Outcomes for PSM Alumni: 2011/12

Jeffrey R. Allum
Director, Research and Policy Analysis
Council of Graduate Schools
The 2012 Professional Science Master’s (PSM) Student Outcomes Survey was conducted by the Council of Graduate Schools with a grant from the Alfred P. Sloan Foundation. The survey is designed to capture initial hiring outcomes of PSM graduates and follow them for up to five years after graduation. A pdf version of this report is available online at www.sciencemasters.com and www.cpsnet.org. For more information about the survey or report, please contact:

Council of Graduate Schools
One Dupont Circle NW, Suite 230
Washington, DC 20036-1173
www.cpsnet.org

Jeffrey R. Allum
(202) 223-3791
jallum@cgs.nche.edu

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Many individuals and organizations deserve recognition for their role in making the 2012 Professional Science Master’s (PSM) Student Outcomes Survey a reality. The survey was funded by a grant from the Alfred P. Sloan Foundation, whose initial funding made PSM programs possible, and whose continued support enables us to better understand their evolution. Thanks to the Sloan Foundation, and Michael Teitelbaum in particular, for this steadfast support.

The development of the questionnaire was enriched by input from the Council of Graduate Schools’ PSM Advisory Board, including Linda Strausbaugh (University of Connecticut), Patricia Bishop (University of Central Florida), Saeed Foroudastan (Middle Tennessee State University), David King (State University of New York at Oswego), and Inge Wefes (University of South Florida). Members of the Board of Directors of the National Professional Science Master’s Association (NPSMA) also played a role in reviewing the questionnaire. They include Dagmar Beck (Rice University), Bogdan Vernescu (Worcester Polytechnic Institute), Susan Stites-Doe (The College at Brockport, State University of New York), Cliff Chancey (University of Northern Iowa), Elizabeth Friedman (Illinois Institute of Technology), and Kevin Sightler (University of Illinois at Urbana-Champaign). Don Langenberg, Director of Strategic Planning and External Projects at NPSMA, and Sheila Tobias, long-time supporter of the PSM, also provided feedback on the survey design. Thanks to all of these individuals for their input and insight into the survey design.

Some institutions interpret privacy protection laws in ways that disallow or discourage institutions from sharing student and/or graduate contact information with third parties. As a result, PSM program directors were asked to forward survey invitations and reminders to their graduates on behalf of CGS. Thanks to all of those graduate deans and PSM program directors who assisted in communicating this survey to their graduates. The survey would not have been possible without your assistance.

Members of the CGS PSM team—Carol Lynch, Sally Francis, Leontyne Goodwin, and Josh Mahler—deserve special recognition for their guidance and support in the development and implementation of the survey. Thanks to Mike Carver for preparing the figures used in this report. Bob Sowell was instrumental in proofing this final report, and deserves recognition for that. Nathan Bell deserves particular recognition for ensuring that the research design met the highest standards.

Finally, and most importantly, a special “thank you” goes to the PSM graduates who participated in this survey. Your input provided invaluable insight into the career outcomes of PSM graduates, and CGS appreciates the time you took to share your experiences and opinions.
INTRODUCTION

Created in 1997 with support from the Alfred P. Sloan Foundation, Professional Science Master’s (PSM) programs are a relatively recent innovation (Council of Graduate Schools, 2011; Kaplan, 2011; Teitelbaum & Lynch, 2010). The PSM degree is designed to allow students to pursue advanced training in science, while simultaneously 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 the development of professional skills such as writing, leadership, and communication, most PSM programs require an experiential component that must include a final project that is developed with an employer, often during the course of an internship.

As of August 2012 there were 291 PSM programs at 126 institutions of higher education (ScienceMasters, 2012). Recent estimates suggest that roughly 5,000 PSM degrees have been conferred since their inception (Kaplan, 2011). Despite their growth, however, PSM programs are still new and not yet fully understood (Borbye, 2008). The extent to which data can describe some of the attributes of PSM programs and the outcomes experienced by their graduates may be useful in ensuring their continued growth and success (Kaplan, 2011).

In December 2010, the Council of Graduate Schools (CGS) received a grant from the Alfred P. Sloan Foundation to capture initial hiring outcomes of PSM graduates and follow them for up to five years after graduation. The aim of the 2012 Professional Science Master’s (PSM) Student Outcomes Survey was to ascertain career placements and perceived satisfaction with the PSM degree. It is the second of three surveys that will be conducted by CGS.

