



# Physics Masters One Year After Degree

Results from the Follow-Up Survey of Master's Recipients, Classes of 2012, 2013, & 2014 Combined

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Exiting physics master's recipients from the classes of 2012, 2013, and 2014 combined pursued a variety of different post-degree outcomes. Initial outcomes differed greatly depending on citizenship. The majority of US citizens were in the workforce following the receipt of their master's degrees. In contrast, the majority of non-US citizens continued their education by enrolling in another graduate program. Regardless of citizenship, most masters continuing with graduate study did so in physics.

## REPORTS ON PHYSICS MASTERS

Physics Masters One Year  
after Degree (December  
2015)

Graduate Physics Degrees  
(April 2015)

Trends in Exiting Physics  
Masters (March 2015)

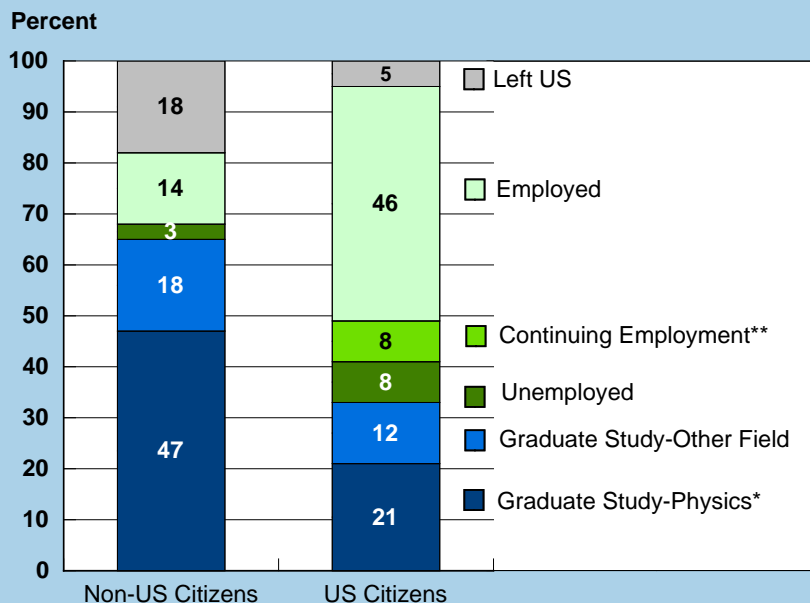
*The majority of US  
citizens entered or  
remained in the  
workforce upon  
receiving their exiting  
master's degrees.*

## THE 2012, 2013, & 2014 FOLLOW-UP SURVEYS OF PHYSICS MASTERS

Physics master's recipients were contacted in the winter following the academic year in which they received their degrees.

Figure 1

Status of Exiting Physics Masters by Citizenship One Year After Degree, Classes of 2012, 2013, & 2014 Combined.



Exiting masters are individuals who, upon receiving their master's degrees, leave their current physics departments. This figure is based on the responses of 210 non-US citizens and 536 US citizens.

\*Graduate study-physics: enrolled at a different institution than where master's degree was obtained.

\*\*Continuing employment: individuals who were employed with the same employer for more than a year prior to earning their master's degrees.

<http://www.aip.org/statistics>

In this report, an exiting master is defined as an individual who received his or her degree from a US physics department and left that department with no degree higher than a master's degree. Exiting masters can be earned at departments where the master's is the highest degree offered as well as at departments that offer a PhD. Each year there are many students who earn a masters en route and continue working toward a physics PhD at the same institution. They are not included in this analysis.

Physics departments in the US averaged 790 exiting physics master's degrees a year in the classes of 2012, 2013, and 2014. These new exiting physics masters were asked about their current status in the winter following the academic year in which they received their degrees. This *focus on* summarizes the findings from those three different follow-up surveys.

The post-degree situations of physics masters vary by citizenship. Almost a fifth of the non-US citizens left the country after receiving their degrees. US citizens were much more likely to enter the workforce than their non-US citizen counterparts. Eight percent of exiting masters who were US citizens continued working in positions they held for over a year before receiving their degrees (**Figure 1**).

About two-thirds of non-US citizens who received their master's degrees in the US continued with studies at the graduate level, with the majority continuing in physics at a different university. Similar to the non-US citizens, the majority of US-citizens continuing with graduate studies did so in physics (**Figure 1**). A variety of other fields of graduate study were pursued by exiting masters, with engineering being the most common.

