

International Graduate Applications and Enrollment



Fall 2015



International Graduate Applications And Enrollment: Fall 2015

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Highlights

A large majority of first-time international graduate students are master's and certificate students.

- Over three-fourths (77%) of first-time international graduate students in Fall 2015 were enrolled in master's and certificate programs; however, shares vary by country/region of origin and field of study.
- First-time Indian (91%) and Saudi Arabian (80%) graduate students were most likely to pursue master's and certificate programs, while South Korean (47%) graduate students were most likely to pursue doctoral programs.

Chinese and Indian nationals continue to constitute large shares of international graduate applications and enrollment in the United States.

- Chinese and Indian nationals sent nearly eight out of ten (79%) international graduate applications in the Fall 2015 admission cycle.
- Chinese and Indian graduate students tied for first-time master's and certificate enrollment in Fall 2015, each accounting for 36% of total international first-time graduate enrollment in master's and certificate programs.
- Over one-third (35%) of international doctoral students enrolled for the first time in Fall 2015 were Chinese students, leading the next largest country of origin, India, by more than twenty percentage points.

Engineering remains the most popular broad field of study for international graduate students, but mathematics & computer sciences fields are growing fast.

- Engineering represented nearly one-third (32%) of final applications and over one-quarter (29%) of first-time international graduate enrollment in Fall 2015.
- Engineering fields accounted for the largest shares in both master's and certificate level applications and enrollments.
- However, engineering fields reported only a small increase this year for both final applications (2%) and first-time enrollment (1%), while mathematics & computer sciences fields—the second broad largest field for international graduate students— showed robust growth in both areas (9% and 11%, respectively).

The rate of growth for international graduate admissions has slowed.

- Final applications and first-time enrollment of international graduate students in the U.S. increased by 3% and 5% respectively between the Fall 2014 and Fall 2015 admission cycles, while in the prior cycle they rose by 10% and 8%.
- The rates of growth for international graduate students were greater than domestic students.

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Introduction

The Council of Graduate Schools (CGS) has conducted the International Graduate Admissions Survey since 2004. The survey, which is a response to the graduate education community's interest in ongoing changes in the application and enrollment of students from abroad seeking U.S. master's and doctoral degrees, collects data on final application counts and offers of admission, as well as first-time and total enrollment of international graduate students. The 2015 survey was administered between September 29 and October 26, 2015. The survey instrument was sent to 793 institutions of higher education, 501 of which were CGS members as of January 2015, and 292 of which were not CGS members but were members of the Conference of Southern Graduate Schools (CSGS), the Midwestern Association of Graduate Schools (MAGS), the Northeastern Association of Graduate Schools (NAGS), or the Western Association of Graduate Schools (WAGS).

Institutions were asked to report the numbers of final applications and offers of admission to master's, certificate, and doctoral programs from prospective international students for Fall 2014 and Fall 2015 admission cycles, as well as first-time and total international graduate student enrollment in Fall 2014 and Fall 2015. For the first time, institutions were asked to disaggregate the data for master's and certificate programs and doctoral programs. A total of 350 institutions, or 44%, responded to the survey. Institutions responding to the survey reported first-time international graduate enrollment of 80,285 in Fall 2014, roughly 78% of the comparable figures reported in the 2014 CGS/GRE Survey of Graduate Enrollment and Degrees (Allum and Okahana, 2015).

Overview of International Graduate Students in the U.S.

U.S. graduate institutions that participated in the 2015 CGS International Graduate Admissions Survey received over 1.6 million applications for admission to graduate programs for studies beginning in Fall 2015. Of those, 786,363 applications, or 47%, were submitted by prospective international students. Although nearly one-half of graduate applications originated from international students, proportionally fewer offers of admission were made to them. Of the more than 600,000 offers of admission made by institutions that participated in this survey for the Fall 2015 admission cycle, 215,156, or about 35%, were made to international students.

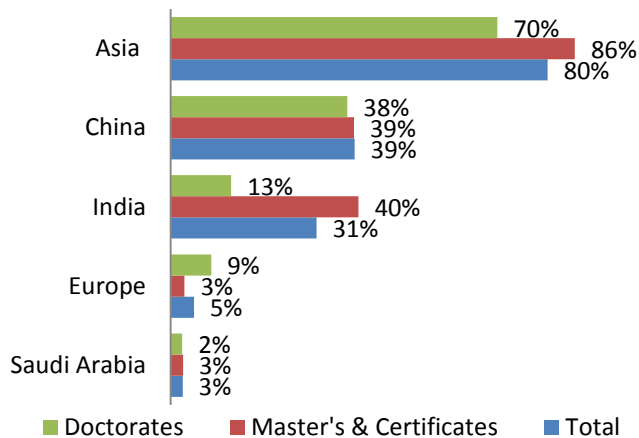
Admission yield for international graduate students were lower than for that of U.S. citizen/permanent resident graduate students. Institutions that participated in the 2015 survey enrolled over 300,000 graduate students for first-time in Fall 2015, and of those 84,323, or 26%, were international students. Of those first-time international graduate students, 23% of them began pursuing their doctoral degrees, compared to 19% of U.S. citizen/permanent resident first-time graduate students that started in doctoral programs. Similarly, a proportionally larger share of the total international graduate enrollment was for doctoral students. Over four out of ten (42%) international graduate students at responding institutions were pursuing a doctoral degree. In contrast, only one-third (33%) of all graduate students, including U.S. citizens and permanent residents, were pursuing a doctoral degree. This suggests strong presence of international graduate students in doctoral programs. Institutions that participated in the 2015 survey enrolled one million master's and doctoral students, and of those 253,949 students, or 24%, were international students.

Final Applications and Offers of Admission, Fall 2015 Admission Cycle

Final Applications

Prospective Chinese and Indian students accounted for about 70% of the more than 780,000 international graduate applications received by institutions responding to the 2015 CGS International Graduate Admissions Survey. Graduate applications submitted by Indian nationals accounted for 31%. While Chinese nationals had the largest share of applications from prospective international graduate students, Indian nationals (40%) edged their Chinese counterparts (39%) by a small margin in terms of the number of applications for master's and certificate programs. Prospective Chinese graduate students sent more than one-third of international doctoral applications (38%) during the Fall 2015 admission cycle, topping India by more than twenty percentage points. Saudi Arabian nationals accounted for 3% of international applications for master's and certificate programs, which was nearly as many master's applications as from the entire region of Europe (see Figure 1).

Figure 1. Distribution of Final International Graduate Applications by Selected Region/Country of Origin, Fall 2015

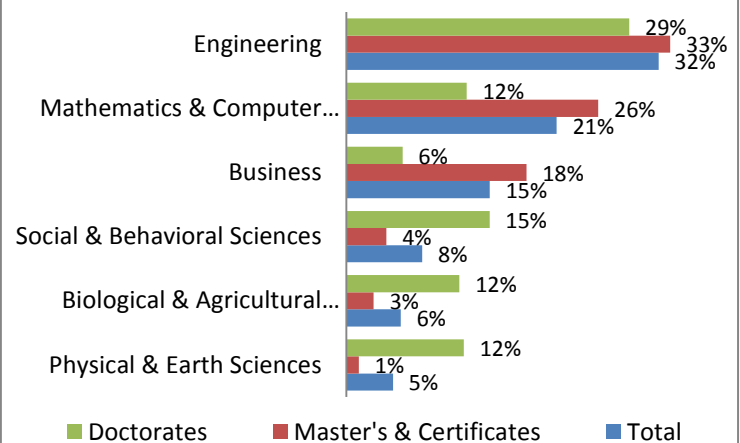


Data Source: International Graduate Applications And Enrollment: Fall 2015, Appendix Table A.1

By fields of study, engineering received the most applications from international students for both master's and certificate programs

(33%) and doctoral programs (29%). At the master's and certificate level, mathematics and computer sciences (26%) and business (18%) followed engineering; however, the pattern for international doctoral applications was somewhat different, where social & behavioral sciences (15%), biological & agricultural sciences (12%), mathematics & computer sciences (12%), and physical & earth sciences (12%) followed (see Figure 2).