Research Design

The design of the 2012 Professional Science Master’s (PSM) Student Outcomes Survey was based upon a review of more than 40 outcomes-related data collection efforts from more than 30 governmental agencies, non-profit organizations, and educational institutions. A draft version of the questionnaire was reviewed by numerous individuals affiliated with the PSM initiative, including members of the Board of Directors of the National Professional Science Master’s Association (NPSMA) and members of the Council of Graduate Schools PSM Advisory Board. The final questionnaire, which appears in the Appendix, includes 24 questions.

Eligible survey participants needed to have: (1) earned their degree from a Professional Science Master’s (PSM) program; and (2) earned their PSM degree during the 2010/11 academic year (between July 1, 2010 and June 30, 2011), or the 2011/12 academic year (between July 1, 2011 and June 30, 2012). The first three questions of the survey were designed to screen out ineligible respondents.

Data Collection

Many institutions interpret privacy protection laws in ways that disallow or discourage them from sharing student and/or graduate contact information with third parties, such as CGS. As result, PSM
program directors were asked to forward survey invitations and reminders to their graduates on behalf of CGS.

In April 2012, the CGS research team e-mailed a survey pre-notification to PSM program directors and graduate deans (or equivalent) who oversee PSM programs, alerting them to the fact that they would be formally asked to invite 2010/11 and 2011/12 graduates to participate in the survey later that summer. They were also encouraged to inform graduating students that they would be receiving a survey in the summer of 2012. The survey was launched on June 25, 2012. Program directors were provided an invitation text, which they were asked to e-mail directly to their 2010/11 and 2011/12 graduates. The invitation text included a link to the online survey. Two reminder texts were sent to program directors in July of 2012, prior to closing.

The survey generated 361 total responses, 310 of which were usable. The 51 unusable responses either did not meet the sampling frame criteria (i.e., either respondents did not earn a degree from a bona fide PSM program or they did not earn a PSM degree during the 2010/11 or 2011/12 academic years), or the response was blank. The 310 usable responses represent 81 PSM programs from 44 institutions of higher education. Of these, 183 respondents graduated in the 2011/12 academic year, and 127 graduated in the 2010/11 academic year.

Because the target population is difficult to reach (i.e., they are no longer students) and potentially difficult to motivate (i.e., they may not feel compelled to participate), the CGS research team incorporated a sweepstakes into the research design. Invitees were informed of the sweepstakes in the introductory and reminder e-mail texts. At the conclusion of the survey, respondents were offered the opportunity to win an Apple 16 GB iPad (grand prize) or one of three Amazon Kindle Fires (second prizes). Rules and regulations were posted online, and winners were required to complete an Affidavit and Release Form affirming their compliance to those rules and regulations.

**Data Analysis**

Data were reviewed, cleaned, and edited using a process outlined by Van den Broeck, Argeseanu, Eckels, 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 treated accordingly.

This report includes descriptive statistics regarding the status of respondents prior to enrolling in the PSM program, their experience in the PSM program, their current employment situation, and their perceived value of the PSM degree. This report also includes an examination of two parallel sets of questions. Responses to questions 6 and 20 were examined to evaluate the extent to which expectations established before the PSM program were met once the student completed their degree. Responses to questions 8 and 21 were used to evaluate differences between students’ satisfaction with and perceived value of the PSM degree.
Limitations

Since there were only 310 usable responses, most attempts at performing cross-tabulations yielded unreportable findings due to small cell sizes. This report also refrains from performing comparisons with a similar earlier effort conducted by the National Professional Science Master’s Association (2009). Whereas the NPSMA study surveyed all PSM graduates to date, the CGS study utilized a narrower sampling frame (i.e., 2010/11 and 2011/12 graduates from PSM programs). Moreover, the questionnaires used by CGS and the NPSMA differed significantly.

FINDINGS

A large percentage of PSM graduates responding to the 2012 Professional Science Master’s (PSM) Student Outcomes Survey earned their undergraduate degree within the past four years. As depicted in Figure 1, 7.1% of 2011/12 PSM graduates earned their undergraduate degree in 2011, and 23.6% earned their undergraduate degree in 2010. More than half (59.2%) of 2011/12 PSM graduates earned their undergraduate degree between 2008 and 2011. More than four out of five (82.2%) respondents earned their undergraduate degree between 2004 and 2011.

