Findings from the
2011 CGS International Graduate Admissions Survey

Phase I: Applications

April 2011
Overview

Since 2004, the Council of Graduate Schools (CGS) has conducted a 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. International students currently comprise about 15.5% of all students at U.S. graduate schools.\(^1\)

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).\(^2\)

Data from this year’s Phase I survey indicate that applications from prospective international students to U.S. graduate schools increased in 2011, marking the sixth consecutive year of growth, and matching last year’s 9% gain (see Figure 1). Over the past six years, the year-to-year growth in international applications has ranged from a high of 12% in 2006 to a low of 4% in 2009, but these six years of growth follow a 28% decline in applications from prospective international graduate students in 2004, and a subsequent 5% decline in 2005.

![Figure 1. Percent Change in Applications to U.S. Graduate Schools from Prospective International Students, 2003 to 2004 through 2010 to 2011](image)

Note: Data for 2010 to 2011 are from the Phase I survey and are therefore preliminary. All other data are final applications figures from the Phase II surveys.
Sources: CGS International Graduate Admissions Survey, Phase II, 2004 to 2010 and Phase I, 2011

This report first describes the survey methodology used to collect and calculate changes in international applications from 2010 to 2011. The second section presents the current survey results on applications from prospective international students to U.S. graduate schools and compares the one-year changes to those in prior years. Section three provides a summary and conclusions.

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I. Survey Methodology and Response Rate

The survey population for the 2011 CGS International Graduate Admissions Survey, Phase I: Applications consisted of all 494 U.S. colleges and universities that were members of CGS as of January 2011. A link to the survey instrument was e-mailed to the graduate dean (or equivalent) at each member institution on January 25, 2011, and responses were collected electronically through March 11, 2011.

The survey asked institutions to report their numbers of applications for admission to graduate programs from prospective international students for fall 2010 and fall 2011, 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 data on applications from students who originate from four key sending countries or regions and for eight broad fields of study.

A total of 230 institutions responded to the survey, for a response rate of 47%. The response rates among certain types of institutions were even higher: seven of the ten institutions that award the largest numbers of master’s and doctoral degrees to international students (70%), 20 of the 25 largest (80%), 42 of the 50 largest (84%), and 73 of the 100 largest (73%) responded to the survey. The high response rates from these institutions are important because collectively the 100 largest institutions confer about 60% of all graduate degrees awarded annually to international students in the United States. Overall, the 230 institutions responding to the Phase I survey conferred about 61% of the approximately 96,000 graduate degrees awarded to international students in the United States in 2008-09, suggesting that the survey results accurately depict recent trends in international applications to U.S. graduate schools.

Institutions responding to the Phase I survey provided data on a total of 488,035 applications to U.S. graduate schools by prospective international students for fall 2011. In some cases, institutions were unable to provide data for both 2010 and 2011 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.

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 2011 Phase II survey when final applications numbers are reported. Nonetheless, past Phase I surveys have shown that because of the high response rates among the institutions awarding large numbers of graduate degrees to international students and the large numbers of applications represented in the Phase I survey data, the overall results accurately illustrate the trends in international graduate applications in the United States.

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3 CGS also has member institutions in Canada and global affiliates. These institutions are not included in the survey population for the CGS International Graduate Admissions Survey.
4 The Phase I survey also included the annual Pressing Issues Survey and three questions about admissions deadlines. These results will be analyzed separately and reported in the CGS Communicator.
5 These figures are based on graduate degrees awarded in academic year 2008-09. Data were derived from the National Science Foundation’s WebCASPAR database (http://webcaspar.nsf.gov) using data from the U.S. Department of Education’s Integrated Postsecondary Education Data System (IPEDS).
6 See footnote 5.
7 See footnote 5.
II. Survey Results

Total Number of Applications

This year, applications to U.S. graduate schools from prospective international students increased for the sixth year in a row. Between 2010 and 2011, international graduate applications increased 9%, matching last year’s increase and outpacing gains of 4% and 6% in 2009 and 2008, respectively (see Table 1).

