are AI and Machine Learning Specialists; Sustainability Specialists; Business Intelligence Analysts; Information Security Analysts; and Fintech Engineers.⁹ On the other hand, the top five declining jobs are Bank Tellers and Related Clerks; Postal Service Clerks; Cashiers and Ticket Clerks; Data Entry Clerks; and Administrative and Executive Secretaries. Accounting-related jobs have also declined.

Future of Jobs



Including jobs such as



Source: Future of Jobs, World Economic Forum, April 2023

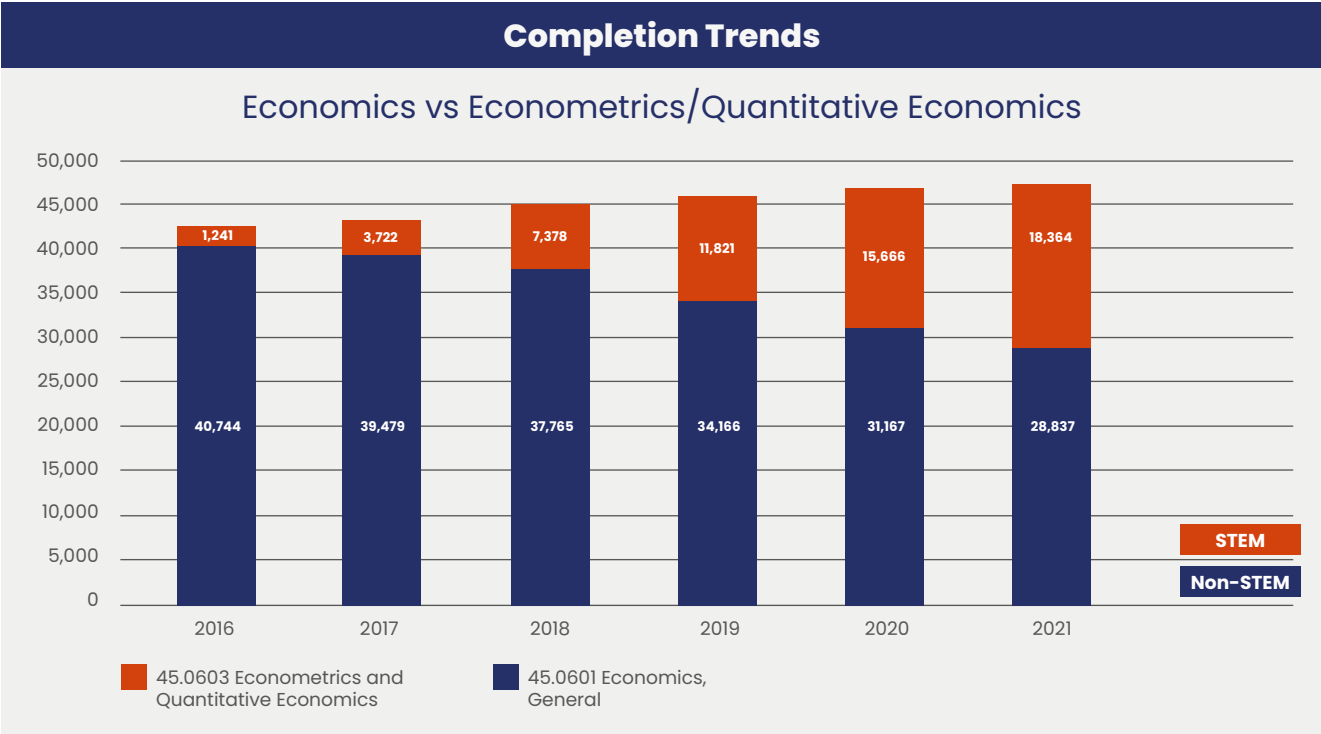
⁹ World Economic Forum, Jobs of the future report: <https://www.weforum.org/publications/the-future-of-jobs-report-2023/in-full/>

The OPT STEM extension as a driver of student choice

U.S. visa policies, particularly around Optional Practical Training (OPT) and H-1B visas, have influenced international students’ choices. STEM programs, which offer extended OPT periods, have become more attractive as a result. In 2022, the U.S. Department of Homeland Security (DHS) announced a large expansion of the STEM OPT list with the addition of 22 academic fields¹⁰ and added a further eight study fields recently.¹¹

