



Council of Graduate Schools

RESEARCH REPORT

Findings from the 2009 CGS International Graduate Admissions Survey Phase I: Applications

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Council of Graduate Schools

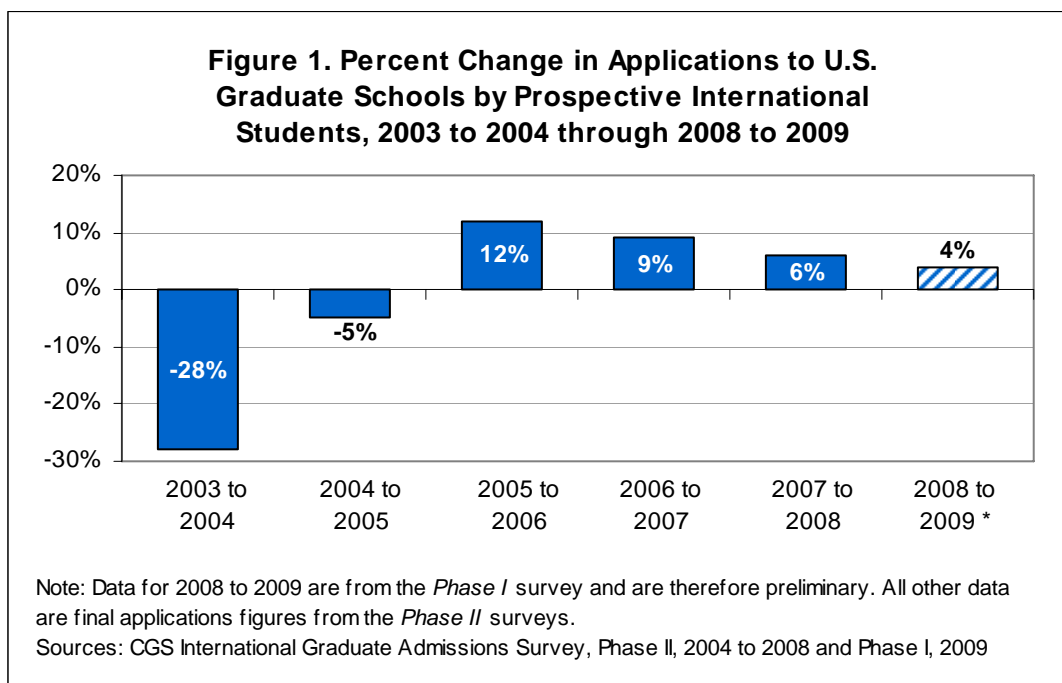
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Overview

In 2004, the Council of Graduate Schools (CGS) began an extensive, multi-year empirical examination of international graduate application, admission, and enrollment trends. This analysis responds to member institutions' concerns about continuing changes in the enrollment of students from abroad seeking master's and doctoral degrees from U.S. colleges and universities.

The core of this examination is a three-phase survey of CGS member institutions. The *CGS International Graduate Admissions Survey* collects an initial snapshot of applications to U.S. graduate schools from prospective international students (*Phase I*, conducted in February of each year), final applications and an initial picture of admissions offers to prospective international students (*Phase II*, June), and final offers of admission and first-time and total international graduate student enrollment (*Phase III*, October).

Institutions responding to the *Phase II* survey in 2004 reported a 28% decline in applications from prospective international graduate students between 2003 and 2004 (see Figure 1). Subsequent *Phase II* surveys revealed a 5% decline from 2004 to 2005, followed by a 12% increase from 2005 to 2006. The growth rate slowed in each of the next two years, with year-to-year gains of 9% and 6%.¹



CGS survey data for 2009 suggest that U.S. graduate schools received an increasing number of applications from prospective international students, but the rate of increase continued to slow for the

¹ Brown, H. & Syverson, P. 2004. *Findings from U.S. Graduate Schools on International Graduate Student Admissions Trends*. Washington, DC: Council of Graduate Schools; Brown, H. 2005. *Findings from the 2005 CGS International Graduate Student Admissions Survey II: Final Applications and Admissions*. Washington, DC: Council of Graduate Schools; Brown, H. 2006. *Findings from 2006 CGS International Graduate Admissions Survey, Phase II: Final Applications and Offers of Admission*. Washington, DC: Council of Graduate Schools; Redd, K. 2007. *Findings from the 2007 CGS International Graduate Admissions Survey, Phase II: Final Applications and Initial Offers of Admission*. Washington, DC: Council of Graduate Schools; Redd, K. 2008. *Findings from the 2008 CGS International Graduate Admissions Survey, Phase II: Final Applications and Initial Offers of Admission*. Washington, DC: Council of Graduate Schools.

third year in a row. Moreover, the rebound in international applications still was not large enough to reverse the declines that many institutions reported in 2004.

