

# Enrollment and Degrees in Professional Science Master's (PSM) Programs: 2011



**PSM**  
PROFESSIONAL  
SCIENCE MASTER'S

**CGS** COUNCIL OF  
GRADUATE SCHOOLS

**Enrollment and Degrees in Professional Science Master's (PSM) Programs: 2011**

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The *2011 Professional Science Master's Enrollment and Degrees Survey* was conducted by the Council of Graduate Schools with a grant from the Alfred P. Sloan Foundation. The survey is designed to provide information about applications to Professional Science Master's (PSM) programs, enrollment in these programs, and degrees awarded. A PDF version of this survey report is available online at [www.sciencemasters.com](http://www.sciencemasters.com). For more information about the survey or the survey report, please contact:

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We also wish to thank the graduate deans at CGS' member institutions for encouraging PSM program directors to complete the survey and for providing assistance with data collection and reporting. The leadership of the National Professional Science Master's Association (NPSMA) has also been an ongoing source of support both prior to and during the data collection stage for this survey. Thank you to the NPSMA for urging your members to participate in the survey and for conveying the importance of the survey to your members.

We want to thank the members of the CGS PSM team—Carol Lynch, Sally Francis, Robert Sowell, Leontyne Goodwin, and Josh Mahler—for their support during the data collection and analysis phase of this survey. In particular, we want to recognize Josh Mahler for his assistance with data collection, web site maintenance, and graphic design.

Finally, and most importantly, this report would not be possible without the PSM coordinators, program directors, and staff at the 230 programs from 102 institutions who participated in this survey. We are grateful for your efforts in providing data in a timely manner, and we hope that this report supports the growth and success of your PSM programs.

## **EXECUTIVE SUMMARY**

The *2011 Professional Science Master's Enrollment and Degrees Survey* collects data on overall enrollment and degrees awarded in Professional Science Master's (PSM) programs. It is the second such survey conducted by the Council of Graduate Schools (CGS) with a grant from the Alfred P. Sloan Foundation.

PSM program directors and graduate deans (or equivalent) representing 241 PSM programs from 111 institutions of higher education were invited to provide data regarding the number of applications received for admission for the fall term of 2011, the number of applications accepted for the fall term of 2011, the number of first-time enrollees for the fall term of 2011, the total number of enrollees for the fall term of 2011, and the number of degrees awarded during the 2010/11 academic year (July 1, 2010 to June 30, 2011). The survey generated 230 usable responses, for a 95% response rate. Of these, 212 reported students who were either enrolled in a PSM program in the fall term of 2011 or graduated from a PSM program during the 2010/11 academic year.

### **Applications**

Survey respondents reported a total of 6,309 applications for admission to PSM programs for the fall term of 2011, 6,088 of which were for U.S.-based programs. Among U.S.-based programs, 80.9% of applications were received by public institutions, and 19.1% were received by private, not-for-profit institutions. PSM programs in mathematics and statistics received more applications than programs in other fields of study, constituting 35.2% of all applications received for the fall term of 2011, followed by biology/biotechnology (29.7%).

Respondents to the survey reported that 2,771 applications were accepted for the fall term of 2011. Among U.S.-based PSM programs, 76.8% of the applications accepted were for admission to public institutions, and 23.2% were for admission to private, not-for-profit institutions; 66.8% were for admission to doctoral institutions, and 33.2% were for admission to master's-focused or specialized institutions.

The overall acceptance rate for the PSM programs responding to the survey was 43.9%. Among U.S.-based programs, the acceptance rate was 41.3% at public institutions and 52.8% at private, not-for-profit institutions. The acceptance rate was 40.1% at doctoral institutions and 52.1% at master's-focused or specialized institutions based in the United States.

### **First-Time Enrollment**

A total of 1,687 students were enrolled for the first time in a PSM program in fall 2011, 1,600 of whom were enrolled in programs based in the United States. Slightly more than one-half (54.0%) of first-time students were men and slightly less than one-half (46.0%) were women. Two-thirds (65.7%) of all first-time students were enrolled full-time and one-third (34.3%) were enrolled part-time. The four largest fields of study with respect to first-time enrollments include biology/ biotechnology (34.3%), mathematics and statistics (16.3%), environmental sciences (14.8%), and computational sciences (14.5%).

Among U.S.-based programs, 23.9% of first-time enrollees were temporary residents. Among U.S. citizens and permanent residents, 16.2% were underrepresented minorities, which includes Hispanic/Latino, American Indian/Alaska Native, and Black/African American; 75.1% were Asian/Pacific Islander or White; and 8.6% were either of two or more races or their race/ethnicity was unknown.

The yield rate, which is the number of first-time enrollees divided by the number of applications accepted, was 60.9%. Among U.S.-based institutions, the yield rate was 61.3% for public institutions, 57.9% for private, not-for-profit institutions, 74.3% at master's-focused or specialized institutions, and 53.6% for doctoral institutions.

### **Total Enrollment**

A total of 5,487 students were enrolled in PSM programs in the fall term of 2011, 5,351 of whom were enrolled at U.S.-based institutions. Roughly one-half (55.6%) of total enrollees in PSM programs were men compared to 44.4% who were women. Nearly two in every three (61.4%) PSM students were enrolled part-time, compared to 38.6% who were enrolled full-time. At U.S.-based institutions, 14.4% of all enrollees were temporary residents. Among U.S. citizens and permanent residents, 26.5% were underrepresented minorities, 65.2% were Asian/Pacific Islander or White, and 8.3% were either of two or more races or their race/ethnicity was unknown.

Total PSM enrollment in fall 2011 was dominated by four fields of study: computational sciences (27.5%), biology/biotechnology (25.2%), environmental sciences (17.2%), and mathematics and statistics (11.7%).

### **Degrees**

Institutions responding to the survey awarded 1,573 PSM degrees in academic year 2010/11 (July 1, 2010 to June 30, 2011). More than one-half (56.7%) were awarded to men, and 43.3% were awarded to women. Roughly one in five (20.4%) graduates of U.S.-based PSM programs were international students. Among U.S. citizens and permanent residents, 19.2% of PSM graduates in 2010/11 were underrepresented minorities, 73.4% were Asian/Pacific Islander or White, and 7.4% were either of two or more races or their race/ethnicity was unknown. The greatest percentages of PSM degrees awarded were in biology/biotechnology (33.1%) and computational sciences (26.7%). Mathematics and statistics and environmental sciences accounted for 12.4% and 11.8% of all PSM degrees respectively.

### **Changes from 2010 to 2011**

Changes in PSM applications, enrollments, and degrees are examined using two methods. The first set of comparisons uses data from all respondents to the 2010 *Professional Science Master's Enrollment and Degrees Survey* and all respondents to the 2011 *Professional Science Master's Enrollment and Degrees Survey*. This set of comparisons is intended to show changes in the overall PSM initiative between 2010 and 2011.

The second set of comparisons uses data from only the PSM programs that responded to both the 2010 and the 2011 *Professional Science Master's Enrollment and Degrees Surveys*. This set of comparisons is intended to show changes in existing PSM programs between 2010 and 2011.

### **Comparisons Using All Respondents**

Overall, using data from all survey respondents, there was a 43.5% increase in applications received between 2010 and 2011, from 4,396 applications received for fall 2010 to 6,309 applications received for fall 2011. The number of applications accepted rose substantially as well, from 2,134 in 2010 to 2,771 in 2011, or 29.9%. First-time enrollment increased 14.7%, from 1,471 in 2010 to 1,687 in 2011, while total enrollment in PSM programs increased 15.4%, from 4,753 in fall 2010 to 5,487 in fall 2011. The number of PSM degrees awarded increased as well (42.7%), growing from 1,102 in academic year 2009/10 to 1,573 in 2010/11.

### **Comparisons Using Only Programs That Responded to Both Surveys**

Using data from only those PSM programs that responded to both the 2010 and the 2011 *Professional Science Master's Enrollment and Degrees Surveys*, there was a 13.6% increase in applications received between 2010 and 2011, from 4,348 applications received for fall 2010 to 4,938 applications received for fall 2011. The number of applications accepted rose from 2,114 in 2010 to 2,397 in 2011, for a 13.4% gain. PSM programs that responded to both the 2010 and 2011 surveys reported a 3.9% increase in first-time enrollment, from 1,459 in 2010 to 1,516 in 2011, and a 7.5% increase in total enrollment, from 4,729 in 2010 to 5,082 in 2011. Among those PSM programs responding to both the 2010 and 2011 surveys, there was a 26.7% increase in the number of PSM degrees awarded, from 1,097 in 2009/10 to 1,390 in 2010/11.

## **INTRODUCTION**

The Professional Science Master's (PSM) is designed to allow students to pursue advanced training in science, while developing workplace skills highly valued by employers. PSM programs prepare graduates for careers in business, government, and non-profit organizations, combining rigorous study in science and/or mathematics with coursework in management, policy, law, or related fields. Along with an emphasis on writing, leadership, and communication skills, most PSM programs require a final project or team experience, as well as an internship in a business or public sector setting.

The PSM initiative began in 1997 with funding from the Alfred P. Sloan Foundation to support the establishment of programs in the natural sciences and mathematics at research institutions (Council of Graduate Schools, 2011). In 2001, a Sloan Foundation grant to the Council of Graduate Schools (CGS) extended the PSM initiative to master's-focused institutions. In 2006, CGS assumed primary responsibility for supporting and expanding the PSM degree, with the goal of making it a regular feature of U.S. graduate education. As of January 2012, 244 programs from 114 institutions are recognized as PSMs by CGS. For more information about the PSM initiative, and for a complete list of PSM programs, please visit [www.sciencemasters.com](http://www.sciencemasters.com).

The *Professional Science Master's Enrollment and Degrees Survey* is an annual survey of enrollment and degrees in PSM programs. Previous PSM enrollment and degrees surveys were conducted for academic years 2007/08 and 2008/09 by the National Professional Science Master's Association (2009a, 2009b), and for 2009/10 by the Council of Graduate Schools (Bell & Allum, 2011). The 2011 survey collects data regarding applications, first-time enrollment, total enrollment, and degrees awarded.

### **Research Design**

The *2011 Professional Science Master's Enrollment and Degrees Survey* was designed using more than 20 enrollment and degrees surveys as models. The questionnaire was constructed to collect the necessary data while remaining user-friendly for respondents. The survey questionnaire, which appears in the Appendix, includes 43 question items.

### **Data Collection**

The survey launched on October 18, 2011 via an e-mail to PSM program directors and graduate deans (or equivalent) representing the 241 PSM programs from 111 institutions of higher education that were recognized by CGS as PSM programs as of October 2011. E-mail reminders and telephone calls were used to collect data from non-respondents. The survey closed on December 14, 2011, after collecting 230 usable responses, for a 95% response rate.

Invitees were asked to provide data regarding the number of applications received for admission for the fall term of 2011, the number of applications accepted for the fall term of 2011, the number of first-time enrollees for the fall term of 2011, the total number of enrollees for the fall term of 2011, and the number of degrees awarded during the 2010/11 academic year (July 1, 2010 to June 30, 2011). Invitees were asked to provide enrollment data by gender, citizenship, race/ethnicity, and

enrollment status, and degree data by gender, citizenship, and race/ethnicity. Invitees were not asked to provide applications data by student demographics since some institutions do not collect these data from applicants. Detailed explanations and descriptions of these data elements appear with the questionnaire in the Appendix.

## **Data Analysis**

Data were reviewed, cleaned, and edited using a process outlined by Van den Broeck, Argeseanu Cunningham, Eeckels, and Herbst (2005). The dataset was screened for instances where data were lacking, in excess, inconsistent, revealed strange patterns, or were otherwise suspect. Anomalies were recorded and diagnosed as being missing, erroneous, or seemingly extreme. Irregularities were addressed.

Certain definitions were adopted to facilitate the analysis and reporting of the survey data. The term “underrepresented minorities” refers to U.S. citizens and permanent residents identified as being Hispanic/Latino, American Indian/Alaska Native, or Black/African American. The term “institutional control” refers to the classification of institutions as public; private, not-for-profit; or private, for-profit institutions of higher education. The term “Carnegie classification” refers to the basic classification of the 2010 Carnegie Classification of Institutions of Higher Education. Institutions classified as research universities with very high research activity (RU/VH), research universities with high research activity (RU/H), and doctoral/research universities (DRU) are grouped as “doctoral institutions.” Master’s colleges and universities and specialized institutions are grouped in this report as “master’s-focused or specialized institutions.” The term “enrollment status” refers to whether a student was enrolled primarily full-time or part-time. Institutions were instructed to apply their own definition of full-time and part-time enrollment status. Fields of study, as defined on [www.sciencemasters.com](http://www.sciencemasters.com) as of December 2011, were used to cluster programs within this report. Finally enrollment and degrees in the fields of chemistry, forensic sciences, nanoscience, and national defense were combined into a single “other” category due to the small numbers of enrollments and degrees in these fields.

The analytical process and subsequent report required the suppression of some data. Data from PSM programs based outside of the United States were suppressed when examining enrollments and degrees by citizenship and race/ethnicity since these definitions differ outside the U.S. Data from non-U.S.-based programs were also suppressed when examining data by institutional control and Carnegie classification for the same reason.

## **Limitations**

This study has some limitations, the first of which has already been mentioned: some sets of data were necessarily suppressed for certain analyses. These suppressions were relatively small and they are disclosed throughout this report. There were two notable outliers that are likely to have skewed certain findings. One responding institution was particularly large. Although this institution represented only 3% of all PSM programs, it constituted 12.6% of all first-time enrollees, 37.5% of total enrollees, and 27.6% of all degrees awarded. One responding program from a different institution received a very large number of applications, and, to a lesser extent, accepted a large number of applications for fall 2011; this one program accounted for 13.7% of all applications

received by PSM programs for fall 2011, and 6.7% of all applications accepted for enrollment in fall 2011. These outliers were included in all analyses since this data collection effort is a census of all CGS-approved PSM programs. Speculations about what effects these data might have on the analyses are noted in this report, where applicable. Finally, this report likely understates the total number of applications to, applications accepted by, enrollments in, and degrees awarded by PSM programs, since the sample was restricted to PSM programs as of October 2011 (a figure that has grown slightly since then) and since a small percentage of PSM programs did not respond to the survey.