There are two military academies that have unique graduate physics programs: Naval Postgraduate School (Monterey, CA) and the Air Force Institute of Technology (Wright-Patterson AFB, OH). These two departments have very specialized master's programs that traditionally award a large number of degrees. They were responsible for conferring 6% of all exiting physics master's degrees in the classes of 2012, 2013, and 2014. The degree recipients from those programs typically stay in one of the branches of the armed services and by the nature of their positions are hard to reach with our follow-up survey. The post-degree outcome data for these individuals are not included in the tables and figures of this report.

Exiting masters from the classes of 2012, 2013 and 2014 had a median age of 27 and an average age of 28.8. Masters continuing with graduate school or entering the workforce had a similar median age of about 26.5. Those continuing in jobs they held prior to receiving their master's degrees had a significantly higher median age of 31.4. The combined exiting physics master's classes of 2012, 2013 and 2014 included 24% women and 31% non-US citizens (**Table 1**).

For an in-depth look at the demographics and degree production trends of exiting physics master's degrees conferred at US institutions, see the report [Trends in Exiting Physics Masters](#).<sup>(1)</sup>

### Table 1

#### Demographic Profile of Exiting Physics Masters Classes of 2012, 2013, & 2014 Combined.

Gender	Male	76%
	Female	24%
Citizenship	US	69%
	Non-US	31%
Age	Median	27
	Mean	28.8

Exiting masters are individuals who, upon receiving their master's degrees, leave their current physics departments.

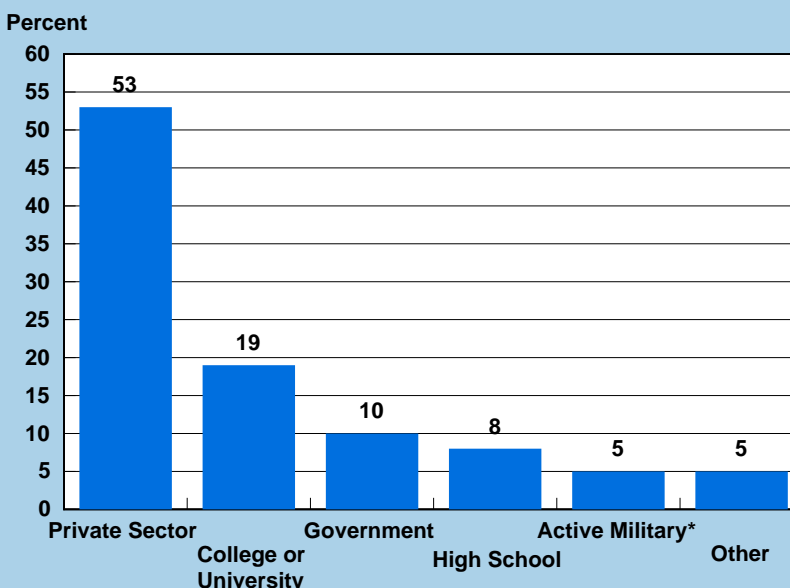
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***About one-quarter of exiting masters were 30 or more years of age at the time of their degrees.***

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(1) Mulvey, Patrick and Nicholson, Starr. *focus on Trends in Exiting Physics Masters*. March 2014. AIP, College Park, MD.

**Figure 2****Employer Distribution of Exiting Physics Masters One Year After Degree, Classes of 2012, 2013, & 2014 Combined.**

*Almost a fifth of employed physics masters were continuing in positions they held prior to receiving their degrees.*

Exiting masters are individuals who, upon receiving their master's degrees, leave their current physics departments.

Figure includes US employed physics masters, including those who were employed part-time and not enrolled in a degree program and masters continuing in positions they held while pursuing their degrees. Other includes elementary and middle schools, health care facilities, and non-profit organizations. Figure based on responses from 323 individuals.

\*Active military excludes masters receiving their degrees from military academies.

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Continuing a long-standing trend, the majority of new exiting masters were employed in the private sector. Almost a fifth were working at a college or university, and a tenth were employed by the government (**Figure 2**).