This report first describes the survey methodology used to collect and calculate changes in applications from 2008 to 2009. The second section presents the current survey results and compares the one-year changes to those in prior years.

Survey Methodology and Response Rate

The survey population for the *2009 CGS International Graduate Admissions Survey, Phase I: Applications* consisted of all 495 U.S. colleges and universities that were members of CGS as of January 2009.² The survey instrument was e-mailed to the graduate dean at each member institution on January 15, 2009, and responses were collected electronically through March 13, 2009.

The survey asked institutions to report their numbers of applications for admission to graduate programs from prospective international students for fall 2008 and fall 2009, as of the same date each year. In the survey, an international student is defined as a person who is not a citizen, national, or permanent resident of the United States and is in this country on a student visa, or on a temporary basis, and does not have the legal right to remain indefinitely. Institutions were also asked to provide applications numbers for students who originate from four key sending countries or regions and for eight broad fields of study.³

A total of 245 institutions responded to the survey, for a response rate of 49.5%. Both the number of institutions responding and the response rate were record highs for the *International Graduate Admissions Survey*. The response rates among certain types of institutions were even higher: nine of the ten institutions with the largest international graduate student enrollments, 22 of the 25 largest (88%), 44 of the 50 largest (88%), and 88 of the 100 largest (88%) responded to the survey.⁴ The high response rate among the institutions with the largest international student enrollments is important because collectively the 100 largest institutions enroll about 60% of the total international graduate student population in the United States.⁵ The high response rate among these institutions suggests that the survey results accurately depict recent trends in international applications at U.S. graduate schools. Overall, the 245 institutions responding to the *Phase I* survey enrolled about 66% of the 280,259 international graduate students in the United States in fall 2007.⁶

Institutions responding to the *Phase I* survey provided data on a total of 404,853 applications to U.S. graduate schools by prospective international students for fall 2009. In a few cases, institutions were unable to provide data for both 2008 and 2009 for either the totals or one of the subcategories. In those instances, these respondents were excluded from the appropriate analyses. Data were not imputed for non-responding institutions.

² CGS also has member institutions in Canada and overseas affiliate members. These institutions are not included in the *International Graduate Admissions Survey*.

³ The *Phase I* survey also included the annual *Pressing Issues Survey*. These results will be analyzed separately and reported in the May 2009 issue of the *CGS Communicator*. In addition, the survey included a two-part question about the impact of the economic recession on U.S. graduate schools. The results of this analysis will be released in a separate research report.

⁴ These enrollment figures are based on enrollment in fall 2007. For more information, see National Center for Education Statistics. Integrated Postsecondary Education Data System (IPEDS) Fall Enrollment Survey. Dataset. On-line. Available: <http://nces.ed.gov/ipeds/>.

⁵ *Ibid.*

⁶ *Ibid.*

For some campuses, the *Phase I* survey was administered early in their application cycles, before final numbers were known. These institutions provided preliminary applications figures. For that reason, the survey results (described in the next section of this report) should be considered preliminary, subject to revision in the 2009 *Phase II* survey when final applications numbers are reported. Nonetheless, because of the high response rates among the institutions with the largest numbers of international graduate students and the large numbers of applications represented in the *Phase I* survey data, the overall results do appear to illustrate accurately the current trends in international graduate student applications in the United States.

Survey Results

Total Number of Applications

Applications to U.S. graduate schools from prospective international students increased between 2008 and 2009, but the rate of increase continued to slow for the third year in a row. Between 2008 and 2009, international graduate applications increased 4%, down from gains of 6% in 2008, 9% in 2007 and 12% in 2006 (see Table 1 on the following page).

While international applications increased 4% overall, there was a great deal of variation around this overall rate. Of the 219 institutions that provided total applications data for both 2008 and 2009 in this year's *Phase I* survey, 114 (52%) reported an increase in international applications for fall 2009, with an average increase of 10% at these institutions. At the 101 institutions (46%) reporting a decrease, the average decline in international applications was 10%. Four institutions (2%) reported no change in applications.