Changes in PSM applications, enrollments, and degrees between 2010 and 2011 should also be interpreted with caution. Since the number of CGS-approved PSM programs has increased each year, some of the overall growth in PSM applications, enrollments, and degrees is simply a reflection of the growth in the number of PSM programs. Readers should note that overall comparisons between 2010 and 2011 include 40 programs that responded to only one of the two surveys. Comparisons were also made using PSM programs that participated in both the 2010 and 2011 *Professional Science Master's Enrollment and Degrees Surveys*. While these comparisons more accurately depict changes among those PSM programs that responded to both surveys, they only represent a subset of the full population of PSM programs. Finally, while this report describes some of the year-to-year changes in PSM enrollments and degrees, it does not describe trends, since the survey has only been conducted for two years using the current methodology.

## **FINDINGS**

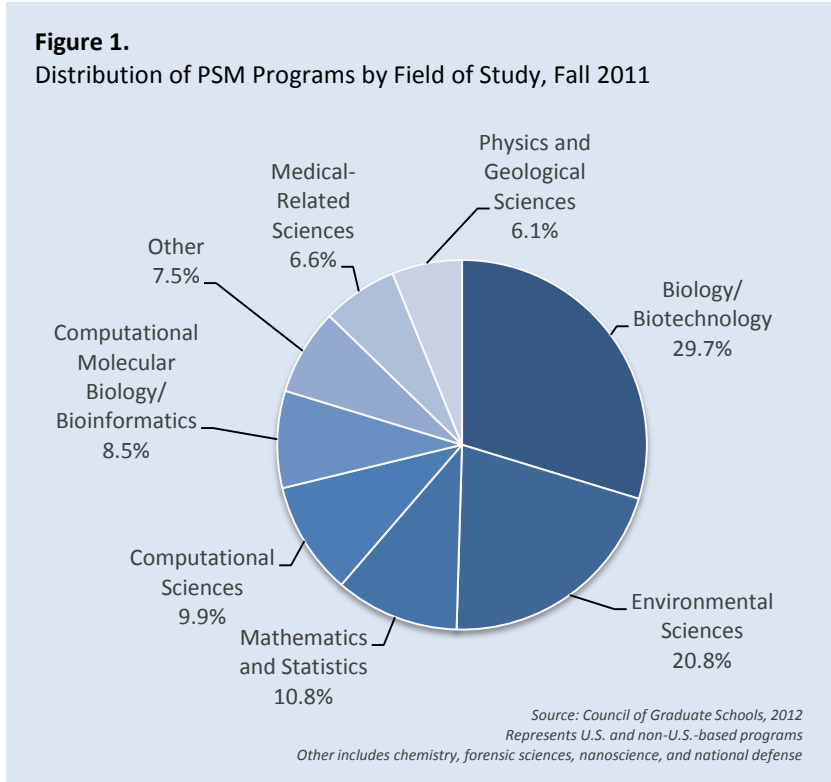
This report includes descriptive statistics regarding applications to, applications accepted for, enrollment in, and degrees awarded by PSM programs responding to the *2011 Professional Science Master's Enrollment and Degrees Survey*. This report also describes some of the changes in enrollments and degrees between 2010 and 2011.

### **Characteristics of Survey Respondents**

The *2011 Professional Science Master's Enrollment and Degrees Survey* generated 230 responses from 102 institutions of higher education. Of those, 212 programs from 93 institutions of higher education reported having students who were either enrolled in a PSM program in fall 2011 or graduated from a PSM program during the 2010/11 academic year (July 1, 2010 to June 30, 2011). The responses from these 212 programs serve as the basis for the analysis and this report.

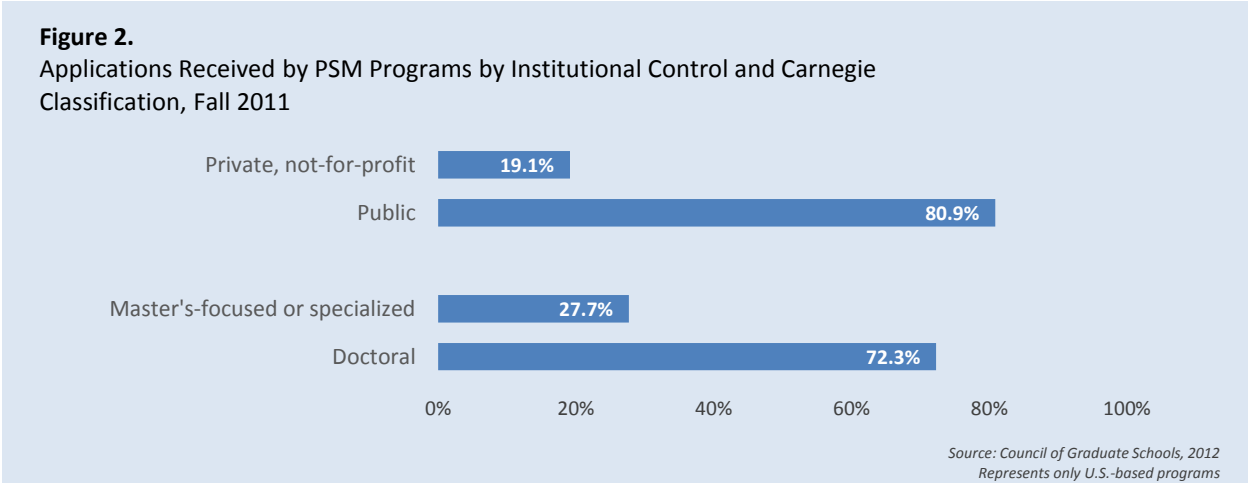
The vast majority (201, or 97.6%) of the 212 PSM programs with students were from institutions located in the United States. Among these U.S.-based PSM programs, three-quarters (73.4%) were in public institutions, and one-quarter (26.6%) were in private, not-for-profit institutions. By basic Carnegie classification, two-thirds (67.6%) were located in doctoral institutions, and one-third (32.4%) were located in master's-focused or specialized institutions.

PSM programs responding to the survey were grouped into eight fields of study. One-half (50.5%) of all programs were in either biology/biotechnology or environmental science. The six remaining fields constituted 49.5% of all PSM programs. Figure 1 depicts the distribution of programs by field of study.

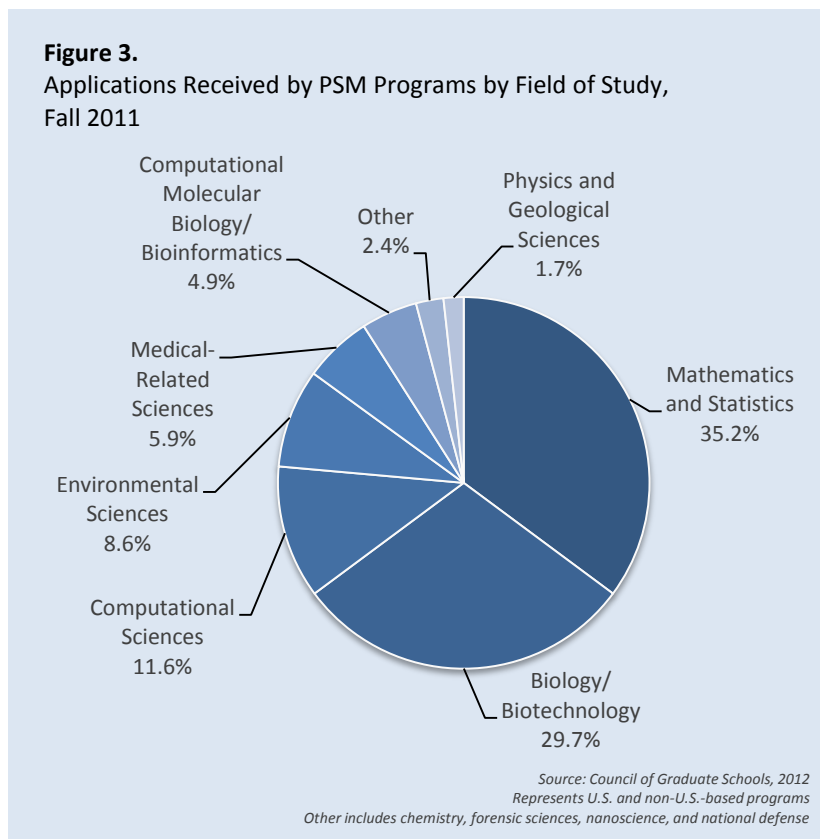


**Applications Received**

Institutions responding to the *2011 Professional Science Master’s Enrollment and Degrees Survey* received 6,309 applications for admission to PSM programs for the fall term of 2011. Among the U.S.-based respondents, four in five (80.9%) applications were received by public institutions, and one in five (19.1%) were received by private, not-for-profit institutions (see Figure 2). Nearly three-quarters (72.3%) of applications were received by doctoral institutions, and slightly more than one-quarter (27.7%) were received by master’s-focused or specialized institutions.



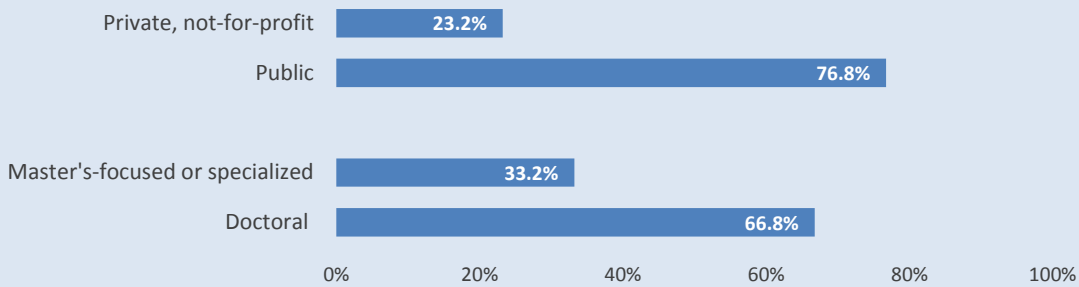
As shown in Figure 3, PSM programs in mathematics and statistics received more applications than programs in other fields of study, constituting 35.2% of all applications received for the fall term of 2011. This finding was influenced by a single program that received 38.9% of all applications to PSM mathematics and statistics programs for the fall 2011. PSM programs in biology/biotechnology generated the second largest number of applications (29.7%). Computational sciences received 11.6% of all applications for fall 2011.



### Applications Accepted

Respondents to the *2011 Professional Science Master's Enrollment and Degrees Survey* reported that 2,771 applications were accepted for the fall term of 2011. Among U.S.-based PSM programs, three-quarters (76.8%) of the applications accepted were for admission to public institutions and 23.2% were for admission to private, not-for-profit institutions. Two-thirds (66.8%) of PSM applications accepted were for admission to doctoral institutions, and one-third (33.2%) were for admission to master's-focused or specialized institutions (see Figure 4).

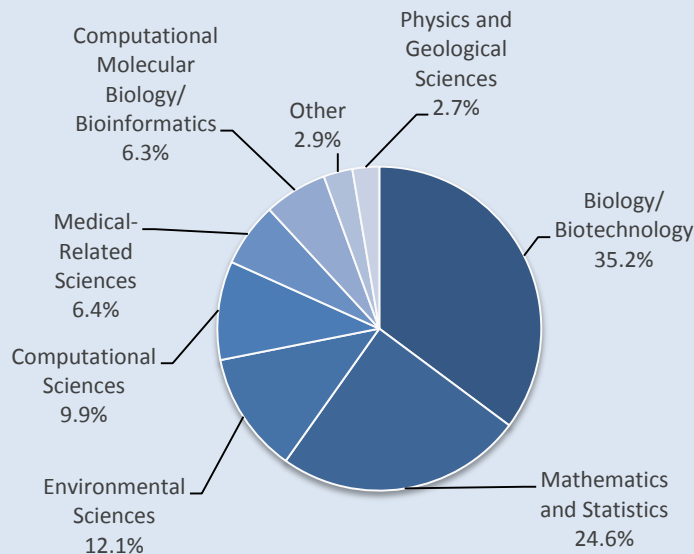
**Figure 4.**  
Applications Accepted by PSM Programs by Institutional Control and Carnegie Classification, Fall 2011



Source: Council of Graduate Schools, 2012  
Represents only U.S.-based programs

As depicted in Figure 5, biology/biotechnology programs accounted for the largest percentage of accepted applications among the eight fields of study (35.2%), followed by mathematics and statistics (24.6%). It should be noted that one mathematics and statistics program accepted a large number of applications for fall 2011. Environmental science and computational sciences accounted for 12.1% and 9.9% of all accepted applications, respectively.