![Figure 1. Respondents by Years Since Undergraduate Degree, 2012](source: Council of Graduate Schools, 2012)

More than one-half (60.1%) of survey respondents enrolled in the fall of 2012 were enrolled in a program within the field of life sciences (see Figure 2). The next most common programs of study were mathematics and earth and environmental sciences, constituting 13.7% and 12.6% of enrollments respectively.
When asked to describe their situation immediately prior to enrolling in the PSM program, the majority (51.4%) of respondents reported that they were working, while smaller percentages reported that they were students (37.7%), not working but seeking work (7.7%), and not working and not seeking work (3.3%).

**Reasons for Enrolling**

Using a list of nine possible reasons for enrolling in a PSM program, respondents were asked to select up to three that best explained their motivations for enrolling. The most frequently cited reasons included: to acquire specific skills and knowledge (69.9%); to learn more about something in which they were particularly interested (57.9%); and to increase opportunities for promotion, advancement, and/or pay (50.3%). Two in five (39.3%) respondents enrolled to facilitate a job/career change, 24.6% enrolled because it was the best option at the time, and 21.3% enrolled as a stepping stone for more advanced education (e.g., Ph.D.). The least frequently cited reasons for enrolling included: meeting the requirements of a prospective employer (11.5%); other reasons (4.9%); and to meet the requirements of a current employer (2.2%).

A comparison of reasons for enrolling by employment status reveals some differences (see Figure 3). Among respondents who were working immediately prior to enrolling in the PSM program, the most frequently cited reasons for enrolling were: to learn more about something in which they were particularly interested (62.8%); to acquire specific skills and knowledge (61.7%); and to increase opportunities for promotion, advancement, and/or pay (56.4%). Two reasons for enrolling tended to be most prominent among respondents who were students immediately prior to enrolling in the PSM program: to acquire specific skills and knowledge (73.9%); and to learn more
about something in which they were particularly interested (53.6%). There were not enough responses from individuals who were not working but seeking work, or not working and not seeking work immediately prior to enrolling in the program, to report their reasons for enrolling.

![Figure 3. Reasons for Enrolling in PSM Programs by Status, 2012](image)

**Experience in PSM Programs**

Respondents were given a list of 15 topics which are often covered in PSM programs and were asked to select those which were covered in their specific program. As illustrated in Figure 4, the most commonly reported skills included technical and/or scientific (86.3%), research and development (69.4%), project management (59.0%), and ethics (57.9%). Other frequently cited topics covered in PSM programs include leadership (55.7%) and communications (50.8%). Among the least frequently cited topics covered by PSM programs, aside from other non-specified programs, were teaching and/or training (17.5%) and public policy (19.1%).
Survey respondents indicated high levels of satisfaction with all attributes of their PSM program (see Figure 5). Respondents were satisfied with three attributes in particular: 89.3% of respondents were either “very satisfied” or “generally satisfied” with the quality of internships and “real world” experiences; 86.0% were either “very satisfied” or “generally satisfied” with scientific and/or mathematical training; and 83.1% were either “very satisfied” or “generally satisfied” with the distinctive nature of the program.

Mean satisfaction ratings were calculated in order to compare respondents’ satisfaction between the various PSM program attributes. For each survey respondent, a numerical rating of 1 to 4 was assigned to each satisfaction item (1 for “very dissatisfied,” 2 for “somewhat dissatisfied,” 3 for “generally satisfied,” and 4 for “very satisfied”).
As shown in Table 1, the PSM program attributes with the highest mean satisfaction ratings were: internships and “real world” experiences (3.36); the quality of scientific and/or mathematical training (3.19); and the distinctive nature/reputation of the program (3.17). Mean satisfaction ratings were somewhat lower for: quality of non-scientific professional training (3.05); networking opportunities (3.04); and post-graduation employment prospects (2.98).

<table>
<thead>
<tr>
<th>PSM Program Attribute</th>
<th>Mean satisfaction rating (1=lowest, 4=highest)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Internship(s) and &quot;real world&quot; experiences</td>
<td>3.36</td>
</tr>
<tr>
<td>Quality of scientific and/or mathematical training</td>
<td>3.19</td>
</tr>
<tr>
<td>Distinctive nature/reputation of the program</td>
<td>3.17</td>
</tr>
<tr>
<td>Quality of non-scientific professional training</td>
<td>3.05</td>
</tr>
<tr>
<td>Networking opportunities</td>
<td>3.04</td>
</tr>
<tr>
<td>Post-graduation employment prospects</td>
<td>2.98</td>
</tr>
</tbody>
</table>

**Current Outcomes**

The majority of survey respondents (78.1%) reported that they were working during the week of June 18, 2012, while 5.6% reported that they were students, 15.7% were not working but seeking work, and 0.6% were not working and not seeking work during that same week. Among respondents who were working, 89.9% were working in a job that was closely or somewhat related to their field of study. Among respondents who were working in a job that was not related to their field of study, roughly one-half stated that there were no suitable jobs in the preferred field, or some other (but unspecified) reason.