Despite the increases in applications in the four most recent CGS surveys, total applications from international students are still below their 2003 levels at some institutions. About 46% of the 74 institutions that responded to the *Phase I* survey in both 2004 and 2009 had fewer international applications this year than they did in 2003. Collectively, the number of students from abroad applying to these institutions is currently 26% below what it was in 2003. Overall, international applications at all 74 institutions that responded to the *Phase I* survey in both 2004 and 2009 – those reporting increases and those reporting decreases – also remain 3% below 2003 levels.

Applications by Country/Region of Origin

The *CGS International Graduate Admissions Survey* collects data on four key sending countries or regions: India, China, South Korea, and the Middle East & Turkey. India, China, and South Korea are the top three countries of origin for international graduate students in the United States. Collectively, students from these three countries account for about one-half of all non-U.S. citizens on temporary visas attending U.S. graduate schools, according to research from both CGS and the Institute of International Education.⁷ Thus, examining student flows from these three countries provides a good indicator of overall international applications trends. Applications from students from countries in the Middle East & Turkey⁸ have also been included in the CGS surveys because of the geopolitical importance of this region; graduate students from the Middle East & Turkey currently account for about 5% of all international graduate students in the United States.

⁷ Bell, N. 2008. *Findings from the 2008 CGS International Graduate Admissions Survey, Phase III: Final Offers of Admission and Enrollment*. Washington, DC: Council of Graduate Schools; Bhandari, R. & Chow, P. 2008. *Open Doors 2008: Report on International Education Exchange*. New York, NY: Institute of International Education.

⁸ Middle East & Turkey includes: Bahrain, Cyprus, Iran, Iraq, Israel, Jordan, Kuwait, Lebanon, Oman, Palestinian Authority, Qatar, Saudi Arabia, Syria, Turkey, United Arab Emirates, and Yemen.

Table 1. Change in International Graduate Applications, 2005 to 2006 through 2008 to 2009

	Final Number of Applications, 2005 to 2006	Final Number of Applications, 2006 to 2007	Final Number of Applications, 2007 to 2008	Preliminary Number of Applications, 2008 to 2009
International Total	12%	9%	6%	4%
Country/Region of Origin				
China	19%	19%	11%	16%
India	26%	12%	2%	-9%
South Korea	4%	0%	2%	-7%
Middle East & Turkey *	10%	17%	14%	20%
Field of Study				
Arts & Humanities	5%	8%	7%	8%
Business	16%	15%	10%	7%
Education	1%	12%	-1%	1%
Engineering	19%	13%	4%	4%
Life Sciences	9%	18%	3%	-2%
Physical & Earth Sciences	15%	12%	7%	4%
Social Sciences & Psychology	6%	0%	9%	4%
Other Fields **	--	--	--	4%

* Middle East & Turkey includes: Bahrain, Cyprus, Iran, Iraq, Israel, Jordan, Kuwait, Lebanon, Oman, Palestinian Authority, Qatar, Saudi Arabia, Syria, Turkey, United Arab Emirates, and Yemen.

** Prior to 2009, data for 'Other Fields' were not collected separately.

Note: Not all responding institutions provided data by country of origin and/or field of study.

Sources: CGS International Graduate Admissions Survey, Phase II, 2006 to 2008 and Phase I, 2009

The *Phase I* survey results reveal that graduate applications from prospective students from India fell 9% in 2009, following an increase of 2% in 2008, and double-digit increases in both 2007 and 2006 (see Table 1). Similarly, applications from prospective students from South Korea fell 7% in 2009, following an increase of 2% in 2008.

The numbers of applications from both China and the Middle East & Turkey increased dramatically in 2009. Graduate applications from prospective students from China increased 16% in 2009, up from an 11% gain in 2008; it is the fourth consecutive year of double-digit growth. A similar surge in applications occurred from prospective students from the Middle East & Turkey, with a 20% increase in applications in 2009, up from a 14% gain in 2008, and also the fourth consecutive year of double-digit growth.

Applications by Field of Study

The majority (61%) of all international graduate students at U.S. institutions are enrolled in one of three broad fields: engineering, physical & earth sciences, and business.⁹ For fall 2009, international applications increased in all three of these broad fields (see Table 1). In both engineering and physical & earth sciences, applications increased 4% in 2009, following gains of 4% in engineering in 2008 and 7% in physical and earth sciences. In business, international applications increased 7% in 2009, following a 10% gain in 2008.

⁹ Bell, N. 2008. *Graduate Enrollment and Degrees: 1997 to 2007*. Washington, DC: Council of Graduate Schools.