**Figure 5.**  
Applications Accepted by PSM Programs by Field of Study, Fall 2011



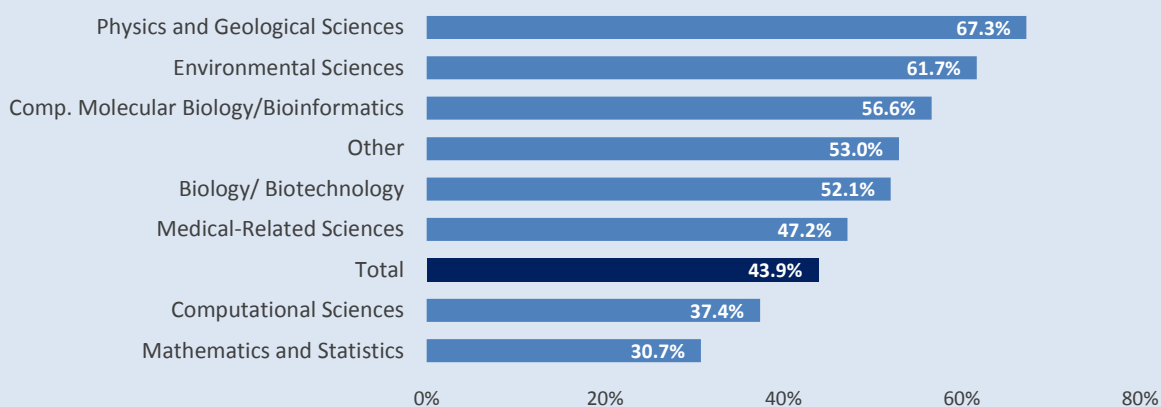
Source: Council of Graduate Schools, 2012  
Represents U.S. and non-U.S.-based programs  
Other includes chemistry, forensic sciences, nanoscience, and national defense

The overall acceptance rate for the PSM programs responding to the *2011 Professional Science Master's Enrollment and Degrees Survey* was 43.9%, meaning that nearly one-half of all applications received were accepted for admission to PSM programs. Among U.S.-based programs, the

acceptance rate was 41.3% at public institutions and 52.8% at private, not-for-profit institutions. The acceptance rate was 40.1% at doctoral institutions and 52.1% at master’s-focused or specialized institutions based in the United States.

As illustrated in Figure 6, the majority of application acceptance rates by field of study were higher than the overall average of 43.9%. Physics and geological sciences had a particularly high acceptance rate (67.3%). Mathematics and statistics had a particularly low acceptance rate (30.7%). This low acceptance rate is due to one program that received a particularly large number of applications.

**Figure 6.**  
Acceptance Rates in PSM Programs by Field of Study, Fall 2011

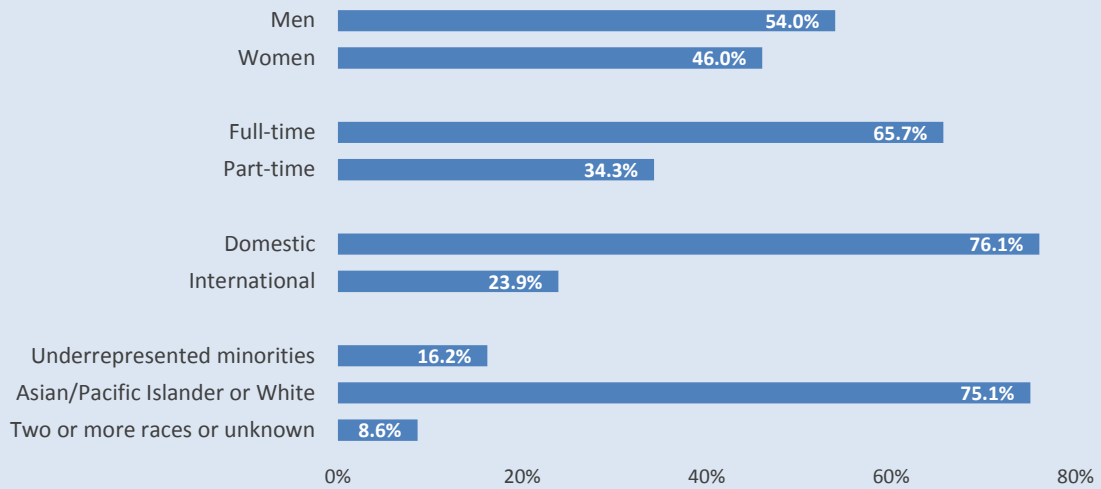


Source: Council of Graduate Schools, 2012  
Represents U.S. and non-U.S.-based programs  
Other includes chemistry, forensic sciences, nanoscience, and national defense

## First-Time Enrollment

Respondents to the *2011 Professional Science Master’s Enrollment and Degrees Survey* reported that 1,687 students enrolled for the first time in a PSM program in fall 2011, the majority of whom (1,600) were enrolled in programs based in the United States. Among U.S. and non-U.S.-based PSM programs, slightly more than one-half (54.0%) of all first-time students were men, and slightly less than one-half (46.0%) were women. Among this same population, two-thirds (65.7%) of all first-time students were enrolled full-time, and one-third (34.3%) were enrolled part-time. Roughly one-quarter (23.9%) of first-time enrollees in U.S.-based PSM programs were temporary residents (i.e., international students). Among U.S. citizens and permanent residents who were enrolled for the first-time in a PSM program in fall 2011, 16.2% were underrepresented minorities (Hispanic/Latino, American Indian/Alaska Native, or Black/African American). Roughly three-quarters (75.1%) were Asian/Pacific Islander or White, and 8.6% were either of two or more races or their race/ethnicity was unknown. These characteristics are summarized in Figure 7.

**Figure 7.**  
 Characteristics of First-Time Enrollees in PSM Programs, Fall 2011



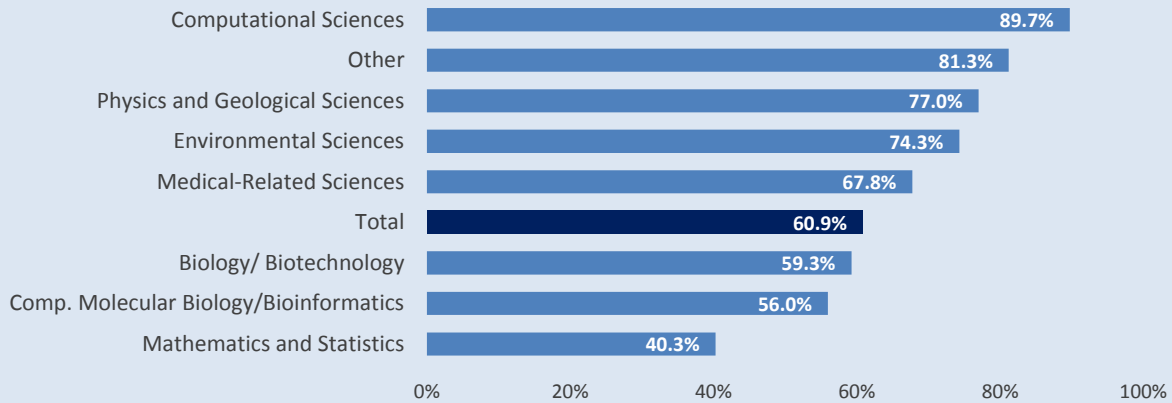
*Source: Council of Graduate Schools, 2012  
 Gender and enrollment status calculations based upon U.S. and non-U.S.-based programs  
 Citizenship calculations based upon only U.S.-based programs  
 Race/ethnicity calculations based upon only U.S. citizens and permanent residents enrolled in U.S.-based programs*

### **Yield Rates**

The overall yield rate, which is the number of first-time enrollees divided by the number of applications accepted, was 60.9% across all PSM programs. The yield rate for U.S.-based public institutions (61.3%) was slightly higher than the yield rate for private, not-for-profit institutions (57.9%). The yield rate was also higher at master’s-focused or specialized institutions (74.3%) than at doctoral institutions (53.6%).

Yield rates varied by field of study. Respondents to the survey representing PSM programs in computational sciences, “other” fields (which includes chemistry, forensic sciences, nanoscience, and national defense), and physics and geological sciences reported high yield rates, at 89.7%, 81.3%, and 77.0%, respectively. Mathematics and statistics PSM programs reported the lowest yield rate at 40.3% (see Figure 8).

**Figure 8.**  
Yield Rates in PSM Programs by Field of Study, Fall 2011



Source: Council of Graduate Schools, 2012  
Other includes chemistry, forensic sciences, nanoscience, and national defense

### ***First-Time Enrollment by Institutional Control***

More than three-quarters (77.8%) of first-time students in U.S.-based PSM programs were enrolled in a public institution in fall 2011, and roughly one-quarter (22.3%) were enrolled in a private, not-for-profit institution. More than one-half of first-time students enrolled in public institutions were men (55.2%), and 44.8% were women. Among first-time enrollees in private, not-for-profit institutions, one-half were men (49.9%), and one-half were women (50.1%). Nearly three-quarters (73.8%) of first-time enrollees at private, not-for-profit institutions were enrolled full-time compared to nearly two-thirds (62.1%) of first-time enrollees at public institutions. One-third (36.8%) of first-time enrollees in U.S.-based private, not-for-profit institutions were temporary residents (i.e., international students), compared with 20.3% in public institutions.

Among U.S. citizens and permanent residents in U.S.-based public institutions, 18.2% of first-time enrollees were underrepresented minorities, 74.8% were Asian/Pacific Islander or White, and 7.0% were either of two or more races or their race/ethnicity was unknown. By contrast, 7.6% of first-time enrollees in U.S.-based private, not-for-profit institutions were underrepresented minorities, 76.7% were Asian/Pacific Islander or White, and 15.7% were either of two or more races or their race/ethnicity was unknown.

### ***First-Time Enrollment by Carnegie Classification***

By basic Carnegie classification, 59.2% of first-time enrollees in U.S.-based PSM programs were enrolled in doctoral institutions in fall 2011, and 40.8% were enrolled in master's-focused or specialized institutions. Slightly more than half (53.9%) of the first-time enrollees in PSM programs at U.S.-based doctoral institutions were men, and 46.1% were women. The gender distribution of first-time enrollment in PSM programs at U.S.-based master's-focused or specialized institutions was similar; 54.3% were men, and 45.7% were women.

First-time enrollees in U.S.-based doctoral institutions were more likely than first-time enrollees in master's-focused or specialized institutions to be enrolled full-time. Three-quarters (74.8%) of first-time students at doctoral institutions were enrolled full-time, compared to one-half (49.9%) of first-time students at master's-focused or specialized institutions. U.S.-based doctoral institutions responding to the survey reported that 32.3% of their first-time enrollees were temporary residents compared with 11.8% of first-time enrollees at master's-focused or specialized institutions.

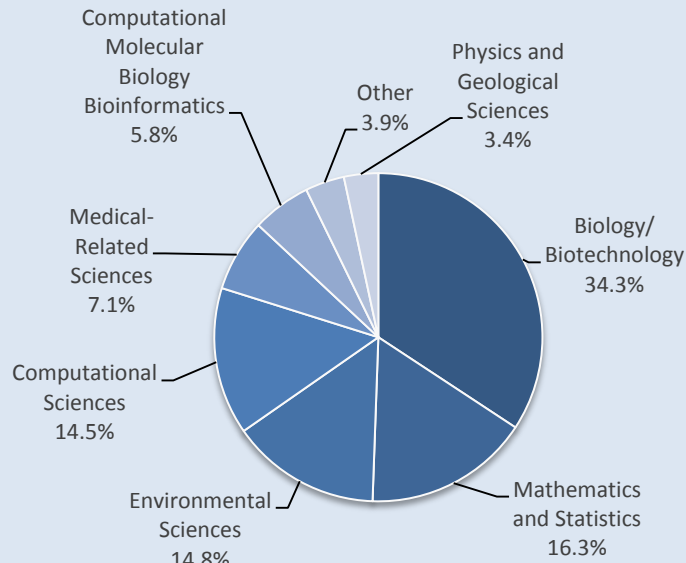
Master's-focused or specialized institutions enrolled more first-time students who were underrepresented minorities than did doctoral institutions. Nearly one in five (19.7%) U.S. citizens and permanent residents at U.S.-based master's-focused or specialized institutions were underrepresented minorities compared to nearly one in eight (12.9%) at doctoral institutions. Roughly three-quarters of first-time enrollees at both master's-focused or specialized and doctoral institutions were Asian/Pacific Islander or White, at 72.8% and 77.3%, respectively. Nearly one in ten (9.8%) first-time students enrolled in PSM programs at doctoral institutions were either of two or more races or their race/ethnicity was unknown compared to 7.4% of first-time enrollees in master's-focused or specialized institutions.

### ***First-Time Enrollment by Field of Study***

The four largest fields of study with respect to first-time enrollments were biology/biotechnology (34.3%), mathematics and statistics (16.3%), environmental sciences (14.8%), and computational sciences (14.5%). These four fields of study constituted 79.9% of all first-time enrollees in PSM programs in fall 2011. As shown in Figure 9, first-time enrollment was smallest in "other" fields (which includes chemistry, forensic sciences, nanoscience, and national defense) and physics and geological sciences.

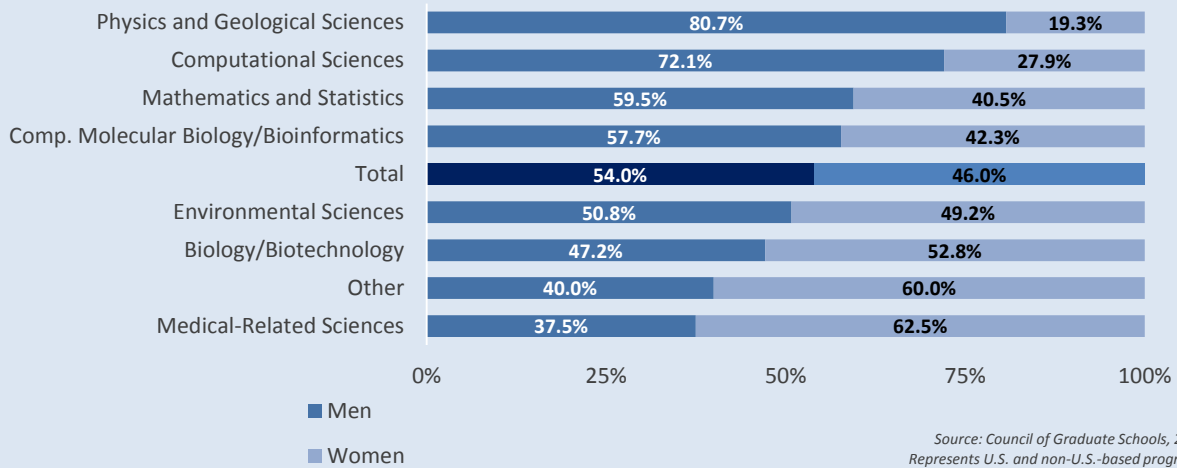
The majority of first-time students enrolled in the fields of physics and geological sciences, computational sciences, mathematics and statistics, and computational molecular biology/bioinformatics were men, representing 80.7%, 72.1%, 59.5%, and 57.7% of all first-time enrollees, respectively. As shown in Figure 10, PSM programs in medical-related sciences, "other" fields (which includes chemistry, forensic sciences, nanoscience, and national defense), and biology/biotechnology enrolled more first-time students who were women than men, with 62.5%, 60.0%, and 52.8%, respectively. First-time enrollment in environmental sciences was divided evenly between men (50.8%) and women (49.2%).