Of those respondents who were working during the week of June 18, 2012, 19.4% were working in the same job they had before they began their PSM program, 41.8% were working in a different job than the one they had before they started their PSM program, and 38.8% were not working before they began their PSM program. Among respondents who were working in a new job during the week of June 18, 2012, 21.4% reported that they secured this job because of an internship affiliated with their PSM program.

Of all respondents who were working in the week of June 18, 2012, three-quarters (76.8%) were working in business and industry, 9.0% were working in government, 10.4% were working in academia, and 3.0% were working in non-profit organizations. Less than one percent of respondents were working in other fields, including research and healthcare.

**Salaries**

The majority (91.7%) of respondents working during the week of June 18, 2012 were employed full-time, and a minority (8.3%) were working part-time. Respondents indicating that they were employed full-time were given several salary ranges from which to indicate their base annual salary
for their principal job as of June 18, 2012. It is important to note that many factors that influence salary levels (e.g., prior work experience, years of work experience, field of bachelor’s degree, additional qualifications, geographic location, etc.) were not captured by this survey. Therefore, these salary findings should be interpreted and utilized with caution.

Nearly two-thirds (62.5%) of respondents who worked full-time during the week of June 18, 2012 reported earning more than $50,000 annually. The remaining 37.5% earned less than $50,000 per year. The largest single salary range (20.0%) was those who made between $60,000 and $69,999 on an annual basis. The distribution of salaries appears in Figure 6.

Value and Benefits of a PSM Degree

Respondents, regardless of their employment status as of June 18, 2012, were given a list of nine possible benefits of having earned a PSM and were asked to select up to three that resonated with them the most. As shown in Figure 7, the most commonly cited benefits were that they acquired specific skills and knowledge (80.3%), learned more about something of particular interest (50.8%), and increased opportunities for promotion, advancement, and pay (49.2%).
Respondents generally found value in all attributes of their PSM program (see Figure 8). Aspects of PSM programs that were deemed of highest value included: internship(s) and “real world” experiences, which 88.5% of respondents felt was either “very valuable” or “generally valuable;” the quality of scientific and mathematical training, which 85.8% of respondents felt was either “very valuable” or “generally valuable;” and quality of post-graduation employment opportunities, which 85.1% of respondents felt was either “very valuable” or “generally valuable.”

Mean value ratings were calculated to evaluate the overall value of various PSM program attributes, and to facilitate comparison with mean satisfaction ratings discussed earlier in this report. A numerical rating of 1 to 4 was assigned to each value item (1 for “not at all valuable,” 2 for “minimally valuable,” 3 for “generally valuable,” and 4 for “highly valuable”).
As shown in Table 2, mean value ratings ranged from a high of 3.41 to a low of 3.05. The attribute most highly valued by all respondents was internship(s) and “real world” experiences (3.41), followed by post-graduation employment prospects (3.22), and quality of scientific and/or mathematical training (3.21).

Table 2.
Mean Value Ratings of PSM Program Attributes, 2012

<table>
<thead>
<tr>
<th>PSM Program Attribute</th>
<th>Mean value rating (1=lowest, 4=highest)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Internship(s) and &quot;real world&quot; experiences</td>
<td>3.41</td>
</tr>
<tr>
<td>Post-graduation employment prospects</td>
<td>3.22</td>
</tr>
<tr>
<td>Quality of scientific and/or mathematical training</td>
<td>3.21</td>
</tr>
<tr>
<td>Networking opportunities</td>
<td>3.19</td>
</tr>
<tr>
<td>Quality of non-scientific professional training</td>
<td>3.13</td>
</tr>
<tr>
<td>Distinctive nature/reputation of the program</td>
<td>3.05</td>
</tr>
</tbody>
</table>

A comparison of mean value ratings and mean satisfaction ratings reveals that mean value ratings for the PSM program attributes were generally equal to or higher than the mean satisfaction ratings for these same attributes. In other words, respondents generally rated the value of these attributes of their master’s experience slightly higher than their satisfaction with these aspects of their master’s program (see Figure 9). Mean value ratings of two PSM program attributes in particular (employment prospects and networking) were higher than mean satisfaction ratings.