Life sciences and social sciences & psychology also account for large numbers of international students at U.S. institutions. In fall 2007, 22% of international students were enrolled in these broad fields.¹⁰ The *Phase I* survey reveals that applications from prospective international students for fall 2009 dropped 2% in the life sciences. This was the only broad field to exhibit a decline, and follows a 3% increase in applications last year. Applications for fall 2009 increased in social sciences & psychology (up 4%), but the rate of increase slowed from 9% in 2008.

Just 18% of all international graduate students at U.S. institutions are enrolled in the three remaining broad fields (education, arts & humanities, and other fields).¹¹ Applications to all three of these broad fields increased in 2009, with the strongest gain in arts & humanities (8%) and the smallest increase in education (1%).

Overall, applications increased in 2009 in seven of the eight broad fields,¹² with the largest increase in arts & humanities (8%) and the second largest increase in business (7%). In four broad fields (engineering, physical & earth sciences, social sciences & psychology, and other fields) the increase matched the overall 4% gain in international applications for fall 2009. Applications in education showed little increase over 2008, and applications slipped slightly in life sciences, with a 2% decline between 2008 and 2009.

Applications by Institutional Control and Carnegie Classification

Public and private institutions exhibited identical rates of increase in total applications from international students. Of the 219 institutions that provided total applications data for both 2008 and 2009 in this year's *Phase I* survey, 153 were public institutions and 66 were private institutions. At both types of institutions, applications increased 4% in 2009 (see Table 2 on the following page).

Institutions responding to the *Phase I* survey with 2008 and 2009 data were coded according to their 2005 Carnegie basic classification. In the analysis, the 147 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 59 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. Only 13 responding institutions had classifications not listed above, and were therefore excluded from this analysis.

Overall, graduate applications from international students for fall 2009 increased 5% at doctoral institutions, but fell 17% at master's institutions (see Table 2). Larger numbers of applications on average at doctoral institutions helped offset much of the decline seen at master's institutions, resulting in the overall 4% increase at all types of institutions.

When the data are examined by Carnegie classification and institutional control, the findings remain consistent at doctoral institutions. International applications increased 5% at public, doctoral institutions and 4% at private, doctoral institutions. At the master's level, however, the findings vary by institutional control, but these results should be interpreted cautiously given the small number of private, master's institutions responding to the survey. International applications decreased 21% at public, master's institutions and remained flat at private, master's institutions.

¹⁰ *Ibid.*

¹¹ *Ibid.*

¹² See Appendix A for the summarized survey taxonomy.

Table 2. Change in Total International Graduate Applications by Institutional Control and Carnegie Classification, 2008 to 2009

	Number of Respondents	Percentage Change in Applications
Total (All Institutions)	219	4%
Public	153	4%
Private *	66	4%
Doctoral Institutions	147	5%
Public	103	5%
Private *	44	4%
Master's Institutions	59	-17%
Public	45	-21%
Private *	14	0%

* Includes not-for-profit and for-profit (proprietary) institutions.

Notes: All results are based on the 219 institutions providing total applications data for both 2008 and 2009 in this year's Phase I survey. Carnegie classifications are based on the 2005 Carnegie Classification of Institutions of Higher Education. See text for description of Carnegie groupings. The 13 institutions classified as specialized or baccalaureate institutions are included in the total but are not broken out separately.

Source: CGS International Graduate Admissions Survey, Phase I, 2009

Applications by Geographic Region

Applications to U.S. graduate schools from prospective international students increased in all four major regions of the United States. Of the 219 institutions that provided total applications data for both 2008 and 2009 in this year's *Phase I* survey, 58 institutions are located in the Midwest, 45 in the Northeast, 36 in the West, and 80 in the South.¹³ International applications increased most in the South (up 6%), followed by the Northeast (up 4%) and Midwest (up 4%). The increase in international applications was smallest in institutions located in the West (3%).