Nearly three-quarters of the survey respondents reported an increase in applications from prospective international students in 2011. Of the 215 institutions that provided total applications data for both 2010 and 2011 in this year’s *Phase I* survey, 155 (72%) reported an increase in international applications for fall 2011, with an average increase of 11% at these institutions. At the 60 institutions (28%) reporting a decrease, the average decline in international applications was 9%.

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<tbody>
<tr>
<td>International Total</td>
<td>6%</td>
<td>4%</td>
<td>9%</td>
<td>9%</td>
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<tr>
<td>China</td>
<td>11%</td>
<td>14%</td>
<td>20%</td>
<td>18%</td>
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<tr>
<td>India</td>
<td>2%</td>
<td>-12%</td>
<td>1%</td>
<td>7%</td>
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<td>South Korea</td>
<td>2%</td>
<td>-9%</td>
<td>0%</td>
<td>2%</td>
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<tr>
<td>Middle East &amp; Turkey *</td>
<td>14%</td>
<td>22%</td>
<td>20%</td>
<td>12%</td>
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<tr>
<td>Arts &amp; Humanities</td>
<td>7%</td>
<td>5%</td>
<td>9%</td>
<td>8%</td>
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<tr>
<td>Business</td>
<td>10%</td>
<td>7%</td>
<td>11%</td>
<td>4%</td>
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<tr>
<td>Education</td>
<td>-1%</td>
<td>8%</td>
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<tr>
<td>Engineering</td>
<td>4%</td>
<td>3%</td>
<td>8%</td>
<td>12%</td>
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<td>Life Sciences</td>
<td>3%</td>
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<td>2%</td>
<td>8%</td>
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<tr>
<td>Physical &amp; Earth Sciences</td>
<td>7%</td>
<td>2%</td>
<td>10%</td>
<td>12%</td>
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<tr>
<td>Social Sciences &amp; Psychology</td>
<td>9%</td>
<td>6%</td>
<td>11%</td>
<td>5%</td>
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<tr>
<td>Other Fields **</td>
<td>--</td>
<td>11%</td>
<td>13%</td>
<td>13%</td>
</tr>
</tbody>
</table>

* 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, 2008 to 2010, and Phase 1, 2011

Applications by Country/Region of Origin

The *CGS International Graduate Admissions Survey* collects data on four key sending countries or regions: China, India, South Korea, and the Middle East & Turkey. China, India, 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. 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 & Turkey 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 6% of all international graduate students in the United States.

The Phase I data reveal that applications from prospective graduate students increased in all four of the countries/regions examined in the survey in 2011. Graduate applications from prospective students from India increased 7% in 2011 after increasing just 1% in 2010 and falling 12% in 2009 (see Table 1). Similarly, applications from prospective students from South Korea increased 2% in 2011 after remaining flat in 2010 and falling 9% in 2009. The numbers of applications from both China and the Middle East & Turkey continued to increase dramatically in 2011. Graduate applications from prospective students from China increased 18% in 2011 following a 20% increase in 2010 and a 14% gain in 2009; this is the sixth consecutive year of double-digit growth for China. Applications from prospective graduate students from the Middle East & Turkey increased 12% in 2011 following a 20% increase in 2010 and a 22% gain in 2009; this is also the sixth consecutive year of double-digit growth for the Middle East & Turkey.

Applications by Field of Study

The majority (62%) of all international graduate students at U.S. institutions are enrolled in one of three broad fields: engineering, physical & earth sciences (which includes mathematics and computer science), and business. Life sciences and social sciences & psychology also account for large numbers of international students at U.S. institutions. In fall 2009, 21% of international students were enrolled in these two broad fields. Just 17% of all international students at U.S. institutions are enrolled in the three remaining broad fields (education, arts & humanities, and ‘other’ fields). The Phase I survey results indicate that international applications increased in all broad fields of study in 2011.

The largest increases in international applications in 2011 occurred in ‘other’ fields (13%), physical & earth sciences (12%), and engineering (also 12%). All three of these broad fields also experienced strong growth in 2010 (see Table 1). The smallest gain in international applications in 2011 was in business (4%), which follows an 11% increase in this broad field in 2010. Similarly, international applications in social sciences & psychology rose 5% in 2011, the second smallest gain, following an 11% increase last year. In the three remaining broad fields (arts & humanities, education, and life sciences), increases in international applications ranged from 8% to 9% in 2011. This year’s 8% increase in life sciences marks the largest gain in this broad field since 2007.