Figure 2. Distribution of Final International Graduate Applications by Selected Field of Study, Fall 2015



Data Source: International Graduate Applications And Enrollment: Fall 2015,

For those applicants whose degree levels were known, two-thirds (66%) submitted applications for master's and certificate programs, and one-third (34%) submitted applications for doctoral degree programs. The vast majority of graduate applications from Indian nationals (86%) was for master's and certificate programs. In contrast, more than two-thirds (68%) of applications from the Republic of Korea (South Korea) were for doctoral programs. While two-thirds of applications (67%) from Saudi Arabian nationals were for master's and certificate programs, only 43% of applications from the Middle East & North Africa region (including Saudi Arabia) were for the same level, suggesting that prospective students from other countries in the region apply to U.S. doctoral programs in large numbers. Applications from Europe (59%) were also concentrated in

doctoral programs (see [Appendix Table A.1](#)). By fields of study, business (87%), public administration & services (83%), mathematics & computer sciences (81%), and engineering (70%) had large majorities of applications directed toward master’s and certificate programs. In contrast, applications for basic science fields, such as physical & earth sciences (83%) and biological & agricultural sciences (65%), were more likely to be for doctoral programs (see [Appendix Table A.2](#)).

Offers of Admission

Over eight out of ten (81%) offers of admission made to prospective international graduate students during the Fall 2015 admission cycle were for master’s and certificate programs. Compared to applications, a disproportionate share of admissions offers were made for master’s and certificate programs than for doctoral programs. Regions/countries of origin with higher concentrations of doctoral applications did not necessarily receive offers of admission in the same proportion. For example, 59% of graduate applications from European nationals were made in doctoral programs, but only 37% of offers of admission were for doctoral programs. Similarly, more than two-thirds (68%) of graduate applications from

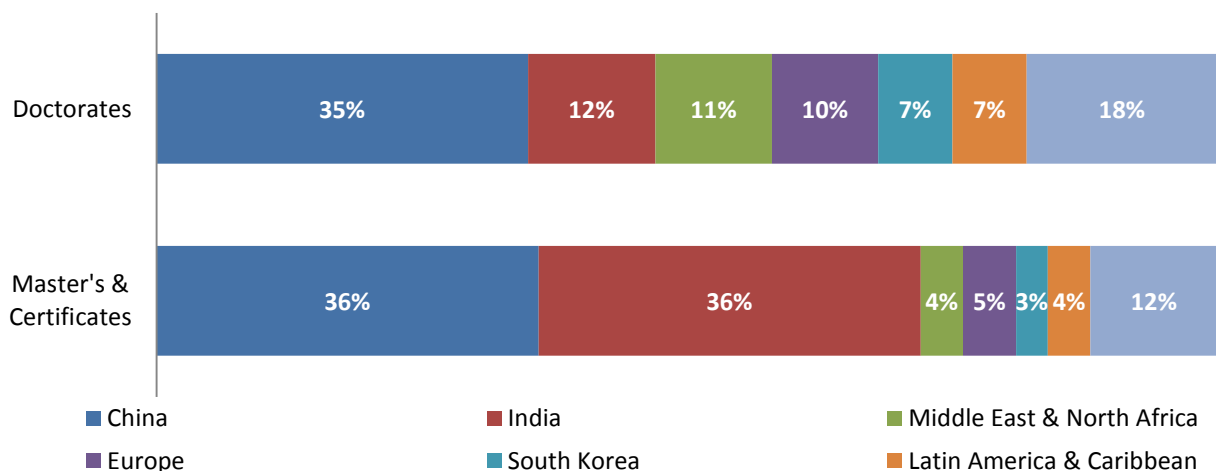
South Korean nationals were for doctoral programs, but 44% of admission offers were for doctoral programs. Distributions by regions/countries of origin, as well as by fields of study, mirror closely to that of final applications (see [Appendix Table A.3](#) and [Appendix Table A.4](#)).

First-time and Total International Graduate Enrollment, Fall 2015

First-time Enrollment

Of the nearly 85,000 first-time international graduate students, approximately eight out of ten (78%) were from Asia, including Chinese nationals (39%) and Indian nationals (31%). The representation of Asian international students was particularly robust in master’s and certificate programs, accounting for 82% of all first-time students with India and China each claiming 36%. At the doctoral level, similar to application counts and offers of admission, Chinese graduate students lead their counterparts from other regions and countries by a large margin. China’s share of first-time doctoral students (35%) exceeds that of India (12%) and the regions of Middle East & North Africa (11%) and Europe (10%) combined (see Figure 3).

Figure 3. Distribution of First-time International Graduate Enrollment for Doctoral Programs and Master's & Certificate Programs by Selected Country/Region of Origin, Fall 2015



Data Source: International Graduate Applications And Enrollment: Fall 2015, Appendix Table A.5

In terms of degree objectives of international graduate students, first-time Indian graduate students were predominantly (91%) in master's and certificate programs. Also, similar to results for international graduate applications, first-time graduate enrollment of nationals from the Middle East & North Africa region (including Saudi Arabia) (44%) was more likely to be in doctoral programs. Since 80% of first-time Saudi Arabian graduate students in Fall 2015 were in master's and certificate programs, it appears that large numbers of doctoral students from other countries within that region chose to pursue a graduate degree at U.S. institutions. Not surprisingly, business (95%), public administration & services (92%), and mathematics & computer sciences (85%) fields had high concentrations of first-time international students in master's and certificate programs in Fall 2015. In contrast, doctoral first-time students accounted for 77% in physical & earth sciences and 52% in biological & agricultural sciences (see Figure 4). This pattern largely mirrors that found for all first-time graduate students, including U.S. citizens & permanent residents, in Fall 2014 (Allum and Okahana, 2015).

While nearly three-quarters of first-time master's and certificate students were in engineering (28%), business (22%), or mathematics & computer sciences (22%) fields, doctoral students were spread across a more diverse range of disciplines. Engineering (31%) continues to lead all other fields in terms of first-time doctoral enrollment; however, four fields: physical & earth sciences (14%), mathematics & computer sciences (12%), biological & agricultural sciences (11%), and social & behavioral sciences (10%) also have sizeable numbers of first-time doctoral students (see Figure 5).