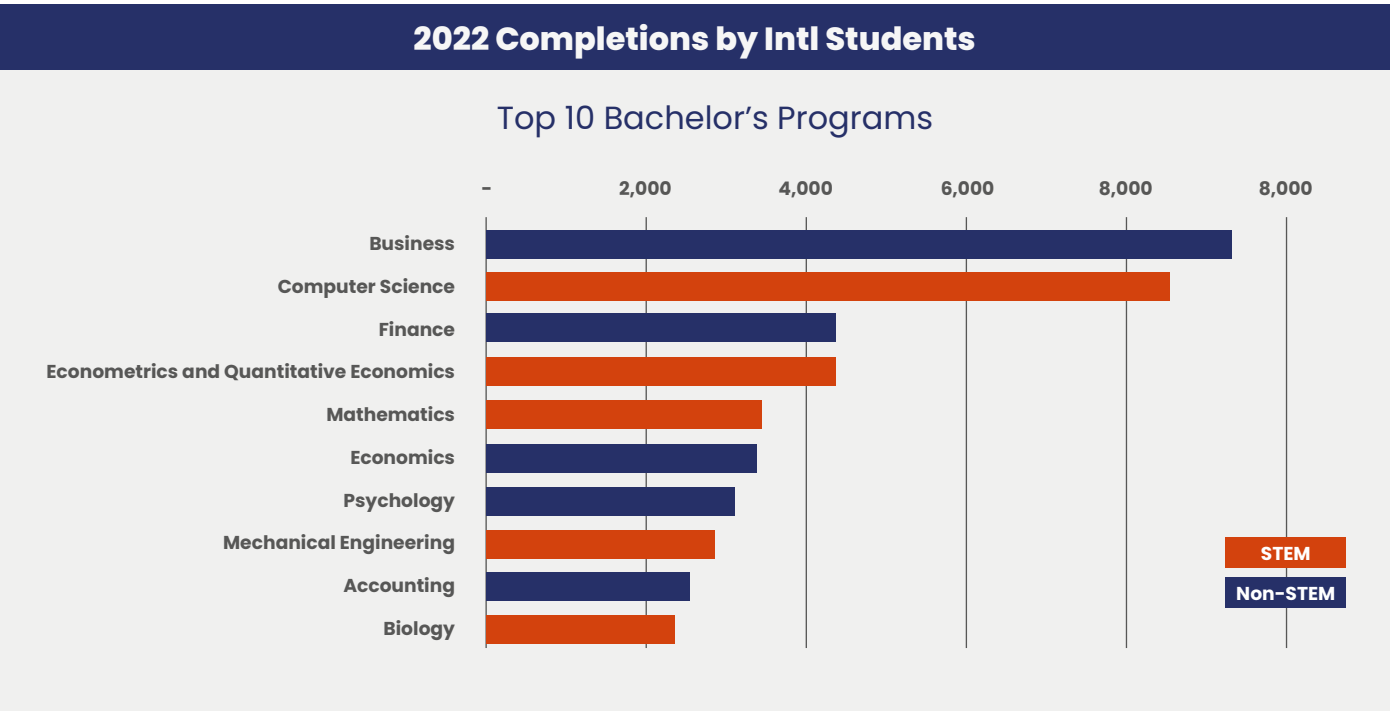
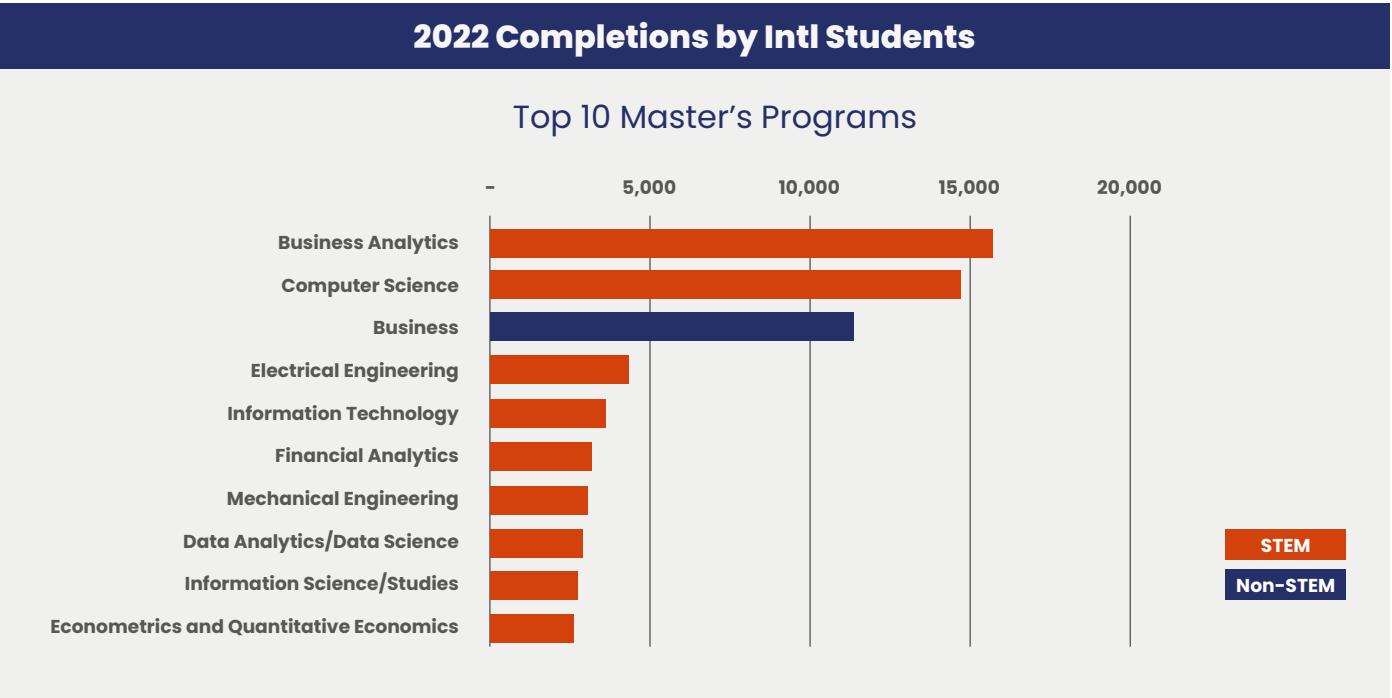
Since DHS periodically reviews which subjects and Classification of Instructional Programs (CIP) codes are STEM-designated, some institutions might make adjustments to certain programs and their CIP code classifications so as to have these programs be STEM-designated, which would then allow international students in these fields to avail of the STEM OPT extension.