Applications by Institutional Control and Carnegie Classification

International applications increased in both public and private, not-for-profit institutions in 2011. Among the survey respondents, international applications increased 9% in public institutions and 11% in private,

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9 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.


12 See Appendix A for the summarized survey taxonomy.
not-for-profit institutions in 2011 (see Table 2). For both 2010 and 2011, the gains at private, not-for-profit institutions outpaced those at public institutions.

By Carnegie classification, applications from prospective international graduate students increased 9% overall at doctoral institutions in 2011, the same year-to-year gain that occurred in 2010. International applications increased 13% at master’s-focused institutions in 2011 following a 3% increase in 2010 (see Table 2). While the percentage increase for master’s-focused institutions in 2011 appears to be large, it is based on a relatively small number of international applications. In the 2011 Phase I survey, just 2% of all applications from prospective international students were for admission to master’s-focused institutions.

When the data are examined by Carnegie classification and institutional control, the findings for doctoral institutions are identical to the overall totals. International applications increased 9% at public, doctoral

| Table 2. Change in International Graduate Applications by Institutional Control and Carnegie Classification, 2009 to 2010 and 2010 to 2011 |
|---|---|
| 2009 to 2010 | 2010 to 2011 |
| No. of Respondents | Final % Change in Applications | No. of Respondents | Preliminary % Change in Applications |
| Total (All Institutions) * | 243 | 9% | 215 | 9% |
| Public | 175 | 7% | 155 | 9% |
| Private, not-for-profit | 67 | 12% | 59 | 11% |
| Doctoral Institutions * | 171 | 9% | 154 | 9% |
| Public | 123 | 7% | 112 | 9% |
| Private, not-for-profit | 47 | 13% | 41 | 11% |
| Master's-Focused Institutions | 55 | 3% | 50 | 13% |
| Public | 43 | 3% | 37 | 13% |
| Private, not-for-profit | 12 | 3% | 13 | 13% |

* For both 2009 to 2010 and 2010 to 2011, one private, for-profit institution is included in the total but is not broken out separately by institutional control.

Notes: All results are based on the institutions providing total applications data for both years being compared (2009 and 2010 and/or 2010 and 2011). Carnegie classifications are based on the 2010 Carnegie Classification of Institutions of Higher Education. See text for description of Carnegie groupings. Institutions classified as specialized or baccalaureate institutions are included in the total for all institutions but are not broken out separately.

Sources: CGS International Graduate Admissions Survey, Phase II, 2010 and Phase I, 2011

13 Of the 215 institutions that provided total applications data for both 2010 and 2011 in this year’s Phase I survey, 155 were public institutions, 59 were private, not-for-profit institutions, and one was a private, for-profit institution. Data for the one private, for-profit respondent are included in the total in Table 2, but are not broken out separately.

14 Institutions were coded according to their 2010 Carnegie basic classification. In the analysis, 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 this particular analysis.
institutions and 11% at private, not-for-profit doctoral institutions in 2011. Among master’s-focused institutions, international applications rose 13% at both public institutions and private, not-for-profit institutions in 2011.\textsuperscript{15}

Applications by Geographic Region

Applications to U.S. graduate schools from prospective international students increased in all four major regions of the United States in 2011. International applications increased most in the West (up 13%) and Midwest (10%) in 2011. Increases in international applications were smaller in institutions located in the Northeast (8%) and South (7%).\textsuperscript{16}

Applications by Number of Graduate Degrees Awarded to International Students

The overall changes in the numbers of applications from prospective international students potentially mask substantial differences between institutions with small and large numbers of international students. To show the wide variation in trends, CGS reports changes in international applications by the number of graduate degrees awarded to international students. Table 3 on the following page displays the changes in international graduate applications from 2010 to 2011 for the responding colleges and universities awarding the 10, 25, 50, and 100 largest numbers of graduate degrees to international students. In addition, data are presented for all responding institutions outside the largest 100. The rankings are based on data collected by the U.S. Department of Education.\textsuperscript{17}