Figure 4. Degree Objectives of First-time International Graduate Students by Selected Country/Region of Origin and Field of Study, Fall 2015

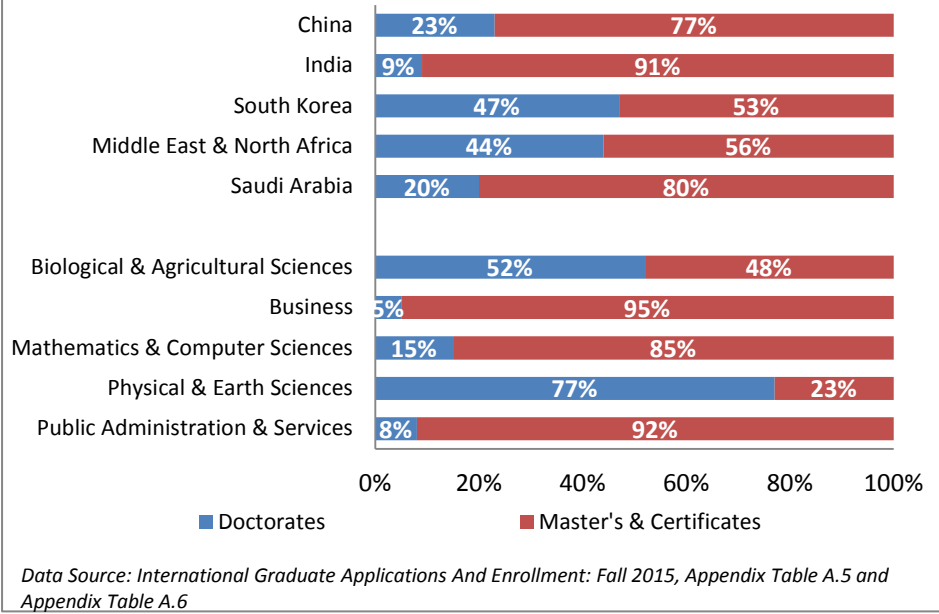
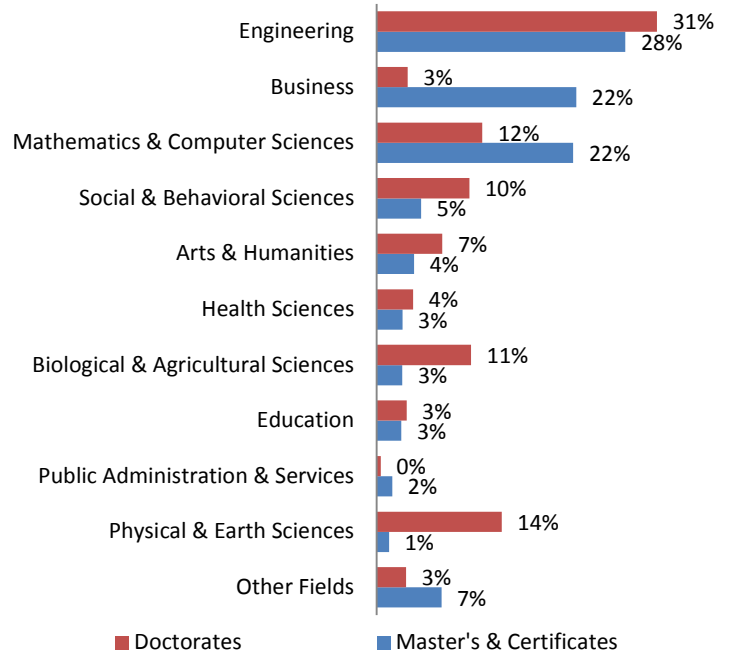


Figure 5. Distribution of First-time International Graduate Enrollment for Doctoral Programs and Master's & Certificate Programs by Field of Study, Fall 2015



Total Enrollment

While Chinese nationals constituted the largest share (34%) of international graduate students over all, which totaled a little over a quarter million graduate students in Fall 2015, Indian graduate students comprised the largest share (37%) of international master's and certificate students, leading the share of Chinese counterparts by three percentage points (see [Appendix Table A.7](#)). Engineering fields lead other fields of study by a substantial margin with respect to total enrollment, just as it did with respect to application counts, offers of admission, and first-time enrollment. Approximately three out of ten international graduate students—both master's and certificate students (29%) and doctoral students (30%)—enrolled in an engineering field (see [Appendix Table A.8](#)).

Changes in Final Applications and First-time Enrollment between Fall 2014 and Fall 2015

Final Applications

Between Fall 2014 and Fall 2015 admission cycles, total applications from prospective international graduate students at responding institutions increased by 3%. The rate of increase has declined from the previous year, which reported a 10% growth in final application counts; however, it is a greater rate of growth than the 2% increase reported in the preliminary survey earlier this year (Allum, 2015). Most notably, applications from Brazilian prospective graduate students (-13%) and European prospective graduate students (-5%) declined substantially, and there was no change in the number of applications from prospective Chinese graduate students. The number of their graduate applications have not seen gains since the 19% increase between the Fall 2011 and Fall 2012 admission cycles. Continuing the relatively large gains of recent years, graduate applications from Indian students increased 10%. Saudi Arabia also showed healthy growth in its graduate application counts, with an 8%

increase between the Fall 2014 and Fall 2015 admission cycles. By field of study, mathematics & computer sciences fields (9%) have grown substantially (see [Appendix Table B.1](#) and [Appendix Table B.2](#)).

First-time Enrollment

Compared to Fall 2014, first-time international graduate enrollment increased by 5%. This is the slowest rate of growth from three most recent Fall terms. Patterns of first-time graduate enrollment across fields of study and countries/regions of origin generally mirror those of final application counts. For example, the 11% increase in first-time graduate enrollment in mathematics & computer sciences fields was similar to the 9% increase in applications. Compared to the past three admission cycles, first-time graduate enrollment in engineering fields declined substantially to the 1% increase.

After nearly doubling its first-time graduate enrollment between the Fall 2013 and Fall 2014 admission cycles, the number of Brazilian first-time graduate students dropped by 30%. Institutions reported a 12% increase in first-time Indian graduate enrollment, also a considerably slower rate of increase compare to the last two admission cycles. In contrast, first-time enrollment among Chinese graduate students increased 12% between Fall 2014 and Fall 2015, despite the fact that final application counts did not show any growth during the same period (see [Appendix Table B.3](#) and [Appendix Table B.4](#)).

Summary and Conclusion

Three hundred and fifty U.S. institutions that offer master's and certificate and doctoral programs participated in the 2015 CGS International Graduate Admissions Survey. These institutions received nearly 790,000 applications for graduate admissions from international students, which eventually led to over 210,000 offers of admission and about 85,000 first-time international graduate

enrollments during the Fall 2015 admission cycle. Overall, the 3% rate of growth for international graduate applications and 5% rate of growth for international first-time enrollment appear to be slower than recent admission cycles.