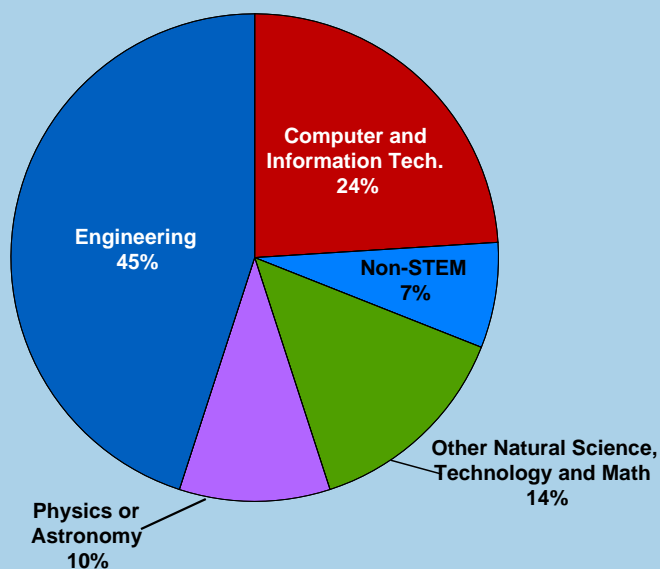
Almost a fifth (18%) of employed exiting physics masters were continuing a position they held for over a year prior to receiving their degree. High school teachers were the most likely to continue employment, with about half indicating that they were doing so.

A vast majority of employed exiting physics masters were employed in full-time positions. Masters employed at colleges and universities were the exception, with over a quarter holding part-time positions. For more information on employment sectors, please see [page 9](#) of this report.

Over 90% of exiting physics masters employed in the private sector were employed in STEM (science, technology, engineering and math) fields. The most common STEM field was engineering, comprising 45% of the physics masters employed in the private sector. Almost a quarter (24%) of employed physics masters worked in the field of computer and information technology. A relatively small but not insignificant proportion (10%) of the masters employed in the private sector indicated they were working in the field of physics (**Figure 3**).

**Figure 3**

**Field of Employment of Exiting Physics Masters Working in the Private Sector One Year After Degree, Classes of 2012, 2013, & 2014 Combined.**



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*Over 2/3 of exiting physics masters employed in the private sector work in the fields of engineering or computer and information technology.*

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Exiting masters are individuals who, upon receiving their master's degrees, leave their current physics departments.

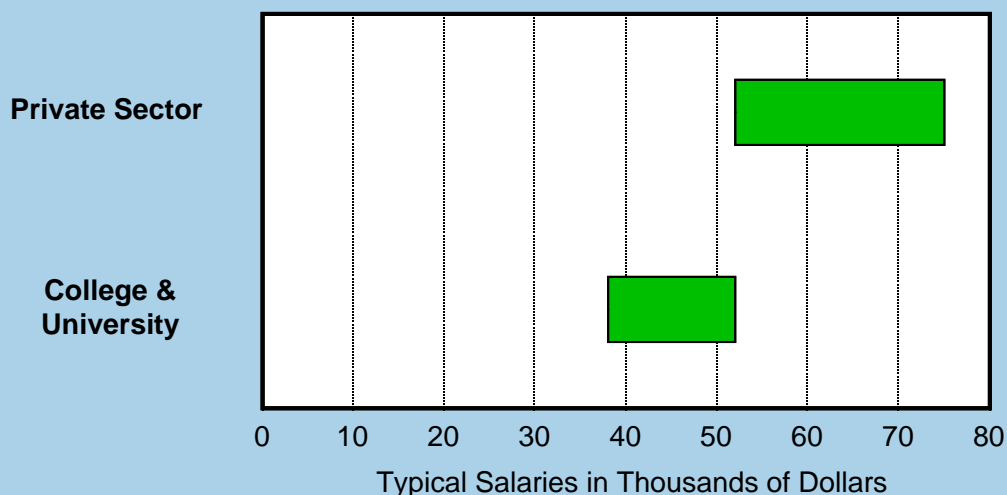
Figure includes US employed physics masters, including those who were employed part-time and masters continuing in positions they held while pursuing their degrees. Figure is based on responses of 164 individuals.

STEM refers to science, technology, engineering and math.