An analysis of fields of study and programs by Gray DI demonstrates how the STEM designation has perhaps influenced decision-making on the part of international students. A comparison of Economics (non-STEM) programs versus Econometrics and Quantitative Economics (STEM) programs from 2016 to 2021 shows that international student completions of the STEM-designated degree grew 71% annually over this time, whereas completions of non-STEM Economics programs fell 7% annually. In 2021, 36% of Econometrics and Quantitative Economics graduates were international students, compared to 17% for Economics programs. Similar variations are seen for Architecture (non-STEM) and Architectural & Building Sciences (STEM).



Source: Gray DI’s Program Evaluation System: Markets module

Further analysis of international students’ program completions by academic level also reveals the predominance of STEM-designated programs.¹² Nine out of the top 10 master’s programs completed by international students in 2022 were STEM-designated programs, while half of the top 10 bachelor’s programs were STEM-designated.



Source: Gray DI’s Program Evaluation System: Markets module

¹⁰ <https://www.nafsa.org/regulatory-information/dhs-adds-22-fields-stem-designated-degree-program-list>

¹¹ <https://www.ice.gov/doclib/sevis/pdf/stemList2024.pdf>

¹² <https://www.graydi.us/blog/graydata/in-the-eyes-of-international-students-not-all-programs-are-created-equal>



Some academic programs face more visa barriers

Although the U.S. government does not explicitly categorize some programs as more difficult to secure a visa for, obtaining an F-1 visa for certain academic programs can be difficult due to how they are perceived during the visa application process.¹³ In general, students must clearly articulate how their program of choice aligns with their career goals.

Programs perceived as unrelated to an applicant's previous education or work experience may raise concerns. STEM programs are generally viewed favorably because of their strong job prospects and alignment with U.S. economic and technological priorities, while fields like arts, humanities, or social sciences may face more scrutiny if they don't demonstrate clear post-graduation career prospects. Since F-1 visas are primarily for academic study, students applying for vocational or non-degree programs may also face hurdles. Lastly, students from certain countries who wish to pursue particular fields of study might face additional scrutiny due to national security concerns.