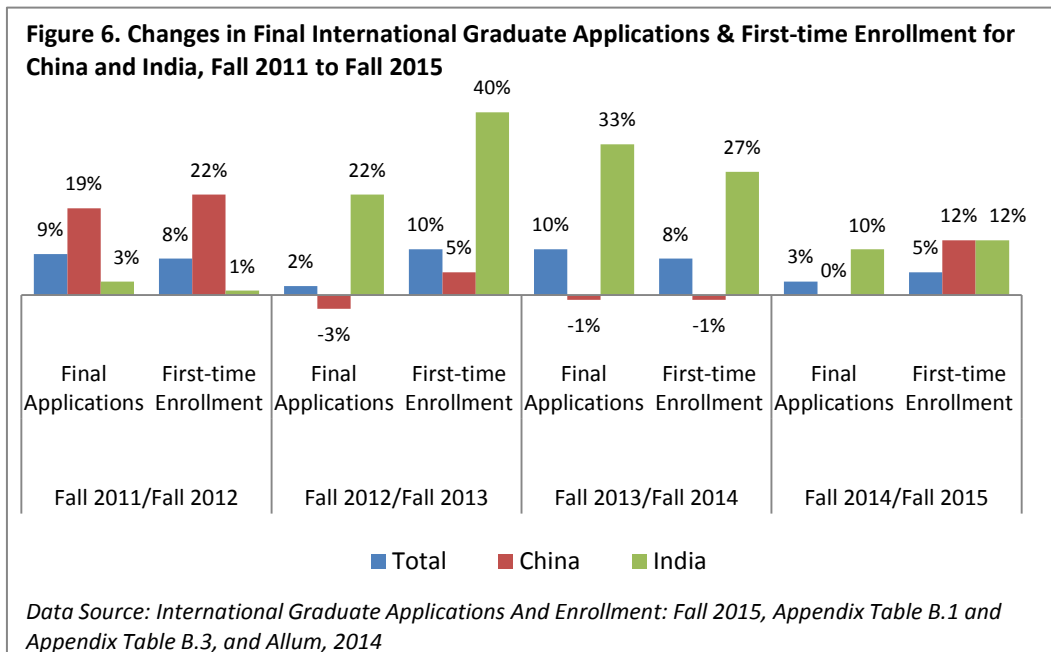
International graduate enrollment drove much of the growth in first-time enrollment between Fall 2013 and Fall 2014 (Allum and Okahana, 2015). Although rates of growth for international graduate admissions appears to have slowed down, the rate of growth for first-time international graduate enrollment reported in this survey (5%) was still greater than that for domestic students (2%). A fuller picture of international graduate enrollment growth will be available upon the release of 2015 CGS/GRE Survey of Graduate Enrollment and Degrees.

Several other findings from the analysis of the survey data stood out as key takeaways. First, Chinese and Indian nationals continue to hold large shares of international graduate applications and enrollment in the United States. Nearly eight out of ten (79%) international graduate applications in the Fall 2015 admission cycle were received from either Chinese or Indian nationals. Chinese and Indian graduate students tied for first-time master’s and certificate enrollment in Fall 2015, each

accounting for 36% of total international first-time graduate enrollment in master’s and certificate programs. Over one-third of first-time international doctoral enrollment was attributed to Chinese nationals, leading the next largest country of origin, India, by more than twenty percentage points.

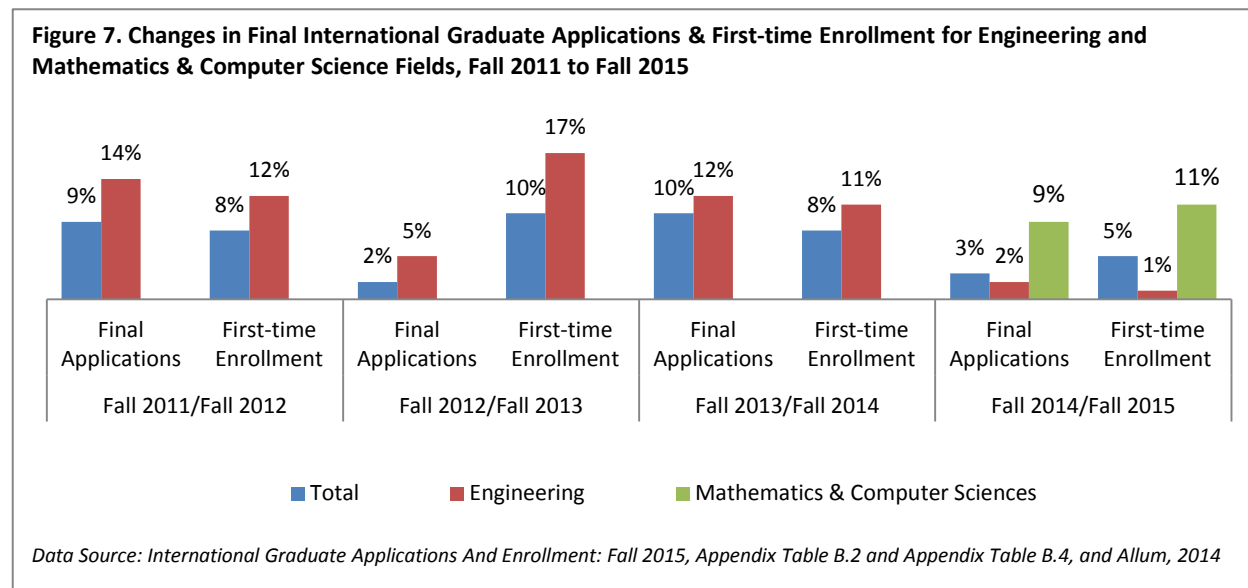
India also has shown strength in its number surpassing Chinese graduate students in total master’s and certificate enrollment. In light of its growth trajectory reported in the previous report (Allum, 2014), it may appear as though India is catching up to China in terms of graduate admissions in the United States. However, first-time graduate enrollment of Indian students increased by only 12% between the Fall 2014 and Fall 2015 admission cycle, a considerably slower rate of growth compared to the past two admission cycles. China recovered its first-time enrollment growth of its nationals at U.S. graduate institutions to 12%, despite not seeing any growth in its final application counts (see Figure 6).

Second, engineering fields remain highly popular among international graduate students. Nearly one-third of final applications (32%) and over one-quarter of first-time international enrollment (28%) in Fall 2015 were in engineering fields. Engineering fields accounted for the largest shares in both master’s and



certificate level, and doctoral level application counts, offers of admission, first-time enrollment, and total enrollment. However, engineering fields reported small increases this year for both final applications (2%) and first-time enrollment (1%), while mathematics & computer sciences fields—the second largest fields for international graduate students—showed robust growth in both areas, at 9% and 11% respectively (see Figure 7).

These results corroborate a long-standing view that U.S. doctoral programs, particularly in basic science fields, are a major appeal for international graduate students. However, in the meantime, the data from this survey also suggests a robust value that U.S. master’s education hold in the global market.



Finally, new data collection elements in the 2015 CGS International Graduate Admissions Survey also brought additional insights about international graduate students studying in the United States. A large majority of first-time international graduate students in the survey were master’s and certificate students, although compared to all graduate students, including U.S. citizens and permanent residents, they were more likely to be in doctoral programs. Over three-fourths (77%) of first-time international graduate enrollment in Fall 2015 were for master’s and certificate programs. Particularly, first-time Indian (91%) and Sandi Arabian (80%) international graduate students were most likely to be in master’s and certificate programs.