**Figure 9.**  
First-Time Enrollment in PSM Programs by Field of Study, Fall 2011



Source: Council of Graduate Schools, 2012  
Represents U.S. and non-U.S.-based programs  
Other includes chemistry, forensic sciences, nanoscience, and national defense

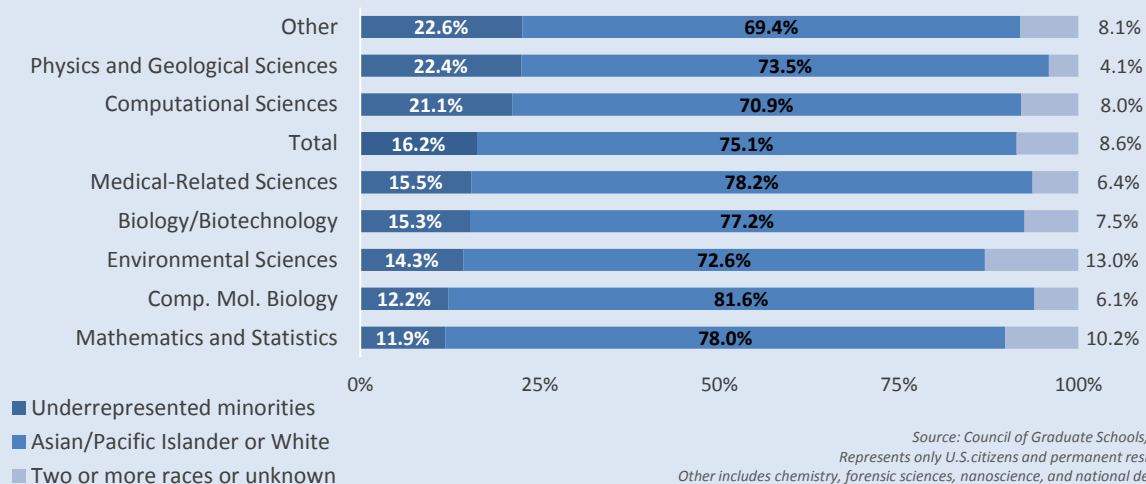
**Figure 10.**  
First-Time Enrollment in PSM Programs by Field of Study and Gender, Fall 2011



Source: Council of Graduate Schools, 2012  
Represents U.S. and non-U.S.-based programs  
Other includes chemistry, forensic sciences, nanoscience, and national defense

PSM programs responding to the survey reported variances in race/ethnicity by field of study. As shown in Figure 11, PSM programs in “other” fields (22.6%), physics and geological sciences (22.4%), and computational science (21.1%) had higher percentages of U.S. citizen and permanent resident underrepresented minority first-time enrollees than the overall average (16.2%) for all U.S.-based PSM programs responding to the survey.

**Figure 11.**  
First-Time Enrollment in PSM Programs by Field of Study and Race/Ethnicity, Fall 2011

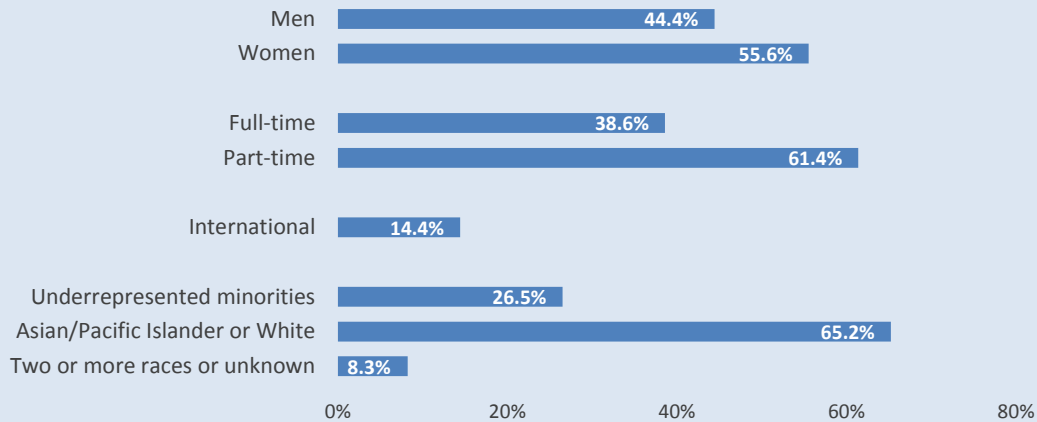


## Total Enrollment

Institutions responding to the *2011 Professional Science Master’s Enrollment and Degrees Survey* reported a total of 5,487 students enrolled in PSM programs in fall 2011, 5,351 of whom were enrolled at institutions of higher education based in the United States. More than one-half (55.6%) of total enrollees in PSM programs were men, and slightly less than one-half (44.4%) were women. Nearly two in every three (61.4%) PSM students were enrolled part-time, compared to about one in every three (38.6%) who were enrolled full-time. Such a large percentage of part-time students is likely due to a single institution, which represents only 3% of all PSM programs, but 37.5% of total enrollment. Some 14.4% of all enrollees in U.S.-based PSM programs were temporary residents. Among U.S. citizens and permanent residents, 26.5% of enrollees in fall 2011 were underrepresented minorities, 65.2% were Asian/Pacific Islander or White, and 8.3% were either of two or more races or their race/ethnicity was unknown. A summary of these characteristics appears in Figure 12.

**Figure 12.**

Characteristics of Total Enrollees in PSM Programs, Fall 2011



*Source: Council of Graduate Schools, 2012  
Gender and enrollment status calculations based upon U.S. and non-U.S.-based programs  
Citizenship calculations based upon U.S.-based programs only  
Race/ethnicity calculations based upon only U.S. citizens and permanent residents enrolled in U.S.-based programs*

### **Total Enrollment by Institutional Control**

The majority (83.1%) of students enrolled in U.S.-based PSM programs were enrolled in public institutions, and 16.9% were enrolled in private, not-for-profit institutions, according to the survey respondents. Women represented 43.1% of total enrollments in public institutions (compared to 56.9% men) and 51.7% of total enrollments in private, not-for-profit institutions (compared to 48.3% men).

There were differences between public and private, not-for-profit institutions with respect to enrollment status. One-third (34.4%) of students in U.S.-based public institutions were enrolled full-time, while two-thirds (65.6%) were enrolled part-time. The enrollment status of students in private, not-for-profit institutions was more evenly distributed: 53.9% of students were enrolled full-time, and 46.1% were enrolled part-time.

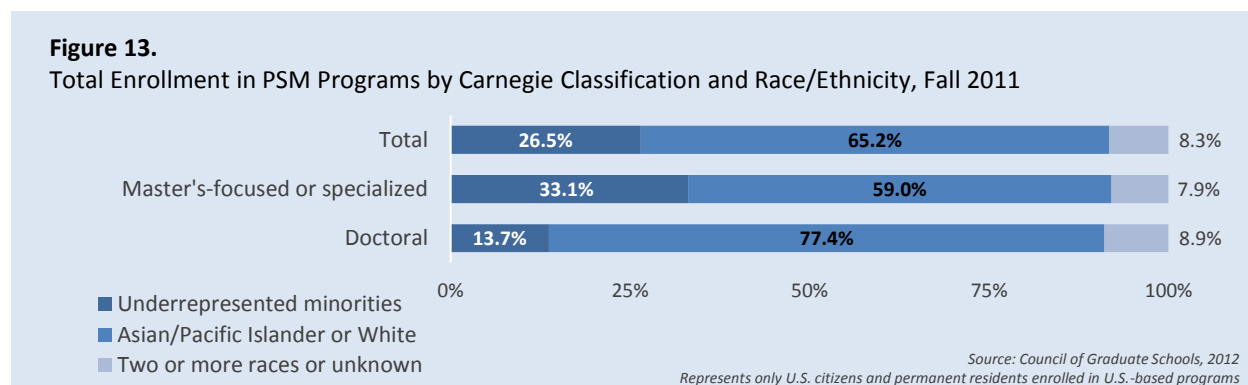
As a percentage of total enrollment, temporary residents comprised a larger share of students at private, not-for-profit institutions than at public institutions in fall 2011. One-quarter (26.0%) of enrollees at private, not-for-profit institutions were international students compared to 12.1% at public institutions. Among U.S. citizens and permanent residents, 29.4% of enrollees in public institutions were underrepresented minorities, while 63.2% were Asian/Pacific Islander or White, and 7.3% were either of two or more races or their race/ethnicity was unknown. By contrast, 9.0% of enrollees in private, not-for-profit institutions were underrepresented minorities, 77.3% were Asian/Pacific Islander or White, and 13.8% were either of two or more races or their race/ethnicity was unknown.

### **Total Enrollment by Carnegie Classification**

By Carnegie classification, 59.1% of PSM students in U.S.-based institutions were enrolled in master's-focused or specialized institutions, and 40.9% were enrolled in doctoral institutions. Men

constituted 53.3% of enrollees at doctoral institutions, and women constituted 46.7%. Men constituted 57.1% of enrollees at master’s-focused or specialized institutions, and women 42.9%. Nearly four in every five (78.8%) PSM enrollees in U.S.-based master’s-focused or specialized institutions were enrolled part-time in fall 2011, and one in every five (21.2%) were enrolled full-time. Again, this result is at least partly due to a single institution that represented over one-third (37.5%) of total enrollment in PSM programs. By contrast, about one-third (38.2%) of PSM students enrolled in U.S.-based doctoral institutions attended part-time, compared to 61.8% who were enrolled full-time.

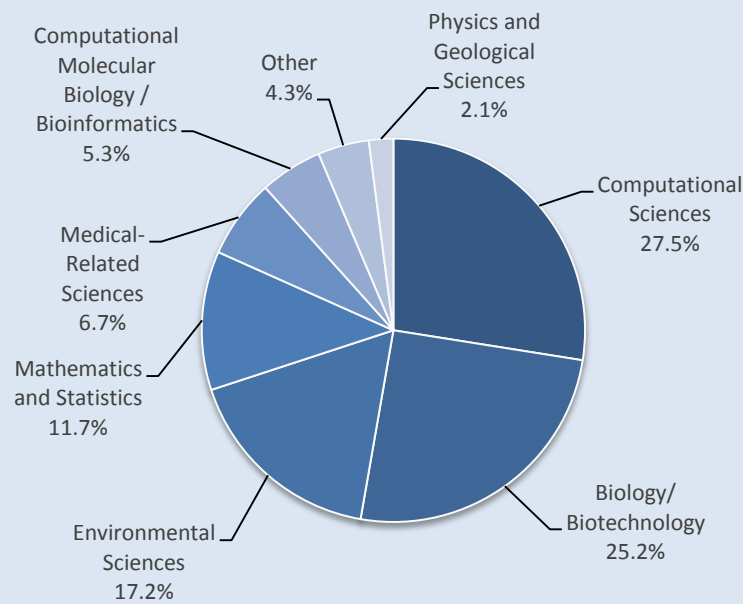
As a percentage of total enrollment, temporary residents comprised a larger share of students at doctoral institutions than at master’s-focused or specialized institutions. Slightly more than one-quarter (27.0%) of the enrollees at doctoral institutions were international students compared to 5.7% at master’s-focused or specialized institutions. Master’s-focused or specialized institutions enrolled a larger percentage of underrepresented minorities than doctoral institutions. As shown in Figure 13, one-third (33.1%) of U.S. citizens and permanent residents at U.S.-based master’s-focused or specialized institutions were underrepresented minorities compared to 13.7% at U.S.-based doctoral institutions. Asian/Pacific Islander and White students constituted 59.0% of total enrollment at master’s-focused or specialized institutions, and 77.4% of total enrollments at doctoral institutions.



### **Total Enrollment by Field of Study**

Total PSM enrollment in fall 2011, as reported by all survey respondents, was dominated by four fields of study. More than three-quarters of all PSM students were pursuing degrees in computational sciences (27.5%), biology/biotechnology (25.2%), environmental sciences (17.2%), or mathematics and statistics (11.7%). Total enrollment in the four remaining fields of study was relatively small (see Figure 14).