Employment opportunities back home

Although there is a pull for international students to remain in the U.S. post study, many return home to thriving economies in their home countries and regions. For example, the top five sectors in terms of job growth in India are: IT and software development, management consulting, finance and investment banking, healthcare and biotechnology, and EdTech and education.¹⁴ These trends likely fuel the educational choices of Indian students who study abroad with the goal of returning to a job at home. In contrast to the Indian economy, the top five growth industries in Latin America—which in turn drive the educational choices of homeward-bound international students from the region—include: agriculture and agribusiness; mining and natural resources; renewable energy; technology and FinTech; and tourism and hospitality.

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We also have to think about the local workforce needs of the countries that international students come from and whether we can cater to those needs by offering relevant programs of study. How do we start to attract students from those countries who could then go home and have really good jobs because their economy is taking off?

Kris Wong Davis,
Carnegie Mellon University/University of Arizona

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¹³ https://www.higheredimmigrationportal.org/wp-content/uploads/2023/08/SL_23_WhitePaper_PresidentsAlliance_Digital_r2-1.pdf

¹⁴ <https://www.businessinsider.com/indians-leaving-big-tech-to-launch-startups-back-home-2024-9>

How Institutions Can Adapt to Meet International Student Interest: Key Strategies

Given the current dynamic nature of global student mobility and its drivers, U.S. universities have tried to adapt by offering innovative programs and practical training opportunities that align with students' changing interests. These adaptations reflect U.S. universities' efforts to attract and retain international students by making their academic programs more relevant and accessible. At the same time, these innovative academic programs cater to the diverse needs and aspirations of international students, offering them unique opportunities to gain global competencies, industry experience, and specialized knowledge in emerging fields.





Develop Specialized and Interdisciplinary Programs

Due to the high demand for STEM programs, universities have strengthened these areas, often with specialized tracks or courses tailored to international students' needs, and in cutting-edge fields like AI, data science, biotechnology, and renewable energy.

Universities are creating innovation hubs and incubators that offer specialized programs in entrepreneurship and by providing a supportive ecosystem which includes resources such as mentorship, funding, and networking opportunities to support entrepreneurial endeavors.

Programs such as those at Babson College, Stanford University, and the University of Cambridge focus on innovation, venture creation, and global entrepreneurship.

Universities have also introduced flexible, interdisciplinary programs that allow international students to tailor their studies to diverse interests. Programs that allow students to design their own curriculum by combining disciplines (e.g., business with technology, arts with sciences) attract students seeking a personalized education. Offering modular courses that can be mixed and matched gives international students flexibility in building their academic journey and aligning it with their career goals.

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We have a focus on AI and on six key interdisciplinary areas of “ideas to impact” that are aimed at solving global grand challenges—these guide us in our thinking on where to invest in terms of developing new programs. Aimed at cross-discipline problem-solving, these key areas have a multidisciplinary focus around teaching, research and scholarship and include topics ranging from mental health and wellness, regenerative futures, health equity, educational equity, democracy, and quantum.

Uttiyo Raychaudhuri
Vice Provost for
Internationalization, University
of Denver

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Consider Flexible Degree Options

One of the key developments over the past few years—spurred by the pandemic—has been the change in ways that degrees are structured and delivered, often using a blended in-person/online approach or offering a part of the degree in the student’s home country.

Online and Hybrid Learning Models: Fully online degrees that maintain the academic rigor of on-campus programs are increasingly popular, allowing international students to access U.S. education from anywhere in the world. In addition, universities are offering hybrid models that combine online learning with short-term in-person residencies, making education more accessible to international students while still providing opportunities for on-campus experiences.

Dual Degrees and Joint Programs: U.S. universities have developed partnerships with institutions abroad in order to offer dual and joint degree programs, where students earn degrees from two institutions (e.g., a U.S. university and an international partner), thus providing unique value and appeal to students interested in gaining a global perspective. Such degrees have been around for quite some time¹⁵ but have gained traction during the pandemic as institutions and students have sought easier and cost-effective ways to access an international study experience.