Respondents were given lists of nine reasons for enrolling in the PSM program and nine benefits to having earned their degree. In each case, respondents were asked to select up to three reasons or
benefits that most closely represented their opinion. The nine reasons and benefits were identical in order to facilitate comparisons. The most frequently cited reason for enrolling in the PSM program, and the most frequently cited benefit of earning a PSM degree was to acquire specific skills and knowledge, 69.9% and 80.3% respectively. The second most cited reason for enrolling in the PSM program was to learn more about something of particular interest (57.9%), which was also the second most frequently cited benefit of earning a degree (50.8%). Similarly, the third most cited reason for enrolling in the PSM program was to increase opportunities for promotion and pay (50.3%), which was also the third most frequently cited benefit of earning a degree (49.2%).

![Figure 10. Reasons for Enrolling and Benefits of Degree Comparison, 2012](source: Council of Graduate Schools, 2012)

**DIFFERENCES BETWEEN 2010/11 AND 2011/12 GRADUATES**

There were few differences between 2010/11 graduates and 2011/12 graduates responding to the 2012 Professional Science Master’s Student Outcomes Survey. Respondents who graduated in 2010/11 were more likely to be working than respondents who graduated in 2011/12, 90.3% and 78.1% respectively. Similarly, 3.2% of 2010/11 graduates were not working but seeking work, while 15.7% of 2011/12 graduates were in the same situation. This may be explained, in part, by the fact that the survey was fielded in June and July, only a short time after the 2011/12 class graduated with their PSM degrees, and perhaps before they became fully employed.

**Table 3. Status of 2010/11 and 2011/12 PSM Graduates, 2012**

<table>
<thead>
<tr>
<th>Status</th>
<th>2010/11</th>
<th>2011/12</th>
</tr>
</thead>
<tbody>
<tr>
<td>Working</td>
<td>90.3%</td>
<td>78.1%</td>
</tr>
<tr>
<td>Student</td>
<td>6.5%</td>
<td>5.6%</td>
</tr>
<tr>
<td>Not working but seeking work</td>
<td>3.2%</td>
<td>15.7%</td>
</tr>
<tr>
<td>Not working and not seeking work</td>
<td>0.0%</td>
<td>0.6%</td>
</tr>
</tbody>
</table>
As depicted in Figure 11, the majority of 2010/11 and 2011/12 graduates responding to the survey were employed by the private sector, 75.5% and 77.0% respectively. Considerably smaller percentages of graduates worked in academia, government, and the non-profit sector.

**Figure 11.** Employment of 2010/11 and 2011/12 Graduates by Sector, 2012

There were some differences between 2010/11 and 2011/12 graduates with respect to salary distribution. Nearly two-thirds (64.2%) of 2010/11 graduates earned more than $50,000 as of June 18, 2012, and more than one-half (58.0%) of 2011/12 graduates earned more than $50,000. Respondents who graduated in 2010/11 were also more likely to earn more than $90,000 than respondents who graduated in 2011/12. It is important to note that these comparisons, because they reflect only a small percentage of PSM graduates, cannot be used to ascertain the capacity of the labor market to pay more or less to one graduating class than another.

Source: Council of Graduate Schools, 2012
SUMMARY AND CONCLUSIONS

The 2012 Professional Science Master’s (PSM) Student Outcomes Survey generated 310 usable responses representing 81 PSM programs from 44 institutions of higher education. Of these, 183 respondents graduated in the 2011/12 academic year, and 127 graduated in the 2010/11 academic year. More than half (59.2%) of 2011/12 PSM graduates earned their undergraduate degree between 2008 and 2011. More than one-half (51.4%) of respondents reported that they were working prior to starting their program of study, and roughly one-third (37.7%) reported that they were students.

Respondents were generally satisfied with all aspects of their PSM program. Three attributes in particular were seen as being very satisfactory to 2011/12 graduates: 89.3% were either “very satisfied” or “generally satisfied” with the quality of internships and “real world” experiences; 86.0% were either “very satisfied” or “generally satisfied” with scientific and/or mathematical training; and 83.1% were either “very satisfied” or “generally satisfied” with the distinctive nature of the program.