**Figure 14.**  
Total Enrollment in PSM Programs by Field of Study, Fall 2011



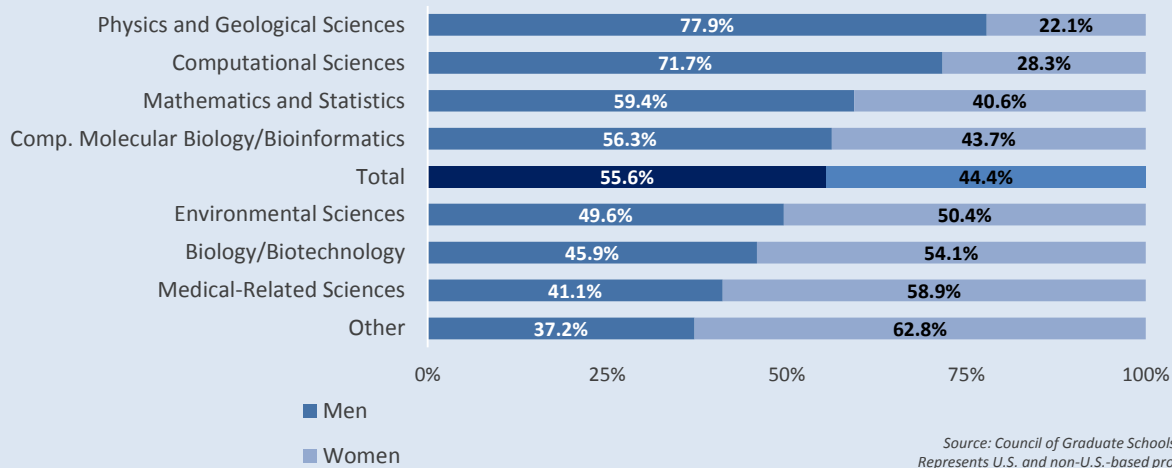
Source: Council of Graduate Schools, 2012  
Represents U.S. and non-U.S.-based programs

Total enrollment in physics and geological sciences, computational sciences, mathematics and statistics, and computational molecular biology/bioinformatics contained more men than women (see Figure 15), with 77.9%, 71.7%, 59.4%, and 56.3%, respectively. By comparison, enrollments in “other” fields (which includes chemistry, forensic sciences, nanoscience, and national defense), medical-related sciences, and biology/biotechnology were more heavily composed of women, with 62.8%, 58.9%, and 54.1%, respectively. Total enrollment in environmental sciences was more evenly divided between men (49.6%) and women (50.4%).

PSM programs in computational sciences, medical-related sciences, “other” fields, and environmental sciences had large percentages of part-time students: 85.3%, 76.0%, 73.3% and 71.7%, respectively. PSM programs in mathematics and statistics, physics and geological sciences, and biology/biotechnology had larger percentages of students who were enrolled full-time: 71.9%, 69.0%, and 56.8%, respectively. Computational molecular biology/bioinformatics enrollment was divided fairly evenly, with 51.2% of enrollees being part-time and 48.8% being full-time.

Temporary residents were most likely to be enrolled in two PSM programs: mathematics and statistics or biology/biotechnology. Nearly one-half (42.7%) and one-third (34.7%) of all temporary residents were enrolled in programs within these two fields respectively in fall 2011. U.S. citizens and permanent residents were more likely to be enrolled in computational science, biology/biotechnology, and environmental science programs, at 30.2%, 22.9%, 19.4% respectively. Programs in the four remaining fields of study constituted small numbers of enrollments regardless of citizenship.

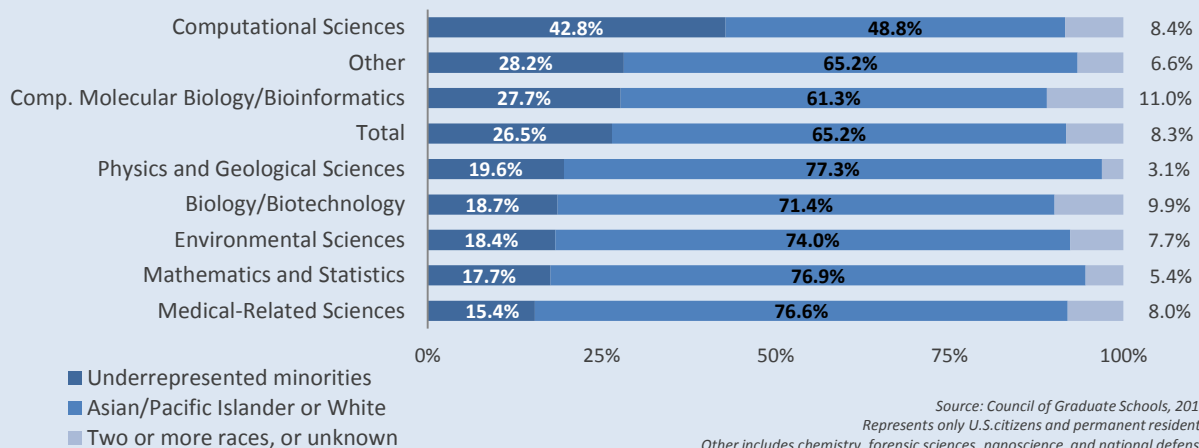
**Figure 15.**  
Total Enrollment in PSM Programs by Field of Study and Gender, Fall 2011



Source: Council of Graduate Schools, 2012  
Represents U.S. and non-U.S.-based programs  
Other includes chemistry, forensic sciences, nanoscience, and national defense

As shown in Figure 16, PSM programs in computational sciences, “other” fields (which includes chemistry, forensic sciences, nanoscience, and national defense), and computational molecular biology/bioinformatics had higher percentages of underrepresented minority enrollees who were U.S. citizens or permanent residents than the overall average (26.5%), with 42.8%, 28.2%, and 27.7% respectively.

**Figure 16.**  
Total Enrollment in PSM Programs by Field of Study and Race/Ethnicity, Fall 2011

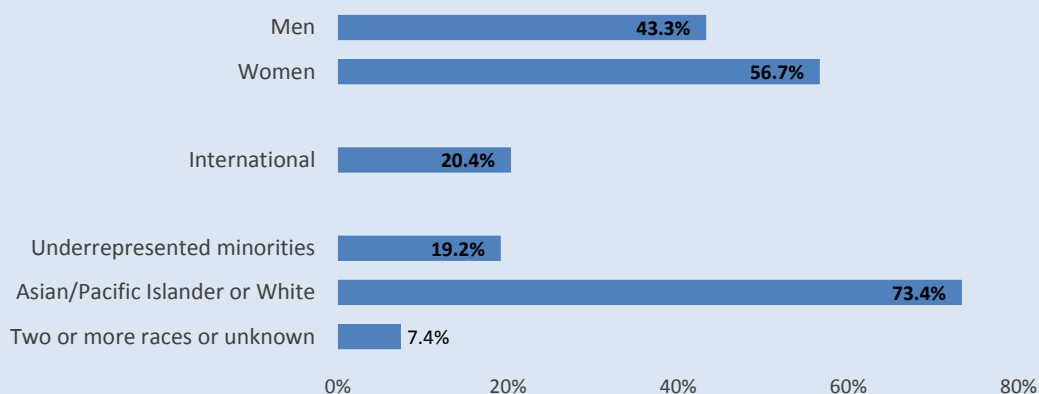


Source: Council of Graduate Schools, 2012  
Represents only U.S. citizens and permanent residents  
Other includes chemistry, forensic sciences, nanoscience, and national defense

## Degrees

Institutions responding to the *2011 Professional Science Master's Enrollment and Degrees Survey* awarded 1,573 degrees in academic year 2010/11 (July 1, 2010 to June 30, 2011), the vast majority (1,479) of which were granted by U.S.-based institutions. More than one-half (56.7%) of the 1,573 degrees were awarded to men, while less than one-half (43.3%) were awarded to women. Roughly one in five (20.4%) graduates of U.S.-based PSM programs were temporary residents. Among U.S. citizens and permanent residents, 19.2% of PSM graduates in 2010/11 were underrepresented minorities, nearly three-quarters (73.4%) were Asian/Pacific Islander or White, and 7.4% were either of two or more races or their race/ethnicity was unknown. A summary of these characteristics appears in Figure 17.

**Figure 17.**  
Characteristics of PSM Degrees Awarded, 2010/11



*Source: Council of Graduate Schools, 2012  
Gender calculations based upon U.S. and non-U.S.-based programs  
Citizenship calculations based upon only U.S.-based programs  
Race/ethnicity calculations based upon only degrees awarded to U.S. citizens and permanent residents by U.S.-based programs*

### ***Degrees by Institutional Control***

Among U.S.-based PSM programs responding to the survey, four in five (80.9%) degrees were earned from a public institution, and one in five (19.1%) were earned from a private, not-for-profit institution. More than one-half (57.6%) of degrees awarded by U.S.-based public institutions were awarded to men, and less than one-half (42.4%) to women. Slightly more than one-half (52.8%) of degrees awarded by U.S.-based private, not-for-profit institutions were awarded to men, compared to slightly less than one-half (47.2%) awarded to women.

Nearly one-third (30.1%) of all graduates who earned their PSM degree from a U.S.-based private, not-for-profit institution were temporary residents, and one-fifth (18.0%) of all graduates who earned their degree from a public institution were temporary residents. When compared with U.S. citizens and permanent residents, temporary residents were slightly less likely to have earned their degree from a public institution. About seven out of ten (71.8%) temporary resident PSM graduates earned their degree from a public institution compared to more than eight out of ten (83.2%) U.S. citizen and permanent resident PSM graduates.

Among U.S. citizens and permanent residents who earned a degree from a public institution in the 2010/11 academic year, 21.8% were underrepresented minorities, 71.2% were Asian/Pacific Islander or White, and 7.0% were either of two or more races or their race/ethnicity was unknown. Underrepresented minorities constituted a smaller percentage (6.3%) of graduates of private, not-for-profit institutions. Nearly four in five (84.1%) private, not-for-profit graduates were Asian/Pacific Islander or White, and 9.7% were either of two or more races or their race/ethnicity was unknown.

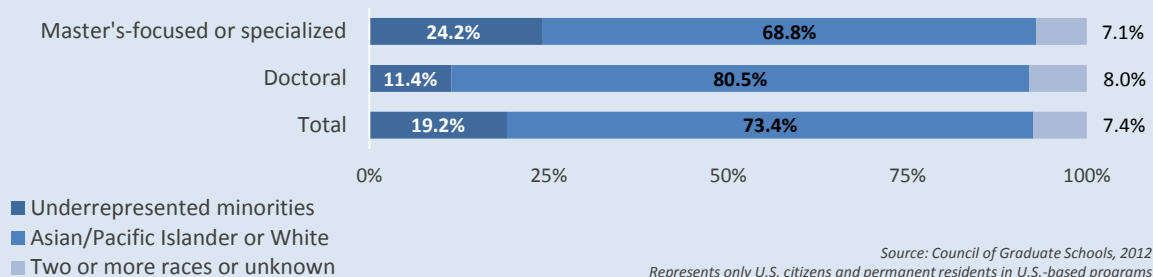
### Degrees by Carnegie Classification

By Carnegie classification, and among U.S.-based institutions, one-half (50.9%) of PSM degrees were awarded by master’s-focused or specialized institutions in 2010/11, and one-half (49.1%) were awarded by doctoral institutions. Slightly more than one-half (55.7%) of PSM degrees awarded by U.S.-based doctoral institutions were awarded to men, whereas slightly less than one-half (44.3%) were awarded to women. Similarly, more than one-half (57.7%) of all PSM degrees awarded by master’s-focused or specialized institutions were awarded to men in 2010/11, compared to 42.3% awarded to women.

Master’s-focused or specialized institutions awarded a larger percentage of degrees to underrepresented minorities than doctoral institutions (see Figure 18). One-quarter (24.2%) of PSM degrees awarded by master’s-focused or specialized institutions to U.S. citizens and permanent residents in the 2010/11 academic year were awarded to underrepresented minorities, two-thirds (68.8%) of PSM degrees were awarded to Asian/Pacific Islander or White graduates, and 7.1% were awarded to individuals who were either of two or more races or whose race/ethnicity was unknown. By contrast, 11.4% of PSM degrees awarded by U.S.-based doctoral institutions to U.S. citizens and permanent residents in the 2010/11 academic year were awarded to underrepresented minorities, 80.5% to Asian/Pacific Islander or White graduates, and 8.0% to individuals who were either of two or more races or whose race/ethnicity was unknown.