Explore Certificates and Micro-credentials

One of the most notable developments in the higher education sector in recent years has been the advent of micro-credentials¹⁶, often synonymous with “stackable credentials” and “digital badges”, and in essence offering shorter, verifiable credentials tied to specific competencies and skills.¹⁷

At the same time, certificate programs have also expanded, with universities offering short-term certificates in specialized fields. According to a 2022 survey, students are 76% more likely to enroll in an academic program that offers industry micro-credentials as supplementation; employers are 72% more likely to hire a candidate who has a professional certificate; and 95% of U.S. university leaders believe that industry micro-credentials will be an essential part of higher education in the near future.¹⁸ Micro-credentials and certificates also offer institutions an opportunity to raise brand awareness and to recruit students into a “taster” or feeder course that leads to further study.

These programs provide flexible, short-term learning opportunities that focus on specific skills or knowledge areas, making them an appealing option for international students who want to enhance a full degree program, especially if such courses are credit-bearing. Certificate and micro-credential programs often focus on in-demand skills in fields like technology, business, healthcare, and education. For example, programs in AI, data science, data analytics, digital marketing, project management, cybersecurity and other technology-related fields are particularly popular among international students. Other certificates include those that are business-related, such as in finance, entrepreneurship, or supply chain management, and in global health, biomedical sciences, or public health.

Despite their growing appeal, there is considerable variation across such offerings—some are in-person, others are online—and a key consideration with certificate programs and shorter credentials is whether they qualify international students for OPT. Certificate programs can be eligible for OPT, but there are important conditions that might need to be met by international students and their institutions. An additional issue tied to the legitimacy of these types of new credentials and certificates is their quality assurance. Developing programs in collaboration with industry leaders, professional organizations, or global companies, enhances their credibility and relevance. Organizations like the Higher Learning Commission¹⁹ and the Council of Chief State School Officers²⁰ have begun to focus on the need for quality standards for micro-credentials.

¹⁵ <https://www.acenet.edu/Documents/Mapping-International-Joint-and-Dual-Degrees.pdf>

¹⁶ <https://www.aacsb.edu/insights/articles/2024/10/how-microcredentials-are-changing-higher-education>

¹⁷ <https://unesdoc.unesco.org/ark:/48223/pf0000381668>

¹⁸ <https://pages.coursera-for-business.org/rs/748-MIV-116/images/Industry-Micro-Credentials-Report.pdf>

¹⁹ <https://www.hlcommission.org/learning-center/credential-lab/>

²⁰ <https://files.eric.ed.gov/fulltext/ED610732.pdf>

Offer more Industry-Driven and Practical Experience

As discussed elsewhere in this report, a key driver of international student demand is the extent to which a program of study offers practical experience and improves employment prospects. Universities are thus creating academic programs that include co-op or internship experiences, often designed in collaboration with industry leaders and with industries that have a global focus to help international students gain practical experience and make connections that are valuable for their future employment, whether in the U.S. or in their home countries.

