Employment of Mathematical Sciences Majors

The bulk of the responses to the following questions are based on the National Science Foundation’s report *National Survey of Recent College Graduates, 2010*. This report was published in September 2012. Links to this report and to prior and related reports can be found at:

http://ncsesdata.nsf.gov/recentgrads/

Central Questions

1. What types of jobs do people typically get with an undergraduate degree in the mathematical sciences?

   Summary: The following table lists the primary work activities reported by the 24,000 employed mathematical sciences undergraduate degree recipients and the 8,000 masters degree recipients surveyed, together with the percentage listing each activity. “S” indicates values suppressed due to a high coefficient of variation and “*” denotes a value smaller than 500.

   Undergraduate degree recipients

<table>
<thead>
<tr>
<th>Primary work activity</th>
<th>n</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Research and development</td>
<td>4000</td>
<td>17</td>
</tr>
<tr>
<td>Computer applications</td>
<td>S</td>
<td>S</td>
</tr>
<tr>
<td>Management, sales, administration</td>
<td>7000</td>
<td>29</td>
</tr>
<tr>
<td>Teaching</td>
<td>8000</td>
<td>33</td>
</tr>
<tr>
<td>Other</td>
<td>4000</td>
<td>17</td>
</tr>
</tbody>
</table>

   Masters degree recipients

<table>
<thead>
<tr>
<th>Primary work activity</th>
<th>n</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Research and development</td>
<td>3000</td>
<td>36</td>
</tr>
<tr>
<td>Computer applications</td>
<td>1000</td>
<td>13</td>
</tr>
<tr>
<td>Management, sales, administration</td>
<td>*</td>
<td>*</td>
</tr>
<tr>
<td>Teaching</td>
<td>3000</td>
<td>36</td>
</tr>
<tr>
<td>Other</td>
<td>*</td>
<td>*</td>
</tr>
</tbody>
</table>

   Source: Tables 31 and 32 in *National Survey of Recent College Graduates, 2010*.

2. What mathematical skills are associated with these jobs?

   Several jobs are listed below with typical mathematical degree requirements.

   Additional job description information (including general training requirements) is available in the Bureau of Labor Statistics Occupation Outlook Handbook (https://www.bls.gov/ooh/). Direct links to BLS job descriptions are included below.

   Actuary: Bachelor’s degree


   BLS job description: https://www.bls.gov/ooh/math/actuaries.htm
Mathematician: Masters degree in mathematics
BLS job description: https://www.bls.gov/ooh/math/mathematicians.htm
Operations research analyst: Bachelor’s degree
BLS job description: https://www.bls.gov/ooh/math/operations-research-analysts.htm
Statistician: Bachelor’s degree
BLS job description: https://www.bls.gov/ooh/math/statisticians.htm

Related Questions

3. Who employs recent mathematical sciences graduates?

Summary: Approximately 46% of graduates were employed by education institutions, 46% were employed by private industry and business, and 8% were employed by government agencies.
Source: Table 33 in National Survey of Recent College Graduates, 2010.

4. How do employment levels for mathematical sciences majors compare to those for science and engineering students in general?

Summary: Restricting attention to those undergraduate degree recipients who were in the labor force (and excluding those who were not seeking employment because of graduate school enrollment or other causes), 87% of mathematical sciences graduates were employed and 13% were unemployed. For science and engineering graduates overall, 89% were employed and 11% were unemployed.
Source: Table 1-1 in National Survey of Recent College Graduates, 2010.

Summary: Restricting attention to those recent masters degree recipients who were in the labor force (and excluding those who were not seeking employment because of further graduate school enrollment or other causes), 86% were employed and 14% were unemployed. For science and engineering masters graduates overall, 93% were employed and 7% were unemployed.
Source: Table 2-1 in National Survey of Recent College Graduates, 2010.

Note: This data is from 2010, a very difficult time for recent graduates. According to the AP, at times during this period 53.6% of bachelor’s degree recipients under the age of 25 were jobless or underemployed.

5. What proportion of mathematical sciences majors attend graduate school?

Summary: Of the recent mathematical sciences undergraduate degree recipients interviewed in the report, 23% were enrolled as full time students. Of recent masters recipients, 30% were enrolled as full time students.
Source: Tables 1-1 and 2-1 in National Survey of Recent College Graduates, 2010.