The majority of 2011/12 graduates (78.1%) were working during the week of June 18, 2012. Among those, 89.9% were working in a job that was closely or somewhat related to their field of study. Among all respondents who were working in the week of June 18, 2012, three-quarters (76.8%) were working in business and industry, 9.0% were working in government, 10.4% were working in academia, and 3.0% were working in non-profit organizations. Less than one percent of respondents were working in other fields, including research and healthcare.
Nearly two-thirds (62.5%) of respondents who worked full-time during the week of June 18, 2012 reported earning more than $50,000 annually. The remaining 37.5% earn less than $50,000 per year. Aspects of PSM programs that were deemed of highest value included: internship(s) and “real world” experiences, which 88.5% of respondents felt was either “very valuable” or “generally valuable;” the quality of scientific and mathematical training, which 85.8% of respondents felt was either “very valuable” or “generally valuable;” and quality of post-graduation employment opportunities, which 85.1% of respondents felt was either “very valuable” or “generally valuable.”

There were few differences between 2010/11 graduates and 2011/12 graduates responding to the 2012 Professional Science Master’s Student Outcomes Survey. Respondents who graduated in 2010/11 were more likely to be working than respondents who graduated in 2011/12, 90.3% and 78.1% respectively.

The 2012 Professional Science Master’s (PSM) Student Outcomes Survey is the second survey in a series designed to understand more about the employment outcomes of PSM graduates. The survey will be fielded again in 2013, and build upon the knowledge gained in 2011 and 2012.
REFERENCES


APPENDIX

Survey Questionnaire

WELCOME

Welcome to the 2012 Professional Science Master’s Student Outcomes Survey.

This survey should take less than 10 minutes to complete, and will ask questions regarding your motivations for enrolling in your master’s program, satisfaction with the program, and your post-graduation status. All information that you provide will be treated as confidential. Your responses will be compiled with those from graduates from around the country, and reported only in ways that do not identify you personally. Your individual response will not be shared with your university or master’s program.

As our way of saying “thanks,” you can enter to win an Apple 16 GB third generation iPad (grand prize) or one of three Amazon Kindle Fires (second prizes). Sweepstakes rules and regulations can be found here [URL]. Completed surveys and online sweepstakes entries must be submitted by Tuesday, July 24, 2012, 11:59 p.m. Eastern Daylight Time. If you have any questions about the survey, please contact Jeff Allum at jallum@cgs.nche.edu or 202-461-3878.

Q1. Have you earned or are you about to earn a master’s degree?

[ANSWER REQUIRED]

Yes [GO TO Q2]
No [GO TO DISQUALIFICATION PAGE]

Q2. From which of the following academic institutions and master’s programs did you graduate?

[ANSWER REQUIRED]

[DROP DOWN MENU OF ALL INSTITUTIONS/PROGRAMS]
Air Force Institute of Technology (Combating Weapons of Mass Destruction)
American University (Applied Computing)
American University (Biotechnology)
etc...
etc...
etc...
Worcester Polytechnic (Industrial Mathematics)
None of these [GO TO DISQUALIFICATION PAGE]
Q3. Did you graduate between ...

July 1, 2011 and June 30, 2012 [GO TO Q4]
July 1, 2010 and June 30, 2011 [LONGITUDINAL COHORT GO TO Q9; ALL OTHERS GO TO Q4]
July 1, 2009 and June 30, 2010 [GO TO Q4]
July 1, 2008 and June 30, 2009 [GO TO Q4]
July 1, 2007 and June 30, 2008 [GO TO Q4]
None of these [GO TO DISQUALIFICATION PAGE]

[ANSWER REQUIRED]

Q4. In what year did you earn your undergraduate degree?

[DROP DOWN MENU 2011, 2010, 2009, 2008 ... 1980 or before]

REASONS FOR ENROLLING

Q5. Think back to the time period immediately before you enrolled in this master’s program. Which one of the following best describes your situation then?

I was working
I was both working and a student
I was a student
I was caring for family full-time
I was not working, but seeking work
Other (please specify) __________

Q6. What were the THREE main reasons why you chose to enroll in this master’s program?

[RANDOMIZE RESPONSE CATEGORIES]

[ALLOW NO MORE THAN 3 SELECTIONS]

To acquire specific skills and knowledge
To increase opportunities for promotion, advancement, and/or pay
To meet requirements of my current employer
To meet requirements of a prospective employer
To learn more about something in which I am particularly interested
It was the best option available at the time
To facilitate a job/career change
To use as a stepping stone for further education (e.g., Ph.D.)
Other (please specify) __________
SATISFACTION WITH THE MASTER’S PROGRAM

Q7. Which of the following topics were covered by your master’s program? (Select all that apply.)