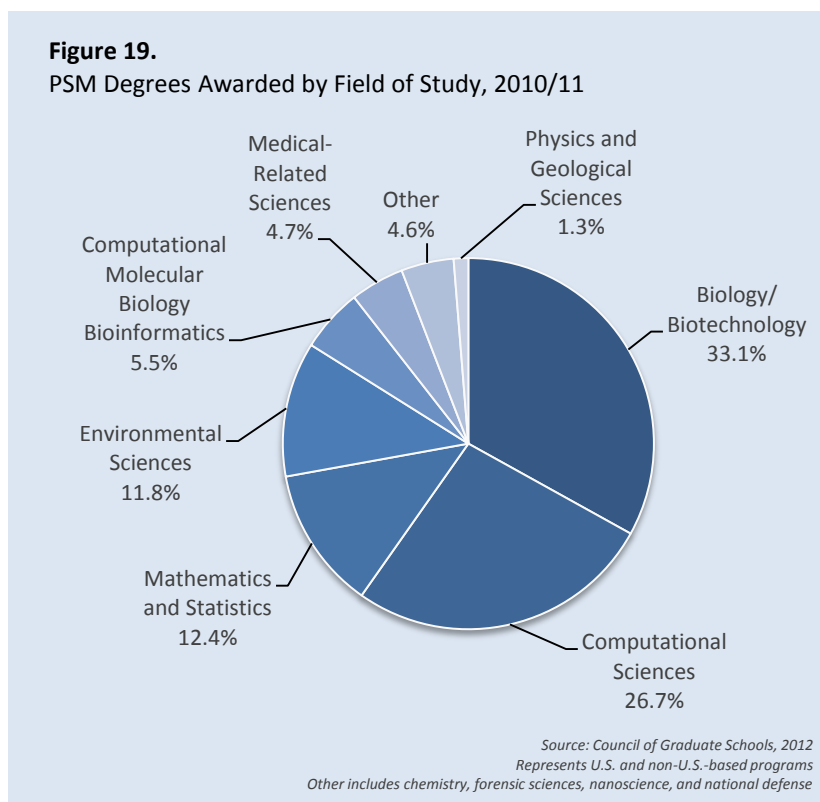
**Figure 18.**

PSM Degrees Awarded by Carnegie Classification and Race/Ethnicity, 2010/11



## Degrees by Field of Study

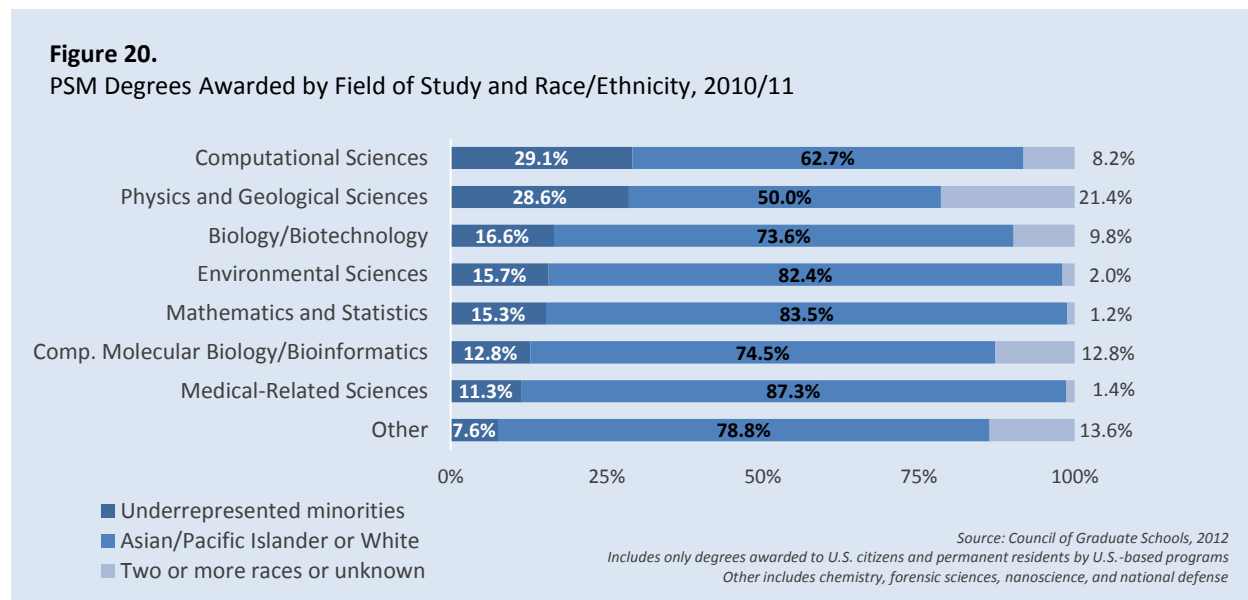
By field of study, biology/biotechnology and computational sciences constituted the largest number of PSM degrees awarded in 2010/11. As shown in Figure 19, these two fields combined awarded more than half (59.8%) of all PSM degrees awarded that academic year: 33.1% and 26.7%, respectively. Mathematics and statistics and environmental sciences collectively awarded nearly one-quarter of all degrees in 2010/11: 12.4% and 11.8%, respectively.



Men earned the majority of the PSM degrees awarded in physics and geological sciences, computational sciences, and mathematics and statistics, at 90.0%, 74.0%, and 59.0%, respectively. Women earned more degrees than men in “other” fields, medical-related sciences, and biology/biotechnology, at 65.3%, 59.5%, and 52.1%, respectively. The gender distributions in the remaining two fields (computational molecular biology/bioinformatics and environmental sciences) were relatively even.

Temporary residents were more likely than U.S. citizens and permanent residents to earn PSM degrees in the fields of biology/biotechnology and mathematics and statistics. These two categories accounted for three-quarters (77.1%) of all PSM degrees earned by temporary residents in U.S.-based institutions in 2010/11. U.S. citizens and permanent residents were more likely to earn PSM degrees in the fields of computational sciences, biology/biotechnology, and environmental sciences; 30.2%, 28.2%, and 14.6%, respectively.

As shown in Figure 20, the field of study in which the largest percentage of underrepresented minorities earned a degree in 2010/11 was computational sciences (29.1%), followed by physics and geological sciences (28.6%). A fairly large percentage (21.4%) of the PSM degrees reported in physics and geological sciences were earned by individuals who are of two or more races or whose race/ethnicity is unknown.



## CHANGES FROM 2010 TO 2011

Comparisons between data from the 2010 and 2011 *Professional Science Master's Enrollment and Degrees Surveys* were performed in two ways. First, comparisons were made using all respondents to both surveys to show changes in the overall PSM initiative between 2010 and 2011. The advantage of this method is that it portrays the overall status of the PSM initiative using the most comprehensive dataset available. The disadvantage of this method is that it includes 40 programs that responded to only one of the two surveys. Furthermore, this method does not take into account the growth in the actual number of PSM programs over the one-year time period. The second comparison uses only programs that responded to *both* the 2010 *and* the 2011 *Professional Science Master's Enrollment and Degrees Surveys* (n=199) in order to restrict the comparisons to the identical set of institutions that responded to both the 2010 and 2011 surveys. The advantage of this comparison is that it more accurately depicts changes among those PSM programs that responded to both surveys. The disadvantage of this comparison is that it represents a subset of the full population of PSM programs since not all PSM programs responded to both surveys and since some PSM programs only started enrolling students in 2011.

The changes in applications, first-time enrollment, total enrollment, and degrees awarded are reported as percentages. In some cases, these percentages are based upon small numbers of students, which can result in relatively large increases or decreases over a one-year period. These percentage changes should be interpreted cautiously since they may simply reflect the normal fluctuations that occur with small populations of students.

## Comparisons Using All Respondents

This first set of comparisons uses data from all respondents to the 2010 *Professional Science Master's Enrollment and Degrees Survey* and all respondents to the 2011 *Professional Science Master's Enrollment and Degrees Survey*. This set of comparisons is intended to show changes in the overall PSM initiative between 2010 and 2011.

### ***Applications***

Overall, respondents to the 2010 and 2011 *Professional Science Master's Enrollment and Degrees Surveys* reported a 43.5% increase in applications received between 2010 and 2011, from 4,396 applications received for fall 2010 to 6,309 applications received for fall 2011. The number of applications accepted rose substantially as well, from 2,134 in 2010 to 2,771 in 2011, or 29.9%. The sizeable gains in applications accepted and received can be largely attributed to three programs at one institution that participated in the 2011 survey but not the 2010 survey. These three programs accounted for more than one-half (56.1%) of the gain in applications received and one-third (34.5%) of the gain in applications accepted.

### ***First-Time Enrollment***

Respondents to the 2010 and 2011 *Professional Science Master's Enrollment and Degrees Surveys* reported a 14.7% increase in first-time enrollment, from 1,471 in 2010 to 1,687 in 2011. While the number of men enrolled for the first-time in PSM programs increased by 9.7%, the number of women increased by 16.8%. First-time enrollment among full-time students grew by 25.4% between 2010 and 2011, while first-time enrollment among part-time students fell by 6.2%.

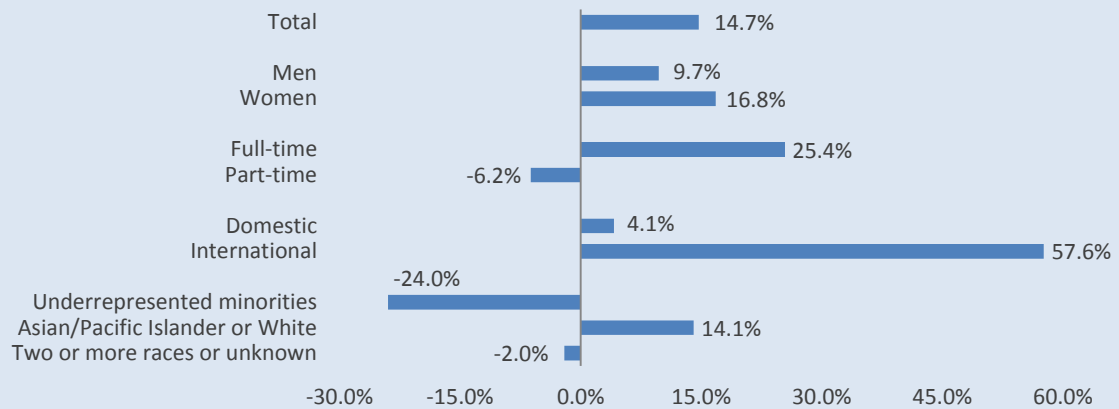
First-time enrollment among international students (i.e., temporary residents) in U.S.-based institutions grew by 57.6% between 2010 and 2011. There was a 24.0% decrease in the number of underrepresented minorities enrolled for the first-time in PSM programs and a 14.1% increase in the number of Asian/Pacific Islander or White first-time enrollees during the same time period. There was only a slight decrease (2.0%) in the number of first-time enrollees who were of two or more races or whose race/ethnicity was unknown. The yield rate, which is the number of first-time enrollees divided by the number of applications accepted, dropped from 68.6% in 2010 to 60.9% in 2011<sup>1</sup>. A summary of first-time enrollment changes from 2010 to 2011 appears in Figure 21.

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<sup>1</sup> It is possible, if not likely, that some students applied to and were accepted by more than one PSM program (but enrolled in only one PSM program). The yield rate reported here, therefore, may be somewhat understated.

**Figure 21.**

Change in First-Time Enrollment Among All Respondents, Fall 2010 to Fall 2011



Source: Council of Graduate Schools, 2012

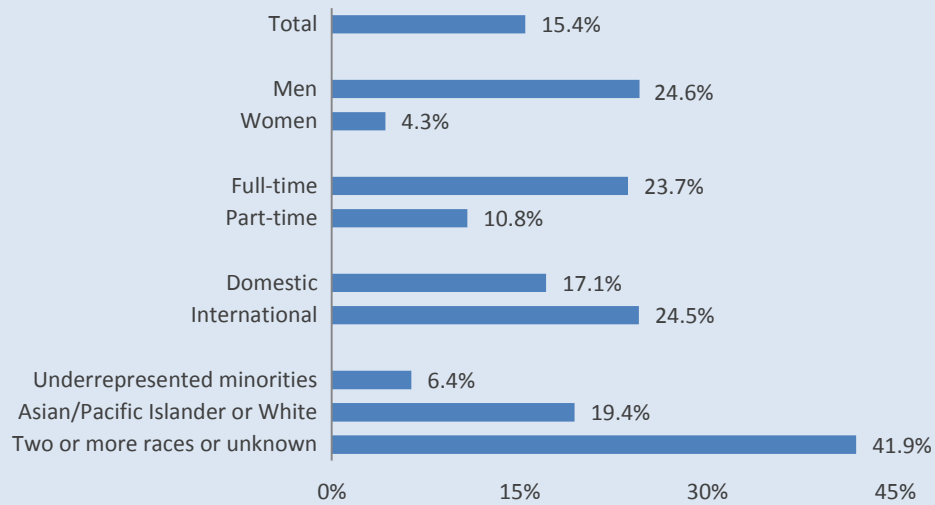
Overall changes and changes by gender are based upon U.S. and non-U.S.-based programs  
Changes in citizenship and ethnic/minority status are based upon U.S. citizens and permanent residents only

### **Total Enrollment**

Respondents to the 2010 and 2011 *Professional Science Master's Enrollment and Degrees Surveys* reported a 15.4% increase in total enrollment, from 4,753 in fall 2010 to 5,487 in fall 2011. The number of men enrolled in PSM programs increased by 24.6%, and the number of women increased by 4.3%. Total enrollment among full-time students grew by 23.7%, while first-time enrollment among part-time students rose by 10.8%.

Total enrollment among international students (i.e., temporary residents) in U.S.-based institutions grew by 24.5% between 2010 and 2011. There was a 6.4% increase in the number of underrepresented minorities enrolled in PSM programs between 2010 and 2011, while total enrollment rose 19.4% among Asian/Pacific Islander and White students. There was a substantial increase (41.9%) in total enrollment among those who were of two or more races or whose race/ethnicity was unknown. A summary of changes in total enrollment between fall 2010 and fall 2011 appears in Figure 22.

**Figure 22.**  
Change in Total Enrollment Among All Respondents, Fall 2010 to Fall 2011



Source: Council of Graduate Schools, 2012  
Overall changes and changes by gender and enrollment status are based upon U.S. and non-U.S.-based programs  
Changes in citizenship and ethnic/minority status are based upon U.S. citizens and permanent residents only

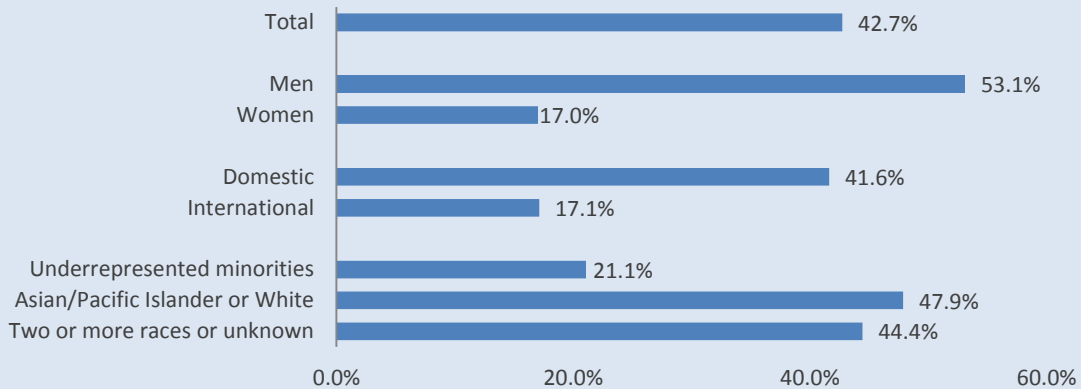
## **Degrees**

Respondents to the 2010 and 2011 *Professional Science Master's Enrollment and Degrees Surveys* reported a 42.7% increase in the number of PSM degrees awarded, from 1,102 in academic year 2009/10 to 1,573 in 2010/11. The number of men who earned a PSM degree increased by 53.1%, while the number of women who earned a PSM degree increased by 17.0%.