Increases in international applications in 2011 were slightly stronger on average at institutions awarding large numbers of graduate degrees to international students than at institutions awarding smaller numbers of graduate degrees to international students. International graduate applications increased 12% in 2011 at the responding institutions that are among the 10 largest, 11% at the 50 largest, and 10% at the 100 largest, compared with 9% at the institutions outside the largest 100 (see Table 3). This finding of slightly stronger growth at the largest institutions also occurred in 2010, when international graduate applications increased 13% at the 10 largest institutions, 10% at the 50 largest, and 9% at the 100 largest, compared with 8% at the institutions outside the largest 100.\textsuperscript{18}

This pattern of stronger increases at institutions awarding large numbers of graduate degrees to international students was especially pronounced for applications from prospective students from China. In 2011, applications from prospective graduate students from China surged 26% at the institutions that are among the 10 largest in terms of graduate degrees awarded to international students, and grew 21% at the 50 largest institutions and 20% at the 100 largest, but rose just 12% at the institutions outside the largest 100.

\textsuperscript{15} The data for private, not-for-profit master’s-focused institutions should be interpreted cautiously given the small number of these institutions responding to the survey.

\textsuperscript{16} Of the 215 institutions that provided total applications data for both 2010 and 2011 in this year’s \textit{Phase I} survey, 33 institutions are located in the West, 58 in the Midwest, 42 in the Northeast, and 82 in the South. States were divided into regions as follows: \textit{Midwest} – Illinois, Indiana, Iowa, Kansas, Michigan, Minnesota, Missouri, Nebraska, North Dakota, Ohio, South Dakota, and Wisconsin; \textit{Northeast} – Connecticut, Maine, Massachusetts, New Hampshire, New Jersey, New York, Pennsylvania, Rhode Island, and Vermont; \textit{West} – Alaska, Arizona, California, Colorado, Hawaii, Idaho, Montana, Nevada, New Mexico, Oregon, Utah, Washington, and Wyoming; and \textit{South} – Alabama, Arkansas, Delaware, District of Columbia, Florida, Georgia, Kentucky, Louisiana, Maryland, Mississippi, North Carolina, Oklahoma, Puerto Rico, South Carolina, Tennessee, Texas, Virginia, and West Virginia.

\textsuperscript{17} See footnote 5 for more information.

Applications from prospective graduate students from India were also generally stronger at institutions awarding large numbers of graduate degrees to international students. For example, applications from prospective Indian students increased 8% at the 100 largest institutions in 2011 compared with 5% at the institutions outside the largest 100.

In contrast to China and India, the increase in applications from prospective graduate students from South Korea was largest at the institutions outside the largest 100. Applications from prospective graduate students from South Korea rose 3% at the smallest institutions in terms of graduate degrees awarded to international students, but fell 4% at the 10 largest institutions. Applications from prospective graduate students from the Middle East & Turkey rose 12% at the institutions outside the largest 100 (although the increase was based on a relatively small number of students) and rose 9% at the 10 largest institutions.

Despite some variation in international applications by the number of graduate degrees awarded to international students, no strong pattern emerged by broad field of study, with many strong gains across the five size categories shown in Table 3. The largest increases in international applications occurred at the 10 largest institutions in education and in ‘other’ fields, with gains of 22% and 17%, respectively. Only one decline in international applications occurred: a 4% drop in business at the 25 largest institutions. This decline is of particular note, however, because the 100 largest institutions combined experienced a mere 1% increase on average in international applications in business, in contrast to a 13% gain at the

![Table 3. Change in International Graduate Applications by Number of Graduate Degrees Awarded to International Students, 2010 to 2011](image-url)
institutions outside the largest 100. Overall, about 70% of all international students studying business at U.S. graduate schools are enrolled in the 100 largest institutions.\textsuperscript{19} While it is too early to tell if this is the case, the decline in international applications in business at the 25 largest institutions, combined with the overall minimal increase at the 100 largest institutions, may be an indicator of increased global competition for business students.