[RANDOMIZE RESPONSE CATEGORIES]

General management
Project management
Ethics
Computer programming, analysis, design
Regulatory affairs
Leadership
Technical and/or scientific
Public policy
Marketing and/or sales
Patents, licensing, trademarks
Communications
Production and/or quality control
Research and development
Teaching and/or training
Other (please specify) __________

Q8. How satisfied are you with each of the following attributes of this master’s program?

<table>
<thead>
<tr>
<th>[RANDOMIZE RESPONSE CATEGORIES]</th>
<th>Very satisfied</th>
<th>Generally satisfied</th>
<th>Somewhat dissatisfied</th>
<th>Very dissatisfied</th>
<th>N/A</th>
</tr>
</thead>
<tbody>
<tr>
<td>The distinctive nature/reputation of the program</td>
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<tr>
<td>The quality of scientific and/or mathematical training</td>
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<tr>
<td>The quality of non-scientific professional training (e.g., business, law, communications, etc.)</td>
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<tr>
<td>Internship(s) and “real world” practical experiences</td>
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<tr>
<td>Networking opportunities</td>
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<tr>
<td>Post-graduation employment prospects</td>
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</tbody>
</table>
YOUR CURRENT SITUATION

Q9. Which one of the following best describes your current situation?

[ANSWER REQUIRED]

I am working [GO TO Q10]
I am both working and a student [GO/ TO Q10]
I am a student [GO TO Q11]
I am caring for family full-time [GO TO Q20]
I am not working, but seeking work [GO TO Q20]
Other (please specify) __________ [GO TO Q20]

Q10. (for workers) Is the work you are doing now closely related to your master’s degree?

[ANSWER REQUIRED]

Yes, it is closely related [GO TO Q13]
Yes, it is somewhat related [GO TO Q13]
No, it is not at all related [GO TO Q12]

Q11. (for students) Is your program of study closely related to your master’s degree?

[ANSWER REQUIRED]

Yes, it is closely related [GO TO Q20]
Yes, it is somewhat related [GO TO Q20]
No, it is not at all related [GO TO Q20]

Q12. Why are you working in this job, as opposed to a job more closely related to your master’s degree? (Select all that apply.)

[RANDOMIZE RESPONSE CATEGORIES]

This job is more interesting
This job is more local/convenient
This job is more secure
This job pays more
This job offers better opportunities for advancement
This job is more suitable to my skills and interests
There are no suitable jobs in my preferred field
I prefer a job not related to my master’s degree
Other (please specify) __________
Q13. Is your current job the same job you had when you began your master’s degree?

[ANSWER REQUIRED]

Yes [GO TO Q15]
No [GO TO Q14]
I was not working immediately prior to starting my master’s degree [GO TO Q15]

Q14. (for respondents with a new job) Did you get this job because of an internship affiliated with your master’s program?

Yes
No

EMPLOYMENT INFORMATION

Q15. Which one of the following best describes the SECTOR of your principal employer during the week of June 18, 2012? (By principal employer, we mean the one employer that constitutes the majority of your time. If you have more than one employer, consider the employer who compensates you the most as your principal employer.)

[RANDOMIZE RESPONSE CATEGORIES]

Business/industry (including self-employed)
Start-up business/enterprise
Government
Academia
Non-profit
Other (please specify) _____

Q16. What was the title of the principal job you held during the week of June 18, 2012?

[ESSAY]

Q17. Is your employment full-time or part-time?

Full-time (35 or more paid hours per week)
Part-time (less than 35 paid hours per week)
Q18. What primary work activities do you perform at your principal employer? (Select all that apply.)

[RANDOMIZE RESPONSE CATEGORIES]

- General management
- Project management
- Ethics
- Computer programming, analysis, design
- Regulatory affairs
- Leadership
- Technical and/or scientific
- Public policy
- Marketing and/or sales
- Patents, licensing, trademarks
- Communications
- Production and/or quality control
- Research and development
- Teaching and/or training
- Other (please specify) __________

Q19. What was your base ANNUAL salary for your principal job as of June 18, 2012? (Exclude bonuses, overtime, benefits, or secondary compensation.)