Applications by Size of International Graduate Enrollment

The overall changes in the numbers of applications from prospective international students potentially mask substantial differences between small and large institutions. To show the wide variation in trends, CGS reports changes in international applications by size of total international graduate student enrollment. Enrollment size is based on data collected by the U.S. Department of Education.¹⁴

¹³ States were divided into regions as follows: *Midwest* – Illinois, Indiana, Iowa, Kansas, Michigan, Minnesota, Missouri, Nebraska, North Dakota, Ohio, South Dakota, and Wisconsin; *Northeast* – Connecticut, Maine, Massachusetts, New Hampshire, New Jersey, New York, Pennsylvania, Rhode Island, and Vermont; *West* – Alaska, Arizona, California, Colorado, Hawaii, Idaho, Montana, Nevada, New Mexico, Oregon, Utah, Washington, and Wyoming; and *South* – Alabama, Arkansas, Delaware, District of Columbia, Florida, Georgia, Kentucky, Louisiana, Maryland, Mississippi, North Carolina, Oklahoma, South Carolina, Tennessee, Texas, Virginia, and West Virginia.

¹⁴ See footnote 4 for more information.

Table 3. Change in International Graduate Applications by Size of International Student Enrollment, 2008 to 2009

	10 Largest Institutions	25 Largest Institutions	50 Largest Institutions	100 Largest Institutions	All Other Institutions
International Total	7%	5%	6%	6%	-4%
Country/Region of Origin					
China	21%	21%	20%	17%	6%
India	-7%	-10%	-6%	-6%	-19%
South Korea	-8%	-9%	-8%	-7%	-8%
Middle East & Turkey *	15%	17%	20%	20%	20%
Field of Study					
Arts & Humanities	20%	18%	12%	10%	0%
Business	3%	6%	5%	7%	10%
Education	10%	1%	3%	5%	-10%
Engineering	10%	6%	6%	6%	-5%
Life Sciences	3%	0%	0%	-1%	-5%
Physical & Earth Sciences	6%	8%	9%	7%	-6%
Social Sciences & Psychology	8%	7%	6%	6%	-7%
Other Fields	7%	11%	4%	5%	1%

* Middle East & Turkey includes: Bahrain, Cyprus, Iran, Iraq, Israel, Jordan, Kuwait, Lebanon, Oman, Palestinian Authority, Qatar, Saudi Arabia, Syria, Turkey, United Arab Emirates, and Yemen.

Notes: Size of international student enrollment is based on NCES data for fall 2007. See footnote 4 for more information. Not all responding institutions provided data by country of origin and/or field of study.

Source: CGS International Graduate Admissions Survey, Phase I, 2009

Table 3 displays the changes in international graduate applications from 2008 to 2009 for the responding colleges and universities with the 10, 25, 50, and 100 largest enrollments of international graduate students. In addition, data are presented for all responding institutions outside the largest 100.

With just three exceptions, the increases in applications in 2009 were the result of increases at institutions with large numbers of international enrollees. In most cases, applications either increased minimally or dropped at the institutions outside the largest 100. And in some cases, the decreases at these smaller institutions contrasted sharply with the increases at larger institutions.

Overall, international graduate applications increased 7% at the responding institutions that are among the 10 largest, 5% at the 25 largest, 6% at the 50 largest, and 6% at the 100 largest. However, international graduate applications dropped 4% between 2008 and 2009 at the institutions outside the largest 100. This pattern held true for applications from prospective students from China and India, and held true for prospective students applying to programs in all broad fields except for business. In all of these cases, applications at the institutions outside the largest 100 increased less than those at larger institutions or decreased more than those at larger institutions. The data for engineering are particularly striking. Applications increased 10% at the 10 largest institutions, and 6% at the 25 largest, 50 largest, and 100 largest institutions, but international applications dropped 5% at institutions outside the largest 100.

As mentioned above, there were three exceptions to this finding. On average, the decline in applications from prospective students from South Korea remained constant regardless of the size of the institution's international enrollment, with decreases ranging from a 9% decline at the 25 largest institutions to a 7% decline at the 100 largest institutions. Similarly, the increase in applications from prospective students from the Middle East & Turkey remained relatively constant across the five categories, with increases ranging from 15% at the 10 largest institutions to 20% at the 50 largest, 100 largest, and institutions outside the largest 100. Business was the one broad field of study where growth was strongest at the institutions outside the largest 100. International applications increased 10% at these institutions, compared with 3% at the 10 largest, 6% at the 25 largest, 5% at the 50 largest, and 7% at the 100 largest.

Summary and Conclusions

The results of the *2009 CGS International Graduate Admissions Survey, Phase I: Applications* indicate that applications to U.S. graduate schools from prospective international students increased 4% between 2008 and 2009, but the rate of increase continued to slow for the third year in a row, down from 6% in 2008, 9% in 2007 and 12% in 2006. This year's increase was driven in part by double-digit increases in the numbers of applications from China (up 16%) and the Middle East & Turkey (up 20%).