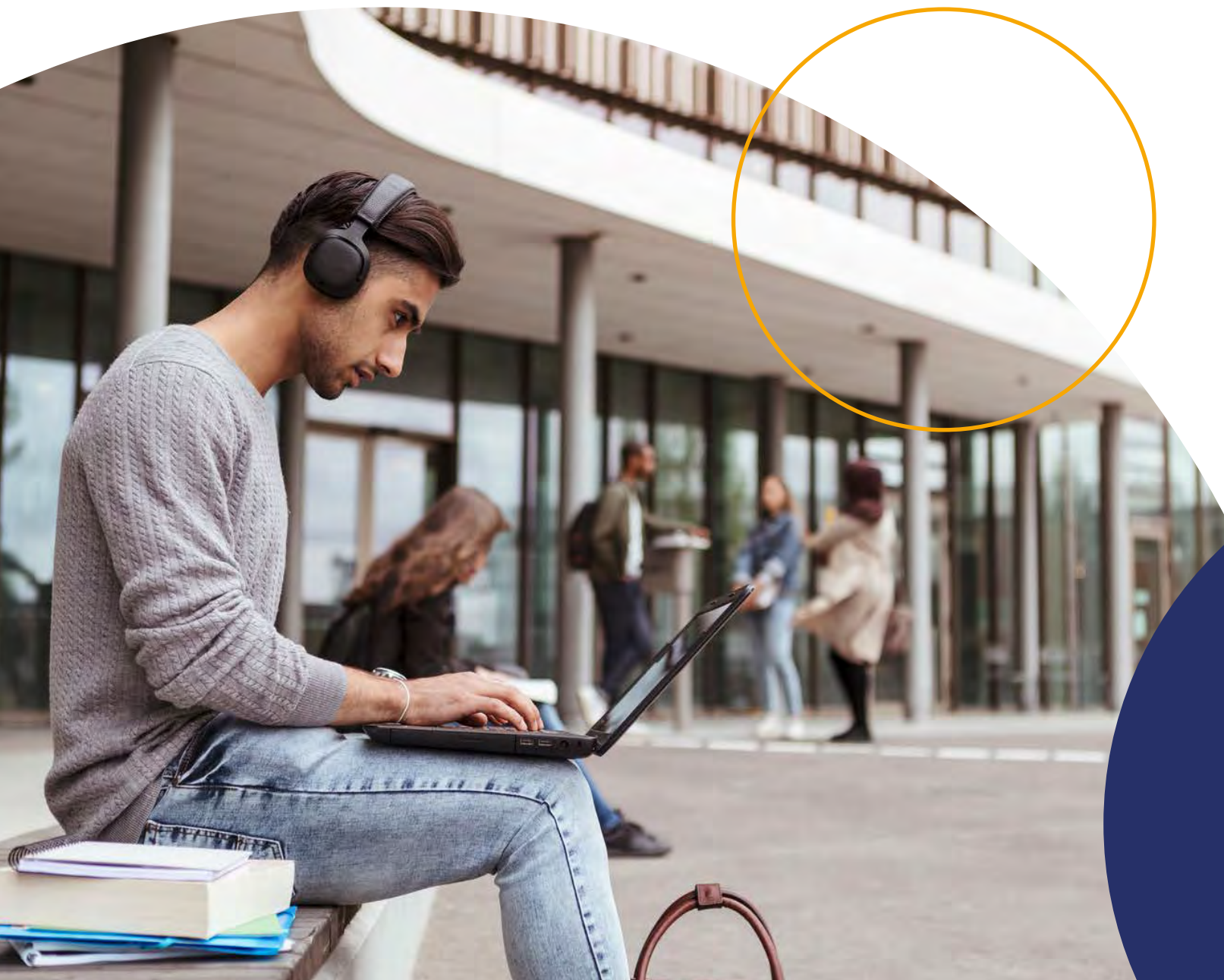
This practical approach provides students with valuable work experience and a competitive edge in the job market. Yet, despite institutions' concerted efforts to prepare their international graduates for the U.S. job market, the effectiveness of these efforts can vary significantly across institutions and programs, an issue discussed below.

Provide effective and clear career guidance tailored to specific programs

Not all universities offer the same level of career support for international students. Smaller institutions or those with fewer resources may struggle to provide the personalized services that international students need. Some universities also focus more on domestic students, leaving international graduates underserved. Given that prospective international students are clearly driven by the employability of their chosen academic program, institutions need to demonstrate that they are serious about attracting and serving international students.

This not only includes providing better career guidance for international students, but it also includes providing clear and transparent information about viable career paths especially in non-STEM fields where job prospects overall are more limited, where international students might face more competition, and where there might be OPT-related limitations. International students might also find it difficult to enter fields that require U.S. citizenship or security clearances, such as government roles or defense-related industries.

Building a professional network is crucial in the U.S. job market, but international students often struggle with this due to cultural differences, lack of connections, or uncertainty about how to approach networking in the U.S. Universities could offer more targeted networking opportunities and mentorship programs to bridge this gap. Some universities actively engage their international alumni networks and their industry networks to provide mentorship, job referrals, and networking opportunities for current students. This helps international students gain insights into navigating the U.S. job market from those who have already succeeded.



Understand and segment your international students

A key aspect of assessing program fit is understanding prospective international students and variations in their interests by factors such as geographic origins (countries and cities) and academic level. For example, an analysis of fields of study and international students' countries shows that business and management is the most popular discipline for 12 of the 20 top origin countries for the U.S., with above average interest from Indonesian students and below average interest from Canadian students (likely because they have similar study opportunities at home).²¹ Among students from Sri Lanka—also a top 20 sending country—the natural sciences and mathematics are the top fields of study.