Appendix Tables

Appendix Table A.1

Final International Graduate Applications by Region/Country of Origin, Fall 2015 Admission Cycle

	Total Counts	% Shares by Region/Country of Origin			% Shares by Degree Objective	
		Total	Master's & Certificates		Master's & Certificates	Doctorates
			Doctorates			
Total	786,363	786,363	522,436	263,563	66%	34%
Asia	574,478	80%	86%	70%	71%	29%
<i>China</i>	280,592	39%	39%	38%	68%	32%
<i>India</i>	222,377	31%	40%	13%	86%	14%
<i>South Korea</i>	30,055	4%	2%	8%	32%	68%
<i>Taiwan</i>	17,786	2%	2%	3%	56%	44%
Europe	35,326	5%	3%	9%	41%	59%
Latin America & Caribbean	22,723	3%	3%	4%	55%	45%
<i>Brazil</i>	4,848	1%	0%	1%	49%	51%
<i>Mexico</i>	4,520	1%	1%	1%	56%	44%
Middle East & North Africa	51,791	7%	5%	12%	43%	57%
<i>Saudi Arabia</i>	18,547	3%	3%	2%	67%	33%
North America (Canada only)	10,822	2%	1%	2%	51%	49%
Oceania	2,260	0%	0%	1%	47%	53%
Sub-Saharan Africa	16,724	2%	2%	2%	64%	36%

Data Source: 2015 CGS International Graduate Admissions Survey: Final Applications, Admissions, and Enrollment

NOTE: Not all responding institutions provided valid data for country/region of origin, field of study, or degree objectives.

Appendix Table A.2

Final International Graduate Applications by Field of Study, Fall 2015 Admission Cycle

	Total Counts	% Shares by Field of Study			% Shares by Degree Objective	
		Total	Master's & Certificates		Master's & Certificates	Doctorates
			Doctorates			
Total	786,363	786,363	522,436	263,563	66%	34%
Arts & Humanities	28,900	5%	3%	7%	52%	48%
Biological & Agricultural Sciences	35,015	6%	3%	12%	35%	65%
Business	92,252	15%	18%	6%	87%	13%
Education	12,769	2%	2%	2%	63%	37%
Engineering	201,036	32%	33%	29%	70%	30%
Health Sciences	16,611	3%	2%	3%	61%	39%
Mathematics & Computer Sciences	135,381	21%	26%	12%	81%	19%
Physical & Earth Sciences	30,017	5%	1%	12%	17%	83%
Public Administration & Services	1,182	0%	1%	1%	83%	17%
Social & Behavioral Sciences	48,790	8%	4%	15%	36%	64%
Other Fields	28,336	4%	6%	2%	83%	17%

Data Source: 2015 CGS International Graduate Admissions Survey: Final Applications, Admissions, and Enrollment

NOTE: Not all responding institutions provided valid data for country/region of origin, field of study, or degree objectives.

Appendix Table A.3

Offers of Admission to International Graduate Applicants by Region/Country of Origin, Fall 2015 Admission Cycle

	Total Counts	% Shares by Region/Country of Origin			% Shares by Degree Objective		
		Total	Master's & Certificates		Doctorates	Master's & Doctorates	
			Certificates	Doctorates		Certificates	Doctorates
Total	215,156	215,156	176,048	40,892	81%	19%	
Asia	159,202	81%	84%	65%	85%	15%	
<i>China</i>	74,317	38%	38%	35%	82%	18%	
<i>India</i>	64,440	33%	38%	11%	93%	7%	
<i>South Korea</i>	5,971	3%	2%	7%	56%	44%	
<i>Taiwan</i>	3,823	2%	2%	3%	74%	26%	
Europe	10,188	5%	4%	10%	63%	37%	
Latin America & Caribbean	7,897	4%	4%	6%	72%	28%	
<i>Brazil</i>	1,474	1%	1%	1%	61%	39%	
<i>Mexico</i>	1,556	1%	1%	1%	75%	25%	
Middle East & North Africa	11,831	6%	4%	13%	59%	41%	
<i>Saudi Arabia</i>	4,288	2%	2%	2%	81%	19%	
North America (Canada only)	3,099	2%	1%	2%	71%	29%	
Oceania	656	0%	0%	1%	66%	34%	
Sub-Saharan Africa	4,596	2%	2%	2%	79%	21%	

Data Source: 2015 CGS International Graduate Admissions Survey: Final Applications, Admissions, and Enrollment

NOTE: Not all responding institutions provided valid data for country/region of origin, field of study, or degree objectives.

Appendix Table A.4

Offers of Admission to International Graduate Applicants by Field of Study, Fall 2015 Admission Cycle

	Total Counts	% Shares by Field of Study			% Shares by Degree Objective		
		Total	Master's & Certificates		Doctorates	Master's & Doctorates	
			Certificates	Doctorates		Certificates	Doctorates
Total	215,156	215,156	176,048	40,892	81%	19%	
Arts & Humanities	7,059	4%	3%	7%	68%	32%	
Biological & Agricultural Sciences	6,494	4%	3%	9%	56%	44%	
Business	29,162	17%	20%	3%	97%	3%	
Education	4,479	3%	2%	3%	78%	22%	
Engineering	56,250	32%	31%	34%	80%	20%	
Health Sciences	4,729	3%	3%	3%	77%	23%	
Mathematics & Computer Sciences	37,881	22%	23%	14%	87%	13%	
Physical & Earth Sciences	5,674	3%	1%	13%	23%	77%	
Public Administration & Services	148	0%	2%	0%	94%	6%	
Social & Behavioral Sciences	11,843	7%	5%	11%	68%	32%	
Other Fields	11,248	6%	7%	3%	92%	8%	

Data Source: 2015 CGS International Graduate Admissions Survey: Final Applications, Admissions, and Enrollment

NOTE: Not all responding institutions provided valid data for country/region of origin, field of study, or degree objectives.

Appendix Table A.5

First-time International Graduate Enrollment by Region/Country of Origin, Fall 2015

	Total Counts	% Shares by Region/Country of Origin			% Shares by Degree Objective		
		Total	Master's & Certificates		Doctorates	Master's & Doctorates	
			Certificates	Doctorates		Certificates	Doctorates
Total	84,323	84,323	64,954	19,407	77%	23%	
Asia	58,960	78%	82%	66%	81%	19%	
<i>China</i>	29,428	39%	36%	35%	77%	23%	
<i>India</i>	23,391	31%	36%	12%	91%	9%	
<i>South Korea</i>	2,658	4%	3%	7%	53%	47%	
<i>Taiwan</i>	1,661	2%	2%	3%	71%	29%	
Europe	4,888	6%	5%	10%	63%	37%	
Latin America & Caribbean	3,695	5%	4%	7%	68%	32%	
<i>Brazil</i>	724	1%	1%	2%	59%	41%	
<i>Mexico</i>	793	1%	1%	1%	72%	28%	
Middle East & North Africa	4,435	6%	4%	11%	56%	44%	
<i>Saudi Arabia</i>	1,775	2%	2%	2%	80%	20%	
North America (Canada only)	1,421	2%	2%	2%	71%	29%	
Oceania	256	0%	0%	1%	62%	38%	
Sub-Saharan Africa	1,801	2%	2%	3%	73%	27%	

Data Source: 2015 CGS International Graduate Admissions Survey: Final Applications, Admissions, and Enrollment

NOTE: Not all responding institutions provided valid data for country/region of origin, field of study, or degree objectives.