A potentially troubling sign is that applications from prospective students from both India and South Korea fell in 2009, with declines of 9% and 7%, respectively. These declines follow decreases in first-time enrollment of students from these two countries in fall 2008; first-time enrollment fell 2% for students from India and 4% for students from South Korea.¹⁵ Given the relatively large decline in applications for students from these two countries in this year's *Phase I* survey, it seems likely that first-time enrollment of students from India and South Korea will decline again in fall 2009.

Most broad fields of study exhibited strong growth in international applications in 2009, led by large increases in arts & humanities (up 8%) and business (up 7%). Life sciences was the only field in which international applications decreased in 2009, with a 2% decline.

Public and private institutions exhibited identical rates of increase in total applications from international students in fall 2009 (both up 4%), but there were striking differences by Carnegie classification. Graduate applications from international students increased 5% at doctoral institutions, but fell 17% at master's institutions.

The increase in international applications between 2008 and 2009 was driven almost entirely by growth in applications at the responding institutions with large numbers of international enrollees. Overall, international graduate applications increased 7% at the responding institutions that are among the 10 largest in terms of international graduate enrollment, 5% at the 25 largest, and 6% at the 50 largest and 100 largest, but dropped 4% at the institutions outside the largest 100.

Overall, the survey results reveal a continuation of the trends seen in the 2008 and 2007 surveys, with continued growth in applications, but a slowdown in the rate of increase. While it is impossible to predict with any degree of certainty what will happen in fall 2009, the increases in international applications in the last two years have been about twice as large as the resulting increases in first-time international enrollment. In 2007, international applications increased 9%, but first-time enrollment increased just 4%, and in 2008, international applications increased 6%, compared with a 3% increase in first-time

¹⁵ Bell, N. 2008. *Findings from the 2008 CGS International Graduate Admissions Survey, Phase III: Final Offers of Admission and Enrollment*. Washington, DC: Council of Graduate Schools.

enrollment.¹⁶ The *Phase II* and *Phase III* surveys this year will shed more light on the on-going graduate school decisions of international students in this difficult economy.

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The Council of Graduate Schools (CGS) is an organization of over 500 institutions of higher education in the United States and Canada engaged in graduate education, research, and the preparation of candidates for advanced degrees. Among U.S. institutions, CGS members award 95% of the doctoral degrees and 84% of the master's degrees.¹⁷ The organization's mission is to improve and advance graduate education, which it accomplishes through advocacy in the federal policy arena, research, and the development and dissemination of best practices.

¹⁶ Bell, N. 2008. *Findings from the 2008 CGS International Graduate Admissions Survey, Phase III: Final Offers of Admission and Enrollment*. Washington, DC: Council of Graduate Schools; Redd, K. 2008. *Findings from the 2008 CGS International Graduate Admissions Survey, Phase II: Final Applications and Initial Offers of Admission*. Washington, DC: Council of Graduate Schools.

¹⁷ Based on data from the 2007 CGS/GRE Survey of Graduate Enrollment and Degrees.

Appendix A
CGS International Graduate Admissions Survey Taxonomy

ARTS & HUMANITIES

Arts – History, Theory & Criticism
Arts – Performance & Studio
English Language & Literature
Foreign Languages & Literatures
History
Philosophy
Arts & Humanities, Other

BUSINESS

Accounting
Banking and Finance
Business Administration & Management
Business, Other

EDUCATION

Education Administration
Curriculum and Instruction
Early Childhood Education
Elementary Education
Evaluation and Research
Higher Education
Secondary Education
Special Education
Student Counseling & Personnel Services
Education, Other

ENGINEERING

Chemical Engineering
Civil Engineering
Electrical & Electronics Engineering
Industrial Engineering
Materials Engineering
Mechanical Engineering
Engineering, Other

LIFE SCIENCES

Agriculture
Biological Sciences
Health & Medical Sciences

PHYSICAL & EARTH SCIENCES

Chemistry
Computer & Information Sciences
Earth, Atmospheric & Marine Sciences
Mathematical Sciences
Physics & Astronomy
Physical Sciences, Other

SOCIAL SCIENCES & PSYCHOLOGY

Anthropology
Archaeology
Economics
Political Science
Psychology
Sociology
Social Sciences, Other

OTHER FIELDS

Architecture & Environmental Design
Communications
Family & Consumer Sciences
Library & Archival Studies
Public Administration
Religion & Theology
Social Work
Other Fields