Similarly, while the broad fields of STEM and business and management are popular amongst both undergraduates and graduates, there can be key variations and subtle shifts over time within these fields. Over a one-year period, within the broad field of Computer Science and IT, cybersecurity increased in popularity amongst undergraduate students, rising from a rank of 7 to becoming number 4 among the top 15 fields of study. This is likely due to the fact that an undergraduate degree can often be sufficient to break into the cybersecurity workforce, and that certifications such as CISSP (Certified Information Systems Security Professional) or CISM (Certified Information Security Manager) are often prioritized by employers over a graduate degree. Among those seeking master's degrees, data analytics has risen sharply from being the 12th most popular subject to becoming number 7, likely because roles in the finance, health, academic and research sectors require a graduate degree. At the bachelor's level, data analytics ranks 12th out of the top 15 fields of study.

²¹ <https://studyportals.com/reports/key-disciplines-us/>

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The most interesting (and most important) thing we are doing is trying to understand more about the experiences of international students on Lehigh's campus, specifically working with institutional research to assess differences with students coming from different parts of the world. This is helping us assess our readiness to support them when on campus. This is also influencing marketing messages that we are using with different audiences. While this isn't a program, it is nonetheless recruiting a more diverse population of international students.

Cheryl Matherly
Vice Provost for International Affairs
Lehigh University

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Effective communication and campaigns to spread the word

In addition to adapting existing academic programs and introducing new and innovative ones to attract international students, institutions need to have strong communications and marketing campaigns to promote these changes to prospective international students. A “build it and they will come” approach is no longer sufficient: institutions need to aggressively market their new and improved offerings.

Institutions need to help prospective international students understand their Unique Selling Proposition: beyond studying in the U.S., what stands out about a particular program at a particular institution? This is especially important given the growing competition to attract international students, where institutions need to show the value of their program and what it offers students in return for their investment.

These efforts can be in the form of a strong digital and online presence, leveraging social media, and using online recruitment tools. Such outreach is especially important for prospective international students who might not be able to visit campuses in person the way U.S. domestic students are able to.

A ‘Build it and they will come’ approach is no longer sufficient: institutions need to aggressively market their new and improved offerings and communicate their value proposition.





Understand and leverage data

Understanding and using a range of institutional and other data sources is critical to assessing whether an institution's academic offerings reflect current trends in both student interest and the labor market. Further, it is important to know how these trends vary for American vs. international students. An analysis by Gray DI shows that although Mechatronics, Robotics, and Automation Engineering programs ranked in the 77th percentile for overall student demand and 93rd percentile for employment, the programs saw strong interest from prospective international students, with total enrollment growing by 11% in fall 2023.²²

"Triangulating" or leveraging different sources of data can also help understand and validate the demand and potential supply of various programs and courses, and the factors that drive these shifts. Using a demand-supply framework that examines the global demand for various subject areas relative to the supply of academic programs, an analysis by Study Portals identifies the following characteristics of "high demand, low supply" fields: broader applicability of relevance across industries; good career options, a scarcity of professionals and academic; rapid technological advances, global workforce shortages, rising sophistication or complexity of applications; and specialized resources required.

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Colleges and universities need labor market data to ensure they offer programs and teach skills that lead to successful student employment outcomes. However, programs that lead to good jobs won't necessarily attract students. We know institutions that have spent \$500,000 and \$1 million to develop programs and labs; between them, they enrolled five students a year. You need sound data on student demand and competition to avoid investing in empty classrooms and labs.

Monica Bilson,
Gray DI, Evaluating Student Demand and Labor Market Data for Academic Programs-
If You Build It, Will They Come?

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²² <https://www.graydi.us/blog/graydata/evaluating-student-demand-and-labor-market-data-for-academic-programs-if-you-build-it-will-they-come>

²³ https://studyportals.com/reports/subject-opportunities-for-2024/?utm_source=jour&utm_medium=website-3rdparty&utm_campaign=20240123-RPT-Subject-opportunities-for-2024&utm_content=45300



Interview

A conversation with Dr. Kris (Kristina) Wong Davis

A national leader in enrollment management and admissions, Dr. Kris Wong Davis has served in senior roles at UC San Diego, Purdue University, and Carnegie Mellon University (through mid-March 2025), and is the incoming Vice President for Enrollment Management and Dean of Admissions at the University of Arizona.