Appendix Table A.6

First-time International Graduate Enrollment by Field of Study, Fall 2015

	Total Counts	% Shares by Field of Study			% Shares by Degree Objective		
		Total	Master's & Certificates		Doctorates	Master's & Doctorates	
			Certificates	Doctorates		Certificates	Doctorates
Total	84,323	84,323	64,954	19,407	77%	23%	
Arts & Humanities	3,311	5%	4%	7%	65%	35%	
Biological & Agricultural Sciences	3,225	5%	3%	11%	48%	52%	
Business	12,345	18%	22%	3%	95%	5%	
Education	1,883	3%	3%	3%	71%	29%	
Engineering	19,267	29%	28%	31%	74%	26%	
Health Sciences	2,122	3%	3%	4%	71%	29%	
Mathematics & Computer Sciences	13,731	20%	22%	12%	85%	15%	
Physical & Earth Sciences	2,924	4%	1%	14%	23%	77%	
Public Administration & Services	74	0%	2%	0%	92%	8%	
Social & Behavioral Sciences	4,220	6%	5%	10%	61%	39%	
Other Fields	4,488	7%	7%	3%	88%	12%	

Data Source: 2015 CGS International Graduate Admissions Survey: Final Applications, Admissions, and Enrollment

NOTE: Not all responding institutions provided valid data for country/region of origin, field of study, or degree objectives.

Appendix Table A.7

Total International Graduate Enrollment by Region/Country of Origin, Fall 2015

	Total Counts	% Shares by Region/Country of Origin			% Shares by Degree Objective	
		Total	Master's &		Master's &	Doctorates
			Certificates	Doctorates		
Total	253,949	253,949	146,334	104,239	58%	42%
Region/Country of Origin						
Asia	166,050	73%	80%	64%	63%	37%
<i>China</i>	76,440	34%	34%	34%	58%	42%
<i>India</i>	60,393	27%	37%	11%	82%	18%
<i>South Korea</i>	9,917	4%	2%	7%	29%	71%
<i>Taiwan</i>	5,480	2%	2%	3%	44%	56%
Europe	17,065	8%	5%	11%	38%	62%
Latin America & Caribbean	13,795	6%	5%	7%	53%	47%
<i>Brazil</i>	2,573	1%	1%	1%	49%	51%
<i>Mexico</i>	2,581	1%	1%	1%	50%	50%
Middle East & North Africa	18,050	8%	6%	11%	40%	60%
<i>Saudi Arabia</i>	6,020	3%	3%	2%	67%	33%
North America (Canada only)	5,027	2%	2%	3%	49%	51%
Oceania	893	0%	0%	1%	44%	56%
Sub-Saharan Africa	5,464	2%	2%	3%	56%	44%

Data Source: 2015 CGS International Graduate Admissions Survey: Final Applications, Admissions, and Enrollment

NOTE: Not all responding institutions provided valid data for country/region of origin, field of study, or degree objectives.

Appendix Table A.8

Total International Graduate Enrollment by Field of Study, Fall 2015

	Total Counts	% Shares by Field of Study			% Shares by Degree Objective	
		Total	Master's &		Master's &	Doctorates
			Certificates	Doctorates		
Total	253,949	253,949	146,334	104,239	58%	42%
Arts & Humanities	11,482	6%	4%	8%	44%	56%
Biological & Agricultural Sciences	14,117	7%	3%	12%	28%	72%
Business	28,658	14%	21%	3%	90%	10%
Education	6,594	3%	3%	4%	55%	45%
Engineering	61,352	30%	29%	30%	58%	42%
Health Sciences	7,006	3%	3%	4%	55%	45%
Mathematics & Computer Sciences	36,538	18%	22%	12%	71%	29%
Physical & Earth Sciences	12,901	6%	2%	13%	14%	86%
Public Administration & Services	587	1%	2%	1%	76%	24%
Social & Behavioral Sciences	14,161	7%	5%	10%	39%	61%
Other Fields	10,604	5%	6%	3%	76%	24%

Data Source: 2015 CGS International Graduate Admissions Survey: Final Applications, Admissions, and Enrollment

NOTE: Not all responding institutions provided valid data for country/region of origin, field of study, or degree objectives.

Appendix Table B.1

Changes in Total International Graduate Applications by Region/Country of Origin, Fall 2011 to Fall 2012 Admission Cycles through Fall 2014 to Fall 2015 Admission Cycles

	Fall 2011 to Fall 2012	Fall 2012 to Fall 2013	Fall 2013 to Fall 2014	Fall 2014 to Fall 2015
Total	9%	2%	10%	3%
Asia	--	--	--	2%
<i>China</i>	19%	-3%	-1%	0%
<i>India</i>	3%	22%	33%	10%
<i>South Korea</i>	-1%	-15%	-5%	4%
<i>Taiwan</i>	-2%	-13%	0%	-1%
Europe	7%	-2%	3%	-5%
Latin America & Caribbean	--	--	--	-1%
<i>Brazil</i>	9%	25%	61%	-13%
<i>Mexico</i>	10%	-8%	1%	9%
Middle East & North Africa	--	--	--	2%
<i>Saudi Arabia</i>	--	--	--	8%
North America (Canada only)	7%	-5%	1%	3%
Oceania	--	--	--	4%
Sub-Saharan Africa	--	--	--	7%

Data Source: 2015 CGS International Graduate Admissions Survey: Final Applications, Admissions, and Enrollment and Allum, J. (2014). Findings from the 2014 CGS International Graduate Admissions Survey, Phase III: Final offers of admission and enrollment. Washington, DC: Council of Graduate Schools.

Appendix Table B.2

Changes in Total International Graduate Applications by Field of Study, Fall 2011 to Fall 2012 Admission Cycles through Fall 2014 to Fall 2015 Admission Cycles

	Fall 2011 to Fall 2012	Fall 2012 to Fall 2013	Fall 2013 to Fall 2014	Fall 2014 to Fall 2015
Total	9%	2%	10%	3%
Arts & Humanities	7%	4%	5%	1%
Biological & Agricultural Sciences	--	--	--	2%
Business	7%	1%	7%	2%
Education	18%	-2%	4%	4%
Engineering	14%	5%	12%	2%
Health Sciences	--	--	--	2%
Mathematics & Computer Sciences	--	--	--	9%
Physical & Earth Sciences	--	--	--	-1%
Public Administration & Services	--	--	--	-5%
Social & Behavioral Sciences	--	--	--	-4%
Other Fields	9%	5%	4%	5%

Data Source: 2015 CGS International Graduate Admissions Survey: Final Applications, Admissions, and Enrollment and Allum, J. (2014). Findings from the 2014 CGS International Graduate Admissions Survey, Phase III: Final offers of admission and enrollment. Washington, DC: Council of Graduate Schools.

Appendix Table B.3

Changes in Total First-time International Graduate Enrollment by Region/Country of Origin, Fall 2011 to Fall 2012 Admission Cycles through Fall 2014 to Fall 2015

	Fall 2011 to Fall 2012	Fall 2012 to Fall 2013	Fall 2013 to Fall 2014	Fall 2014 to Fall 2015
Total	8%	10%	8%	5%
Asia	--	--	--	7%
<i>China</i>	22%	5%	-1%	12%
<i>India</i>	1%	40%	27%	12%
<i>South Korea</i>	-2%	-12%	-7%	5%
<i>Taiwan</i>	-2%	-8%	-8%	2%
Europe	1%	3%	1%	-4%
Latin America & Caribbean	--	--	--	-6%
<i>Brazil</i>	14%	17%	91%	-30%
<i>Mexico</i>	5%	-2%	8%	6%
Middle East & North Africa	--	--	--	1%
<i>Saudi Arabia</i>	--	--	--	5%
North America (Canada only)	4%	3%	-1%	1%
Oceania	--	--	--	-9%
Sub-Saharan Africa	--	--	--	9%

Data Source: 2015 CGS International Graduate Admissions Survey: Final Applications, Admissions, and Enrollment and Allum, J. (2014). Findings from the 2014 CGS International Graduate Admissions Survey, Phase III: Final offers of admission and enrollment. Washington, DC: Council of Graduate Schools.