\section*{III. Summary and Conclusions}

The results of the 2011 CGS International Graduate Admissions Survey, Phase I: Applications indicate that applications to U.S. graduate schools from prospective international students increased 9\% between 2010 and 2011, the sixth consecutive year of gains. This year’s increase follows a 9\% gain in 2010 and a 4\% increase in 2009.

Applications from prospective graduate students from China and the Middle East & Turkey rose by double-digit percentages in 2011 for the sixth consecutive year in a row, increasing by 18\% and 12\%, respectively. Applications from prospective graduate students from India rose 7\% in 2011 following a 1\% gain in 2010 and a 12\% decline in 2009. Applications from South Korea increased 2\% in 2011 following no growth in 2010 and a 9\% drop in 2009.

All broad fields of study exhibited strong growth in international applications in 2011, led by large increases in “other” fields (up 13\%), physical & earth sciences (12\%), and engineering (also up 12\%). The smallest increases occurred in business (4\%) and social sciences & psychology (5\%).

Public and private, not-for-profit institutions both experienced strong gains in applications from international students for fall 2011 (up 9\% in public institutions and up 11\% in private, not-for-profit institutions). By Carnegie classification, graduate applications from prospective international students increased 9\% at doctoral institutions and rose 13\% at master’s-focused institutions.

Increases in international applications in 2011 were slightly stronger on average at institutions awarding large numbers of graduate degrees to international students. International graduate applications increased 12\% in 2011 at the responding institutions that are among the 10 largest in terms of the number of graduate degrees awarded to international students, 11\% at the 50 largest, and 10\% at the 100 largest. International graduate applications increased 9\% on average at the institutions outside the largest 100.

Applications are a key indicator of interest among international students in U.S. graduate programs, but it is important to remember that an application may or may not result in the enrollment of that student in a U.S. graduate program. An examination of the data from recent CGS International Graduate Admissions Surveys reveals that there is no exact historical pattern between applications and subsequent first-time enrollment, but the survey data show that in each of the last four years the increase in applications has outpaced the resulting increase in first-time graduate enrollment.\textsuperscript{20} In 2010, applications to U.S. graduate programs from prospective international students increased 9\% and first-time graduate enrollment increased 3\%; in 2009, international applications increased 4\% and first-time graduate enrollment was flat; in 2008 international applications increased 6\% and first-time graduate enrollment rose 3\%; and in 2007 international applications rose 9\% and first-time graduate enrollment increased 4\%. In each of the last four years, the increase in applications was between three to six percentage points higher than the


resulting gain in first-time graduate enrollment. While there is no certainty that recent trends will continue in 2011, it is likely that first-time graduate enrollment will increase in 2011, with the final gain possibly in the range of 3% to 6%.

Several factors that are beyond the scope of the CGS International Graduate Admissions Survey will influence the final first-time enrollment figures for international graduate students for fall 2011. For example, will graduate programs be able to accommodate a growing population of students? Are graduate applications also increasing among domestic students, and if so, how will this affect international first-time graduate enrollment? Will institutions be able to offer competitive financial support packages at a time when many colleges and universities have tight or even declining budgets? How will the weak job market affect graduate enrollments? Have prospective international students also applied to programs in other countries, and if so, will some students opt for these programs over those in the United States? The ultimate effect of these factors will be clarified when the results of this year’s Phase II and Phase III surveys reveal the final graduate school decisions of international students for fall 2011.

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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
- Educational Assessment, Evaluation and Research
- Higher Education
- Secondary Education
- Special Education
- Student Counseling & Personnel Services
- Education, Other

ENGINEERING
- Chemical Engineering
- Civil Engineering
- Computer, Electrical & Electronics Engineering
- Industrial Engineering
- Materials Engineering
- Mechanical Engineering
- Engineering, Other

LIFE SCIENCES
- Agriculture, Natural Resources & Conservation
- Biological & Biomedical 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 & Journalism
- Family & Consumer Sciences
- Library & Archival Studies
- Public Administration
- Religion & Theology
- Social Work
- Other Fields