The number of degrees earned by temporary residents in U.S.-based institutions grew by 17.1% between 2009/10 and 2010/11. There was a 21.1% increase in the number of underrepresented minorities who earned a PSM degree between 2009/10 and 2010/11, while the number of degrees earned by Asian/Pacific Islander or White students increased by 47.9% during the same time period. There was also a large increase (44.4%) in the number of PSM degrees earned by individuals who were of two or more races or whose race/ethnicity was unknown. A summary of changes in PSM degrees awarded between academic years 2009/10 and fall 2010/11 appears in Figure 23.

**Figure 23.**

Change in Degrees Awarded Among All Respondents, 2009/10 to 2010/11



Source: Council of Graduate Schools, 2012

Changes in Total, by Gender, and by Enrollment Status are based upon U.S. and non-U.S.-based programs  
Changes in citizenship and ethnic/minority status are based upon U.S. citizens and permanent residents only

### Comparisons Using Only Programs That Responded to Both Surveys

This second set of comparisons uses data from just the PSM programs that responded to both the 2010 and the 2011 *Professional Science Master's Enrollment and Degrees Surveys*. This set of comparisons is intended to show changes in existing PSM programs between 2010 and 2011.

#### **Applications**

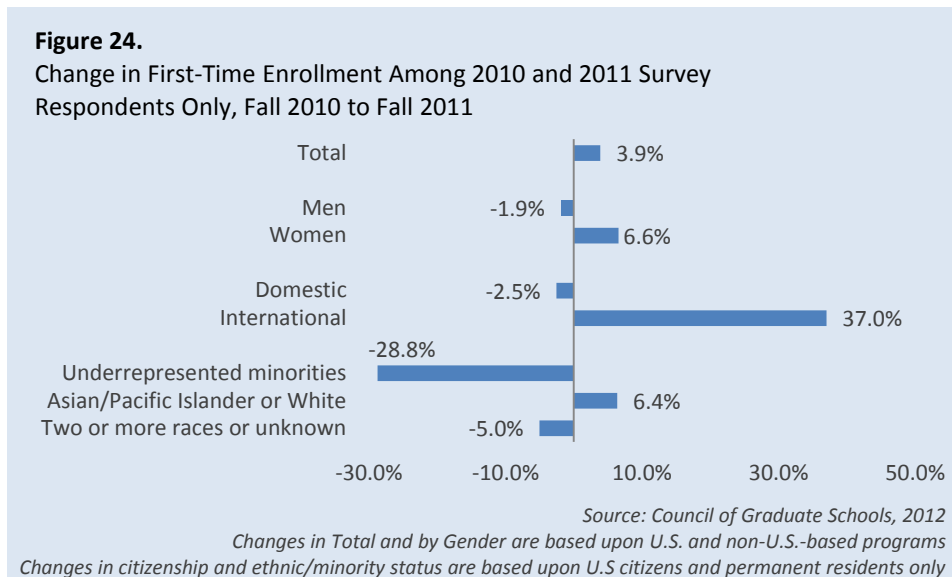
PSM programs that responded to both the 2010 and 2011 *Professional Science Master's Enrollment and Degrees Surveys* reported a 13.6% increase in applications received between 2010 and 2011, from 4,348 applications received for fall 2010 to 4,938 applications received for fall 2011. The number of applications accepted rose from 2,114 in 2010 to 2,397 in 2011, or 13.4%.

#### **First-Time Enrollment**

PSM programs that responded to both the 2010 and 2011 surveys reported a 3.9% increase in first-time enrollment, from 1,459 in 2010 to 1,516 in 2011. While the number of men enrolled for the first-time in PSM programs decreased by 1.9%, the number of women increased by 6.6%. First-time enrollment among full-time students grew by 9.4%, while first-time enrollment among part-time students fell by 8.6%.

First-time enrollment among international students in U.S.-based PSM grew by 37.0% between 2010 and 2011, while the total number of domestic first-time enrollees declined by 2.5%. There was a 28.8% decrease between 2010 and 2011 in the number of underrepresented minorities enrolled for the first-time in PSM programs, compared with a 6.4% increase in the number of Asian/Pacific Islander or White first-time enrollees during the same time period. There was a 5.0% decrease in the number of first-time enrollees who were of two or more races or whose race/ethnicity was unknown. The yield rate, which is the number of first-time enrollees divided by the number of

applications accepted, dropped from 69.0% in 2010 to 63.2% in 2011. A summary of first-time enrollment changes from 2010 to 2011 appears in Figure 24.



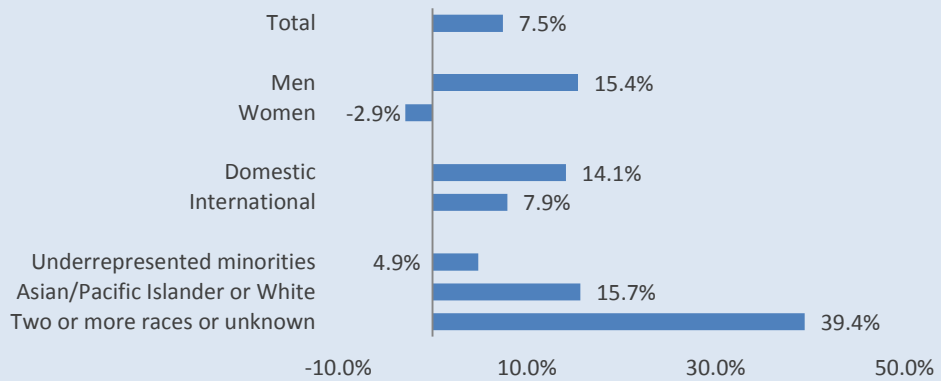
### **Total Enrollment**

Respondents to both the 2010 and 2011 *Professional Science Master's Enrollment and Degrees Surveys* reported a 7.5% increase in total enrollment, from 4,729 in 2010 to 5,082 in 2011. The number of men enrolled in PSM programs increased by 15.4%, while the number of women decreased by 2.9%. Total enrollment among full-time students grew by 7.8%, and total enrollment among part-time students rose by 7.0%.

Total enrollment among international students in U.S.-based institutions grew by 7.9% between 2010 and 2011. There was a 4.9% increase in the number of underrepresented minorities enrolled in PSM programs between 2010 and 2011, and total enrollment rose by 15.7% among Asian/Pacific Islander or White students. There was a substantial increase (39.4%) in total enrollment among those who were of two or more races or whose race/ethnicity was unknown. A summary of changes in total enrollment between fall 2010 and fall 2011 appears in Figure 25.

By field of study among PSM programs responding to both the 2010 and the 2011 surveys, programs in physics and geological sciences and medical-related sciences reported the largest increases in total enrollment between 2010 and 2011, with gains of 46.1% and 38.8%, respectively. The large gain reported in the field of physics and geological sciences is due, at least in part, to the fact that these are generally small programs. Total enrollments rose in mathematics and statistics (20.9%) and environmental sciences (19.6%) as well. Computational sciences and "other" fields experienced declines in total enrollment of 4.9% and 5.7%, respectively. A summary of changes in total enrollment appears in Figure 26.

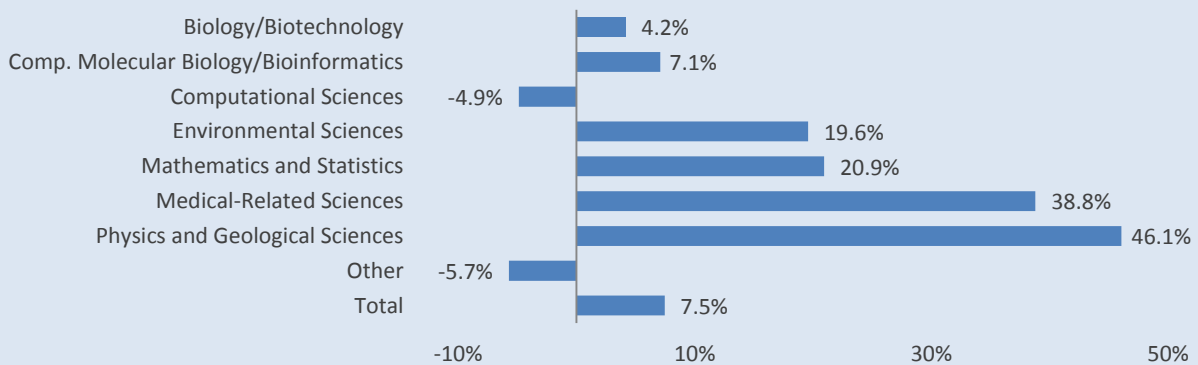
**Figure 25.**  
Change in Total Enrollment Among 2010 and 2011 Survey Respondents Only, Fall 2010 to Fall 2011



Source: Council of Graduate Schools, 2012

Changes in Total and by Gender are based upon U.S. and non-U.S.-based programs  
Changes in citizenship and ethnic/minority status are based upon U.S. citizens and permanent residents only

**Figure 26.**  
Change in Total Enrollment Among 2010 and 2011 Survey Respondents Only by Field of Study, 2009/10 to 2010/11



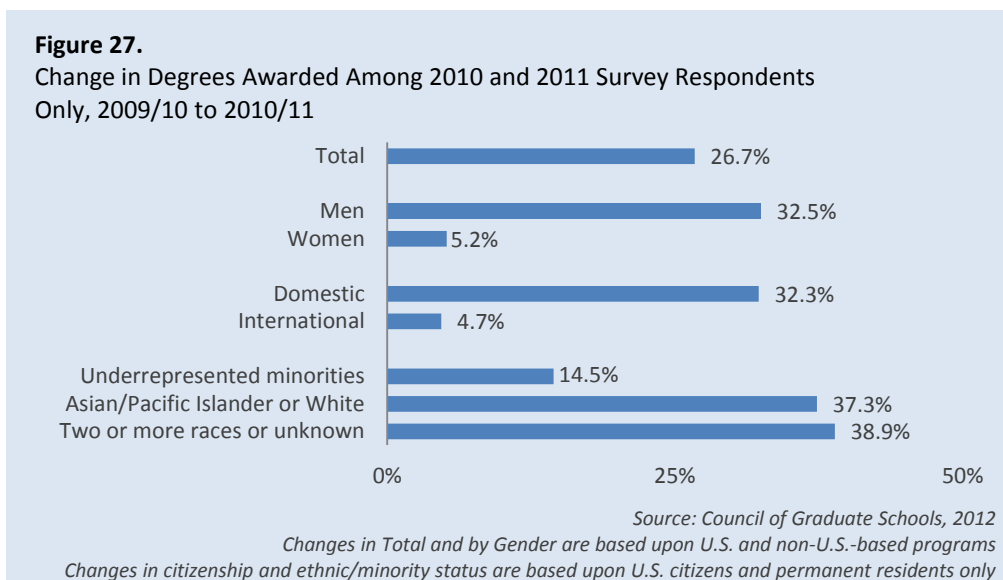
Source: Council of Graduate Schools, 2012

Changes are based upon U.S. and non-U.S.-based programs

## Degrees

Among those PSM programs responding to both the 2010 and 2011 surveys, there was a 26.7% increase in the number of PSM degrees awarded, from 1,097 in academic year 2009/10 to 1,390 in 2010/11. The number of men who earned a PSM degree increased by 32.5%, while the number of women who earned a PSM degree increased by 5.2%.

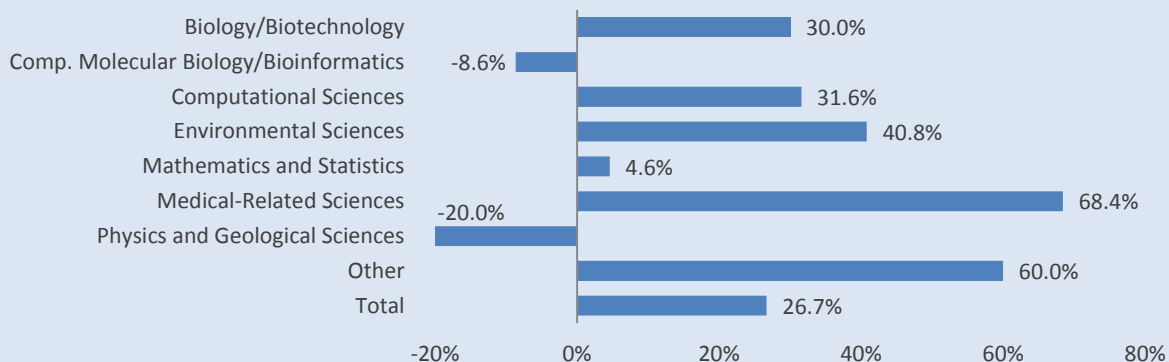
Between 2009/10 and 2010/11, the number of degrees earned by domestic students in U.S.-based institutions increased by 32.3%, while the number of degrees earned by temporary residents grew by 4.7%. There was a 14.5% increase in the number of underrepresented minorities who earned a PSM degree between 2009/10 and 2010/11, while the number of degrees earned by Asian/Pacific Islander or White students increased by 37.3%, and the number of degrees earned by individuals who were of two or more races or whose race/ethnicity was unknown increased by 38.9% over the same time period. A summary of changes in PSM degrees awarded between academic years 2009/10 and 2010/11 appears in Figure 27.



Finally, as illustrated in Figure 28, the largest increases in degrees awarded between 2009/10 and 2010/11 occurred in medical-related sciences and “other” fields, with gains of 68.4% and 60.0%, respectively. Physics and geological sciences and computational molecular biology/bioinformatics reported 20.0% and 8.6% decreases, respectively, in the number of degrees awarded during the same time period.

**Figure 28.**

Change in Degrees Awarded Among 2010 and 2011 Survey Respondents Only by Field of Study, 2009/10 to 2010/11



Source: Council of Graduate Schools, 2012  
Changes are based upon U.S. and non-U.S.-based programs

## FUTURE PROFESSIONAL SCIENCE MASTER'S ENROLLMENT AND DEGREES SURVEYS

The *2012 Professional Science Master's Enrollment and Degrees Survey* will be launched in October 2012 by the Council of Graduate Schools. The survey will use the same methodology utilized in both the 2010 and 2011 surveys. The report summarizing the 2012 survey results will include the information presented in this report, as well as data on the year-to-year changes from 2010 to 2012.