- $29,999 or less
- $30,000 to $39,999
- $40,000 to $49,999
- $50,000 to $59,999
- $60,000 to $69,999
- $70,000 to $79,999
- $80,000 to $89,999
- $90,000 to $99,999
- $100,000 to $109,999
- $110,000 to $119,999
- $120,000 or more
VALUE OF YOUR MASTER’S DEGREE

Q20. What are the THREE main benefits of having earned a Professional Science Master’s degree?

[RANDOMIZE RESPONSE CATEGORIES]

[ALLOW NO MORE THAN 3 SELECTIONS]

I have acquired new skills and knowledge
It increased opportunities for promotion, advancement, and/or pay
It helped me meet the requirements of my current employer
It will help me meet the requirements of a prospective employer
I learned more about something in which I am particularly interested
It was the best available option at the time
It helped me to facilitate a job/career change
It will be a stepping stone for further education (e.g., Ph.D.)
Other (please specify) __________

Q21. Rate the following six attributes of your master’s experience in terms of how valuable they are to you NOW.

<table>
<thead>
<tr>
<th>[RANDOMIZE RESPONSE CATEGORIES]</th>
<th>Highly valuable</th>
<th>Generally valuable</th>
<th>Minimally valuable</th>
<th>Not at all valuable</th>
<th>N/A</th>
</tr>
</thead>
<tbody>
<tr>
<td>The distinction of having earned a Professional Science Master’s (PSM) degree</td>
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<tr>
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</tbody>
</table>
**2013 SURVEY**

Q22. The Council of Graduate Schools would like to conduct this survey again in 2013 to understand changes over time among Professional Science Master’s (PSM) graduates. Would you be willing to participate in the 2013 survey? By agreeing, you are not obligated to participate; you will simply be invited (although your participation would be greatly appreciated.)

[ANSWER REQUIRED]

Yes [GO TO Q23]
No [GO TO Q24]

Q23. *(if yes)* Please provide your name and permanent e-mail address below to be invited to the 2013 PSM Student Outcomes Survey.

Name ________ [ESSAY] [GO TO Q24]
E-mail ________ [ESSAY] [GO TO Q24]
Re-enter e-mail ________ [ESSAY] [GO TO Q24]

**SWEEPSTAKES**

Q24. As our way of saying “thank you” for your participation, the Council of Graduate Schools would like to offer you the chance to win an Apple 16 GB third generation iPad (the grand prize) or one of three Amazon Kindle Fires.

To enter the sweepstakes, copy this [URL], paste it in your browser, and follow the instructions. By going to a different web site, we can assure that your sweepstakes entry will not be connected to the responses that you provided in this survey.

If you have questions about this sweepstakes, please contact Jeff Allum at research@cgs.nche.edu or 202-461-3878.

**DISQUALIFICATION PAGE [FOR NON-ELIGIBLE INVITEES, SCREENED BY Q1, Q2, AND Q3]**

We are only seeking survey responses from individuals who graduated with selected Professional Science Master’s degree at selected institutions from selected years. Thank you anyway for agreeing to participate.

**THANK YOU! [FOR ALL SURVEY RESPONDENTS WHO WERE NOT DISQUALIFIED]**

Thank you for participating in this survey. A summary report of the findings will be available at www.cgsnet.org and http://www.sciencemasters.com later this summer.
SWEEPSTAKES ENTRY FORM [LOCATED AT URL]

As our way of saying “thank you” for your participation, the Council of Graduate Schools would like to offer you the chance to win an Apple 16 GB third generation iPad (the grand prize) or one of three Amazon Kindle Fires (second prizes).

A. Would you like to enter this sweepstakes?

Yes [GO TO QB]
No [GO TO THANK YOU]

[RESPONSE REQUIRED: ERROR MESSAGE: A response to this question is required in order to be eligible for this sweepstakes.]

B. To enter the sweepstakes, provide your name and e-mail address in the spaces provided below. This information will be used solely for the purpose of the sweepstakes and will not be shared with the research team for any other purpose. Rules and regulations can be found here [URL].

Name ________ [ESSAY] [GO TO THANK YOU]
E-mail ________ [ESSAY] [GO TO THANK YOU]
Re-enter e-mail ________ [ESSAY] [GO TO THANK YOU]

THANK YOU

Thank you for entering the sweepstakes. The sweepstakes drawing will be held on July 31, 2012, and winners will be notified that day.

**** END OF QUESTIONNAIRE ****