Appendix Table B.4

Changes in Total First-time International Graduate Enrollment by Field of Study, Fall 2011 to Fall 2012 Admission Cycles through Fall 2014 to Fall 2015

	Fall 2011 to Fall 2012	Fall 2012 to Fall 2013	Fall 2013 to Fall 2014	Fall 2014 to Fall 2015
Total	8%	10%	8%	5%
Arts & Humanities	5%	9%	3%	5%
Biological & Agricultural Sciences	--	--	--	1%
Business	15%	6%	2%	2%
Education	8%	3%	-1%	0%
Engineering	12%	17%	11%	1%
Health Sciences	--	--	--	-5%
Mathematics & Computer Sciences	--	--	--	11%
Physical & Earth Sciences	--	--	--	6%
Public Administration & Services	--	--	--	4%
Social & Behavioral Sciences	--	--	--	1%
Other Fields	8%	7%	2%	7%

Data Source: 2015 CGS International Graduate Admissions Survey: Final Applications, Admissions, and Enrollment and Allum, J. (2014). Findings from the 2014 CGS International Graduate Admissions Survey, Phase III: Final offers of admission and enrollment. Washington, DC: Council of Graduate Schools.

Notes and Definitions

About the CGS International Graduate Admissions Survey

In 2004, the Council of Graduate Schools (CGS) launched an annual empirical examination of international graduate application, admission, and enrollment trends in response to member institutions' interest in changes in the enrollment of students from abroad seeking master's and doctoral degrees from U.S. colleges and universities. Broadly speaking, the survey is designed to capture information about application counts and offers of admission, as well as first-time and total graduate enrollment of international students for each fall admission cycle. For the purpose of this survey, an international student is defined as a person who was not a citizen, national, or permanent resident of the United States and was in this country on a student visa, or on a temporary basis, and does not have the legal right to remain indefinitely. Undocumented students, individuals with deferred action status, and refugees are not included in this definition of international students.

Beginning in the current admission cycle, Fall 2015, the survey was redesigned to collect data by degree objective (master's and graduate certificate vs. doctorate), and for all seven regions of origin, eight countries of origin, and all eleven broad fields of study. Additionally, beginning this survey cycle, the respondent pool was expanded to include institutions that were not CGS members but were members of the Conference of Southern Graduate Schools (CSGS), the Midwestern Association of Graduate Schools (MAGS), the Northeastern Association of Graduate Schools (NAGS), or the Western Association of Graduate Schools (WAGS). These changes were made to make the results more comprehensive, and to make them consistent with the CGS/GRE Survey of Graduate Enrollment & Degrees.

Data Collection

The 2015 CGS International Graduate Admissions Survey population consisted of 793 U.S. colleges and universities, 501 of which were CGS members as of January 2015 and 292 of which were not CGS members but were members of CSGS, MAGS, NAGS, or WAGS. Institutions were asked to report the number of final applications from and offers of admission to prospective international graduate students, as well as first-time and total international graduate enrollment for Fall 2014 and for Fall 2015. The 2015 survey was administered between September 29 and October 26, 2015. A total of 350 institutions, or 44%, responded to the survey. While the response rate is less than years in the past, which is largely the result of the fact that the survey population was expanded this year to include CGS regional affiliates (e.g., CSGS, MAGS, NAGS, and WAGS members), it nevertheless reflects the the largest number of institutions responding to this survey since it was launched in 2004. The data collection instrument, along with survey instruction is available in the project website (<http://cgsnet.org/international-graduate-admissions-survey>). Each completed data collection instrument submitted by participating institutions was then exported into four databases: final applications, offers of admission, first-time enrollment, and total enrollment.

Data Analysis Methods

Imputation of missing values

Responding institutions were instructed to leave a field blank only when they do not have the available data to fill the cell. For example, if an institution did not have access to the final application count for master's degree programs in business, then the institution should have left the corresponding cell blank. However, if an institution did not offer a master's degree in business, the institution should have reported a "0" (zero) in the corresponding field. However, some blanks were not as a result of logical skips, and appeared as missing values by errors.

If any fields for total international graduate student counts for master’s and certificate programs, doctoral programs, or total were left blank and if it was possible to compute missing totals as sums of disaggregated figures reported in the fields of study portion of the survey and/or as sums of disaggregated figures reported in the regions of origin portion and Canada in the survey, CGS research team imputed missing values. Similarly, if any fields of overall total for international graduate students (i.e., sums of master’s and certificate students and doctoral students) were left blank, and if it was possible to compute the missing fields by adding reported values for total international graduate student counts in master’s and certificate programs and doctoral programs, the CGS research team imputed missing values.

Valid respondents for data analysis

Institutions providing data for the overall total count for international graduate students (i.e., sums of master’s and certificate international students and doctoral international students) in respective section of the survey (i.e., final applications, offers of admission, first-time enrollment, and total enrollment) were included in data analysis. This equated to 336 institutions for the final applications section with the reported total of 786,363 applications, 337 institutions for the offers of admission section with the reported total of 215,156 offers of admission, 341 institutions for the first-time enrollment section with the reported total of 84,323 first-time enrollments, and 339 institutions for the total enrollment section with the reported total of 253,949 total enrollments.

Appendix Table C.1 Characteristics of Institutions with Valid Responses for the First-time Enrollment

	Total	Public	Private, not-for-profit	Private, for-profit
All Institutions	100% 341	65%	35%	0%
<i>Research Universities (very high research activity)</i>	29% 99	68%	32%	0%
<i>Research Universities (high research activity)</i>	18% 61	79%	21%	0%
<i>Doctoral/Research Universities</i>	9% 32	47%	50%	3%
<i>Master’s Colleges and Universities (larger programs)</i>	25% 86	66%	34%	0%
<i>Other Master’s Colleges and Universities</i>	8% 27	63%	37%	0%
<i>All Other Institutions</i>	11% 36	50%	50%	0%

Data Source: 2015 CGS International Graduate Admissions Survey: Final Applications, Admissions, and Enrollment

The summary of institutional controls and Carnegie classifications of institutions with valid responses for the first-time enrollment section (N=341) is shown in Table C.1. Overall, a little less than two-thirds (65%) of responding institutions were public universities. About one-third (33%) were master’s colleges and universities, while 56% were research universities.

Additional data exclusion rules were applied for computations of percentage distributions of international students by regions/countries of origin and by fields of study, as well as by degree levels within specific regions/countries of origin or fields of study.

Percentage distributions of international students by regions/countries of origin

For each section of the survey, percentage distributions of master's degree & certificate students, doctoral students, and all students by regions/countries of origin were reported. The computations were based on the disaggregated data reported in regions/countries of origin sections of the data collection instrument, and only those institutions reported complete data for the respective section was included in the computation. The sum of all six regions and Canada in this section served as the denominator, or 100%. Due to missing values, these sums may be smaller than the total counts reported as the totals of valid respondents noted earlier.