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## Appendix

### 2011 Professional Science Master's (PSM) Enrollment and Degrees Survey

#### Section I. Institution and Program

Institution name .....	<input style="width: 95%;" type="text"/>
Full name of the PSM program or track (no abbreviations) . . . <i>(Complete a separate questionnaire for each program or track.)</i>	<input style="width: 95%;" type="text"/>
Name of the individual completing this questionnaire. ....	<input style="width: 95%;" type="text"/>
Phone number .....	<input style="width: 95%;" type="text"/>
E-mail address .....	<input style="width: 95%;" type="text"/>
<input type="checkbox"/> ← Check this box if your program or track <u>has not yet</u> enrolled any students (as of fall 2011), then click the "Submit by E-mail" button below. Otherwise, continue to Section II.	

#### Section II. Applications

Total number of applications:	
Received for admission for 2011 fall term. ....	<input style="width: 95%;" type="text"/>
Accepted for admission for 2011 fall term. ....	<input style="width: 95%;" type="text"/>

#### Section III. Enrollment and Degrees

Characteristics	(Column A) First-time enrollment 2011 fall term	(Column B) Total enrollment 2011 fall term	(Column C) Degrees awarded academic year 2010/11
<b>Gender</b>			
Men. ....	<input style="width: 40px; height: 20px;" type="text"/>	<input style="width: 40px; height: 20px;" type="text"/>	<input style="width: 40px; height: 20px;" type="text"/>
Women .....	<input style="width: 40px; height: 20px;" type="text"/>	<input style="width: 40px; height: 20px;" type="text"/>	<input style="width: 40px; height: 20px;" type="text"/>
Unknown .....	<input style="width: 40px; height: 20px;" type="text"/>	<input style="width: 40px; height: 20px;" type="text"/>	<input style="width: 40px; height: 20px;" type="text"/>
Total	<input style="width: 40px; height: 20px;" type="text"/>	Total <input style="width: 40px; height: 20px;" type="text"/>	Total <input style="width: 40px; height: 20px;" type="text"/>
<b>U.S. citizens and permanent residents</b>			
URM (underrepresented minorities: Hispanic, American Indian, African American) .....	<input style="width: 40px; height: 20px;" type="text"/>	<input style="width: 40px; height: 20px;" type="text"/>	<input style="width: 40px; height: 20px;" type="text"/>
Non-URM (Asian/Pacific Islander, White) .....	<input style="width: 40px; height: 20px;" type="text"/>	<input style="width: 40px; height: 20px;" type="text"/>	<input style="width: 40px; height: 20px;" type="text"/>
Other (race/ethnicity unknown, two or more races) . . .	<input style="width: 40px; height: 20px;" type="text"/>	<input style="width: 40px; height: 20px;" type="text"/>	<input style="width: 40px; height: 20px;" type="text"/>
<b>Non-resident aliens</b> (temporary residents) .....	<input style="width: 40px; height: 20px;" type="text"/>	<input style="width: 40px; height: 20px;" type="text"/>	<input style="width: 40px; height: 20px;" type="text"/>
<b>Citizenship unknown</b> .....	<input style="width: 40px; height: 20px;" type="text"/>	<input style="width: 40px; height: 20px;" type="text"/>	<input style="width: 40px; height: 20px;" type="text"/>
Total	<input style="width: 40px; height: 20px;" type="text"/>	Total <input style="width: 40px; height: 20px;" type="text"/>	Total <input style="width: 40px; height: 20px;" type="text"/>
<b>Enrollment Status</b>			
Full-time .....	<input style="width: 40px; height: 20px;" type="text"/>	<input style="width: 40px; height: 20px;" type="text"/>	<input style="width: 40px; height: 20px;" type="text"/>
Part-time .....	<input style="width: 40px; height: 20px;" type="text"/>	<input style="width: 40px; height: 20px;" type="text"/>	<input style="width: 40px; height: 20px;" type="text"/>
Total	<input style="width: 40px; height: 20px;" type="text"/>	Total <input style="width: 40px; height: 20px;" type="text"/>	<input style="width: 40px; height: 20px;" type="text"/>

**Click the "Submit by E-mail" button below to send your questionnaire to CGS.  
Please submit your questionnaire by November 15, 2011.**

**SUBMIT BY E-MAIL**

*If you have problems submitting this questionnaire electronically, please contact Josh Mahler at (202) 461-3862 or [jmahler@cgs.nche.edu](mailto:jmahler@cgs.nche.edu).*

*For questions about this survey and/or questionnaire, please contact Jeff Allum at (202) 461-3878 or [jallum@cgs.nche.edu](mailto:jallum@cgs.nche.edu).*

*This survey was made possible by a grant from the Alfred P. Sloan Foundation.*

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## SURVEY INSTRUCTIONS AND DEFINITIONS

**About This Survey.** The *2011 Professional Science Master's Enrollment and Degree Survey* is an annual survey of enrollment and degrees in Professional Science Master's (PSM) programs. Previous surveys were conducted in the spring of 2011 by the Council of Graduate Schools and in 2008 and 2009 by the National Professional Science Master's Association (NPSMA). The 2011 survey is being carried out by the Council of Graduate Schools (CGS) with a grant from the Alfred P. Sloan Foundation. It is being sent to program directors who oversee programs recognized by CGS as PSMs with a copy to the graduate dean (or equivalent). It collects data regarding applications, first-time enrollment, total enrollment, and degrees awarded. As noted in the *Guidelines for Recognition as a Professional Science Master's Program*, PSM programs must collect annual data relative to enrollment, degrees, completion, and demographics. The results will be published in December 2011. A link to the report will be emailed to PSM program directors and graduate deans (or equivalent) and posted online at [www.sciencemasters.com](http://www.sciencemasters.com). CGS will prepare customized reports for each PSM-granting program, comparing their program with the national dataset.

**Confidentiality.** All data and information submitted for the *2011 Professional Science Master's Enrollment and Degree Survey* will be treated as confidential and will be used only for research or statistical purposes. Any information released publicly will be in a format that does not allow the identification of institutions or the personal identification of students. All survey data are stored on a secure, password-protected server, and access to the raw survey data is restricted to those individuals directly involved in data collection and analysis. Participation in this survey is voluntary.

**Instructions for Completing the Survey.** The *2011 Professional Science Master's Enrollment and Degree Survey* includes three sections: Section I (Institution and Program); Section II (Applications); and Section III (Enrollment and Degrees). Specific instructions for each section are described below. **Complete a separate questionnaire for each PSM program or track at your institution.**

### Section I. Institution and Program

Enter the full name of your institution and PSM program or track (without abbreviations). **Institutions with more than one PSM program or track must complete a separate questionnaire for each program or track.** Enter the full name of the individual completing the questionnaire, as well as his/her phone number and e-mail address. This contact information may be used should CGS researchers need to clarify survey responses.

### Section II. Applications

This section collects data regarding the number of applications received and accepted for the 2011 fall term. Specific instructions for completing this portion of the survey are as follows:

- **Total number of applications received for admission for 2011 fall term**—The number of completed applications received for admission for the 2011 fall term, which fulfill the institution's requirements to be considered for admission (including payment or waiving of the application fee, if any).
- **Total number of applications accepted for admission for 2011 fall term**—The number of applicants who have fulfilled the institution's requirements to be considered for admission (including payment or waiving of the application fee, if any) and have been granted an offer of admission for the 2011 fall term.

### Section III. Enrollment and Degrees

Section III collects three types of data (first-time enrollment, total enrollment, and degrees awarded) according to three types of characteristics (gender, citizenship/race/ethnicity, and enrollment status). Specific instructions for completing this portion of the survey are as follows:

- **Column A: First-time enrollment 2011 fall term**—Enter the number of students enrolled for the first time in the PSM program at your institution during the 2011 fall term by gender, citizenship/race/ethnicity, and enrollment status. This may include PSM students previously enrolled in another graduate program at your institution or in a graduate program at another institution. It may also include students who already hold another graduate or professional degree. **Report first-time enrollment in whole numbers. Do not use a full-time-equivalent (FTE) calculation for part-time students; rather, count each student as "1" regardless of their enrollment status.** Do not include non-degree students.

- **Column B: Total enrollment 2011 fall term**—Report all students enrolled in the PSM program at your institution during the 2011 fall term by gender, citizenship/race/ethnicity, and enrollment status. Include first-time (column A) and continuing students. **Report total enrollment in whole numbers. Do not use a full-time-equivalent (FTE) calculation for part-time students; rather, count each student as “1” regardless of their enrollment status.** Do not include non-degree students.
- **Column C: Degrees awarded academic year 2010/11**—Report graduates who earned a degree from the PSM program in academic year 2010/11 (between July 1, 2010 and June 30, 2011) by gender and citizenship/race/ethnicity.
- **Characteristics**—This survey is designed to collect data regarding enrollments and degrees according to three types of enrollee/graduate characteristics (gender, citizenship/race/ethnicity, and enrollment status). Demographic categories are based upon those used by the federal government. Specific instructions are as follows:
  - **Gender**—Within each column (A, B, and C), report the number of men, women, and unknown gender, as well as the total for gender.
  - **Citizenship/race/ethnicity**—Within each column (A, B, and C), report the number of enrollees/graduates who are U.S. citizens and permanent residents (subdivided by race/ethnicity), non-resident aliens (temporary residents), or of unknown citizenship, as well as the total. Use the following definitions when determining the number of enrollees/graduates by citizenship/race/ethnicity:
    - **U.S. citizens and permanent residents**—Indicate the number of enrollees/graduates who are U.S. citizens, including those from Puerto Rico and the U.S. territories, and permanent residents holding green cards according to the three race/ethnicity categories below:
      - **URM** (underrepresented minorities)—Include enrollees/graduates who are:
        - **Hispanic/Latino**—U.S. citizens or permanent residents of Cuban, Mexican, Puerto Rican, South or Central American, or other Spanish culture or origin, regardless of race.
        - **American Indian/Alaska Native**—U.S. citizens or permanent residents having origins in any of the original peoples of North and South America (including Central America) who maintain cultural identification through tribal affiliation or community attachment.
        - **Black/African American**—U.S. citizens or permanent residents having origins in any of the black racial groups of Africa (except those of Hispanic origin).
      - **Non-URM**—Include enrollees/graduates who are:
        - **Asian**—U.S. citizens or permanent residents having origins in any of the original peoples of the Far East, Southeast Asia, or the Indian subcontinent, including, for example, Cambodia, China, India, Japan, Malaysia, Pakistan, the Philippines, South Korea, Thailand, and Vietnam.
        - **Native Hawaiian/Other Pacific Islander**—U.S. citizens or permanent residents having origins in any of the original peoples of Hawaii, Guam, Samoa, or other Pacific islands.
        - **White**—U.S. citizens or permanent residents having origins in any of the original peoples of Europe, North Africa, or the Middle East (except those of Hispanic origin).
      - **Other**—Include enrollees/graduates who are:
        - **Race/ethnicity unknown**—Include enrollees/graduates who are U.S. citizens or permanent residents whose race/ethnicity is not known.
        - **Two or more races**—U.S. citizens or permanent residents having origins in any two or more of the following race categories: American Indian/Alaska Native, Asian, Black/African American, Native Hawaiian/Other Pacific Islander, or White. Note: All individuals of Hispanic/Latino origin should be reported in the “URM” field of this questionnaire, regardless of race.

- **Non-resident aliens** (temporary residents)—Indicate the number of enrollees/graduates who are not citizens, national, or permanent residents of the United States and who are in the country on a visa or temporary basis and do not have the right to remain indefinitely.
  - **Citizenship unknown**—Report the number of enrollees/graduates whose citizenship is not known.
- **Enrollment status**— Within columns A and B (first-time enrollment and total enrollment) report the number of enrollees who are enrolled full-time and part-time for the 2011 fall term. Use your institution's definition of full-time and part-time enrollment status.
- **IMPORTANT—Consistency Check.** Section III of this survey is designed to capture enrollment and degree data according to three types of enrollee/graduate characteristics: gender, citizenship/race/ethnicity, and enrollment status. ***The totals for each of these types of characteristics within each column should be equivalent.*** For example, if the PSM program at your institution has 18 first-time enrollees, then report a total of 18 first-time enrollees by gender, 18 first-time enrollees by citizenship/race/ethnicity, and 18 first-time enrollees by enrollment status in column A.

**Survey Submission.** After filling in all fields, please click the “Submit by E-mail” button at the bottom of the questionnaire. A new window will appear in your e-mail application (e.g., Outlook) addressed to CGS staff member Josh Mahler, with the completed questionnaire form attached as a PDF document. Click the “Send” button in your e-mail application to submit the questionnaire.

**Problems Submitting This Form?** This fillable PDF form is most compatible with Adobe Acrobat Reader version 9 or higher. Users of older versions of Adobe Acrobat Reader, or other PDF readers such as Macintosh Preview, Sumatra PDF, or Foxit may experience difficulties when trying to complete and submit this form. If you experience difficulties submitting this form, click [here](#) to download the most recent version of Adobe Acrobat Reader. Alternatively, you may either: (1) save the completed form as a PDF onto your desktop and e-mail it as an attachment to Josh Mahler at [jmahler@cgs.nche.edu](mailto:jmahler@cgs.nche.edu); or (2) print the completed questionnaire and fax it to (202) 331-7157. If you have questions about any of these methods, please contact Josh Mahler at (202) 461-3862 or [jmahler@cgs.nche.edu](mailto:jmahler@cgs.nche.edu).

**Deadline. Please submit your completed survey by November 15, 2011.**

**Questions.** For questions about this survey, please contact Jeff Allum at (202) 461-3878 or [jallum@cgs.nche.edu](mailto:jallum@cgs.nche.edu).

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