U.S. institutions' response to international student demand:

Any changes that U.S. institutions are implementing in their academic programming are institution-specific and not broadly applied, with some institutions starting to pivot due to global trends. But I don't think the changes have been broad enough across our sector for what we're going to have to pivot for in the near future anyway. Most institutions are behind the curve and it is only now beginning to sink in for them that some significant shifts are needed.

International students and academic level: There's been a clear shift away from the bachelor's degrees to the master's degree, in part due to its lower cost and shorter duration. Most international students are focusing on how the master's degree leads into technology, AI, data infrastructures and data science, as opposed to traditional computer science. Although computer science is still in high demand, we are now seeing shifts into more focused areas of technology and engineering.

Optional Practical Training (OPT) as a driver: OPT is a massive driver for institutions because they know students want it, and they have programs that can deliver it, that will help with enrollment and attractiveness of programs.

There's a little bit of over reliance on OPT as the carrot for enrolling international students. This is also why micro-credentials as a standalone are probably not attractive for international students as they do not necessarily lead to an OPT opportunity. Such credentials would be most appealing if they were an add-on or an enhancement to a more traditional degree program that allows for OPT.

Preparing international students for the jobs of the future:

Higher education in the U.S. is not good at this in general, and has been slow to adapt to new career demands. We've really leaned into the STEM fields, not wrongly, but haven't really modified higher education in general, notwithstanding a little tweak here and maybe a new program there. And now, while we are still immersed in STEM, there has been some broadening of it with a number of institutions focusing on the ethical and policy implications around AI, not just how to build AI, not just how to work in AI, but more broadly, how do we manage this thing that we now have created?

The viability of online and hybrid programs: These sorts of programs are still very tricky for a lot of institutions due to visa regulations that determine the status of international students enrolled in online courses. And so there are clear limitations on designing such alternative programs that fit the regulations for a student to be on an F-1 visa. Beyond that, to administer a fully online program to a student in a foreign country where they're not coming to the US for even some part of their education, raises complications around international business and finance regulations, and tax laws. Where this works is when these opportunities have been very country specific, where we know we can navigate the laws and the compliance, and we can associate it with a demographic or a group of students that we could serve and serve well. Additionally, there's always the challenge of synchronous and asynchronous online delivery because of varying time zones, and how that impacts the quality of the student experience. These are the sorts of questions we have to ask.

Why we need to understand our international students:

I don't see US institutions doing a great job of trying to understand our international students, and we certainly

don't survey international high school counselors or international partners to find out what else we don't know about that population, why are they going to other countries, and is there something different about those countries' offerings and the experiences they offer. This would help us understand global trends and student demands that we're just not fulfilling because we're not paying attention.

On expanding international student recruitment: We have been over reliant on two major feeder countries, India and China, and there is no other country that will supplant those numbers for us in absolute terms. But that doesn't mean that we shouldn't be thinking more broadly about where there are other students who would be very interested in a US education. And maybe it's not computer science, maybe it's not engineering, it might not even be business—it might be more healthcare, law, and policy. We need to think about building relationships with other countries that we haven't invested the time in in the past, such as the continent of Africa.

Looking ahead

Globally, international student enrollment is at a high, the diversity of international students is also growing, and the labor market and industries are also evolving. As shown in our report, the fastest growing employment sectors and industries in the U.S. already align with the top areas of international student demand, with technology, innovation, sustainability, and data as drivers of growth. Businesses and employers expect Big Data and AI to be the largest drivers of job growth, and the top five industries driving R&D growth include AI and machine learning; biotechnology and life sciences; renewable energy and sustainability; semiconductor and electronics; and pharmaceuticals and healthcare. Cybersecurity is also a high growth area: the BLS forecasts a 32% increase in cybersecurity jobs from 2022 to 2032, substantially higher than the 3% average growth rate for all U.S. jobs.²⁴

This dynamic landscape presents an opportune moment for U.S. institutions to re-assess, strengthen, and innovate their academic offerings in a way that helps them rise above the competition from other U.S. institutions and destination countries, but also enables them to provide a cutting-edge education for their international students. The challenge and opportunity for U.S. institutions will be to keep up with industry trends and international student demand by continuing to offer long-standing, in-demand programs of study while also pivoting and introducing new and relevant offerings that meet the needs of today's international students in order to better prepare tomorrow's workforce.

²⁴ <https://www.bls.gov/ooh/computer-and-information-technology/information-security-analysts.htm>





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