Percentage distributions of international students by fields of study

For each section of the survey, percentage distributions of master's degree & certificate students, doctoral students, and all students by fields of study were reported. The computations were based on the disaggregated data reported in the fields of study section of the data collection instrument, and only those institutions reported complete data for the respective section was included in the computation. The sum of all 11 fields of study in this section served as the denominator, or 100%. Due to missing values, these sums may be smaller than the total counts reported as the totals of valid respondents noted earlier.

Percentage distributions of international students by degree-levels within particular regions/countries of origin

Percentage distributions of international students by degree-levels (i.e., master's and certificate students v. doctoral students) were computed for each region/country of origin. Only institutions that reported complete data for this section, and the respective sum of reported master's and certificate count and doctoral counts is equal to the reported total count were included in this calculation. Calculated sums for master's and certificate students and doctoral students for each category (e.g., Asia, India, etc.) served as the denominator, or 100%. Due to missing values, these sums may be smaller than the total counts reported as the totals of valid respondents noted earlier.

Percentage distributions of international students by degree-levels within particular fields of study

Percentage distributions of international students by degree-levels (i.e., master's and certificate students v. doctoral students) were computed for each field of study. Only institutions that reported complete data for this section, and the respective sum of reported master's and certificate count and doctoral counts is equal to the reported total count were included in this calculation. Calculated sums for master's and certificate students and doctoral students for each category (e.g., business, engineering, etc.) served as the denominator, or 100%. Due to missing values, these sums may be smaller than the total counts reported as the totals of valid respondents noted earlier.

Changes between Fall 2014 and Fall 2015

Changes between Fall 2014 and Fall 2015 are expressed as percentage differences, and only those institutions reported data for both admission cycles were included in the computation.

Definitions

Countries and Regions of Origin

The survey collected data on eight countries of origin, including: Brazil, Canada, China, India, Mexico, Saudi Arabia, Republic of Korea (South Korea), and Taiwan. These eight countries were selected because they represent the top countries of origin for international graduate students in the United States, or for other geopolitical reasons. The survey also collected data from all seven regions of the world: Asia, Europe, Latin America & Caribbean, Middle East & North Africa, North America (for the purpose of this study, North America includes only Canada), Oceania, and Sub-Saharan Africa. Specific definitions are listed below:

Asia includes: Afghanistan, Bangladesh, Bhutan, Brunei, Burma (Myanmar), Cambodia, China, East Timor, Hong Kong, India, Indonesia, Japan, Kazakhstan, Kyrgyzstan, Laos, Macau, Malaysia, Maldives, Mongolia, Nepal, Pakistan, People's Democratic Republic of Korea (North Korea), Philippines, Republic of Korea (South Korea), Singapore, Sri Lanka, Taiwan, Tajikistan, Thailand, Turkmenistan, Uzbekistan, and Vietnam.

For the purpose of this survey, China refers to the People's Republic of China and excludes Hong Kong, Macau, Taiwan, etc.

Europe includes: Albania, Andorra, Armenia, Austria, Azerbaijan, Belarus, Belgium, Bosnia and Herzegovina, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Georgia, Germany, Gibraltar, Greece, Hungary, Iceland, Ireland, Italy, Kosovo, Latvia, Liechtenstein, Lithuania, Luxembourg, Macedonia, Malta, Moldova, Monaco, Montenegro, Netherlands, Norway, Poland, Portugal, Romania, Russia, San Marino, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey, Ukraine, United Kingdom, and Vatican City (Holy See).

Latin America & Caribbean includes: Anguilla, Antigua and Barbuda, Argentina, Aruba, Bahamas, Barbados, Belize, Bermuda, Bolivia, Brazil, British Virgin Islands, Cayman Islands, Chile, Colombia, Costa Rica, Cuba, Curacao, Dominica, Dominican Republic, Ecuador, El Salvador, Falkland Islands, French Guiana, Grenada, Guadeloupe, Guatemala, Guyana, Haiti, Honduras, Jamaica, Martinique, Mexico, Montserrat, Netherlands Antilles, Nicaragua, Panama, Paraguay, Peru, Sint Maarten, St. Kitts and Nevis, St. Lucia, St. Vincent and the Grenadines, Suriname, Trinidad & Tobago, Turks and Caicos Islands, Uruguay, and Venezuela.

Middle East & North Africa includes: Algeria, Bahrain, Egypt, Iran, Iraq, Israel, Jordan, Kuwait, Lebanon, Libya, Morocco, Oman, Palestinian Territories, Qatar, Saudi Arabia, Syria, Tunisia, United Arab Emirates, and Yemen.

Oceania includes: Australia, Cook Islands, Fiji, French Polynesia, Kiribati, Marshall Islands, Micronesia, Nauru, New Caledonia, New Zealand, Niue, Palau, Papua New Guinea, Samoa, Solomon Islands, Tonga, Tuvalu, Vanuatu, and Wallis & Futuna.

Sub-Saharan Africa includes: Angola, Benin, Botswana, Burkina Faso, Burundi, Cameroon, Cape Verde, Central African Republic, Chad, Comoros, Cote d'Ivoire (Ivory Coast), Democratic Republic of Congo (Kinshasa, Republic of Congo), Djibouti, Equatorial Guinea, Eritrea, Ethiopia, Gabon, Gambia, Ghana, Guinea, Guinea-Bissau, Kenya, Lesotho, Liberia, Madagascar, Malawi, Mali, Mauritania, Mauritius, Mozambique, Namibia, Niger, Nigeria, Republic of the Congo (Brazzaville), Rwanda, Saint Helena, Sao

Tome and Principe, Senegal, Seychelles, Sierra Leone, Somalia, South Africa, South Sudan, Sudan, Swaziland, Tanzania, Togo, Uganda, Zambia, and Zimbabwe.

Carnegie Classification

Institutions were coded according to their 2010 Carnegie basic classification. In the analysis of applications by Carnegie classification, the responding institutions classified as RU/VH: Research Universities (very high research activity), RU/H: Research Universities (high research activity), or DRU: Doctoral/Research Universities were grouped as doctoral institutions. The responding institutions classified as Master's/L: Master's Colleges and Universities (larger programs), Master's/M: Master's Colleges and Universities (medium programs), or Master's/S: Master's Colleges and Universities (smaller programs) were grouped as master's institutions. Responding institutions classified as specialized or baccalaureate institutions were excluded from many analyses due the small number of applications reported by these institutions.

Taxonomy

The survey collected data for all 11 broad fields of study, including: arts & humanities, biological & agricultural sciences, business, education, engineering, health sciences, mathematics & computer sciences, physical & earth sciences, public administration & services, social & behavioral sciences, and other fields. These are the same fields of study as used by the CGS/GRE Survey of Graduate Enrollment & Degrees. The detailed taxonomy is available in the project website (<http://cgsnet.org/international-graduate-admissions-survey>).

References

Allum, J. (2014). [*Findings from the 2014 CGS international graduate admissions survey: Phase III, final offers of admission and enrollment*](#). Washington, DC: Council of Graduate Schools.

Allum, J., & Okahana, H. (2015). [*Graduate enrollment and degrees: 2004 to 2014*](#). Washington, DC: Council of Graduate Schools.

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