<http://www.aip.org/statistics>

**Figure 4**

**Typical Starting Salaries of Exiting Physics Masters  
One Year after Degree,  
Classes 2012, 2013, & 2014 Combined.**




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*The median starting salary for exiting physics masters working in the private sector was \$65,000.*

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Exiting masters are individuals who, upon receiving their master's degrees, leave their current physics departments.

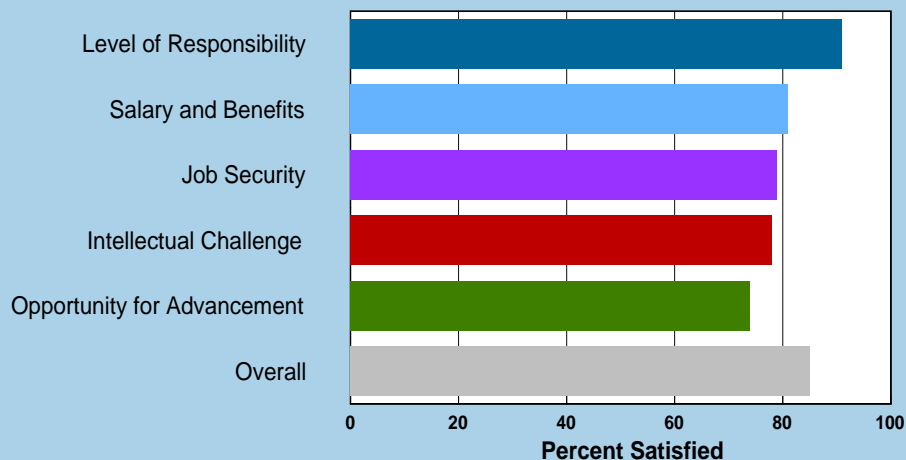
The graphic represents the middle 50% of reported salaries, i.e., between the 25th and 75th percentiles. Figure does not include salaries for masters holding part-time positions or salaries for respondents who reported starting their employment more than a year prior to earning their master's degree. The College & University category includes two-year colleges, four-year colleges, universities, and university affiliated research institutes. Data are based on 71 private sector salaries and 19 college and university salaries.

<http://www.aip.org/statistics>

Exiting physics masters working in the private sector had a significantly higher starting salary range than those employed in colleges and universities. The median starting salary for masters in the private sector was \$65,000, while for colleges and universities the median was \$41,000 (Figure 4).

Figure 5

**Job Satisfaction of Exiting Physics Masters in Private Sector Positions, Classes of 2012, 2013 & 2014 Combined.**



Exiting masters are individuals who, upon receiving their master's degrees, leave their current physics departments.

Percentages represent the physics masters who chose "very satisfied" or "somewhat satisfied" on a four-point scale that also included "somewhat dissatisfied" and "very dissatisfied". Figure is based on the responses of 86 individuals.

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*Overall satisfaction for private sector employed masters was generally high.*

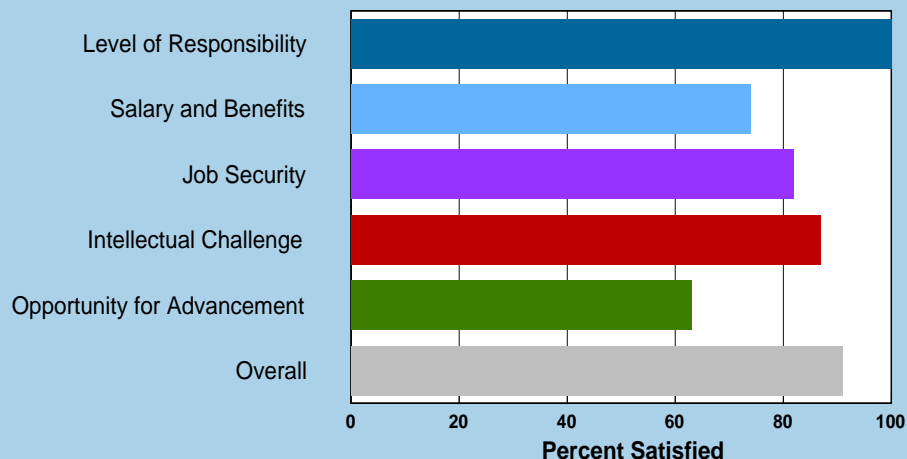
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Across all measures, exiting physics masters employed in the private sector reported high levels of satisfaction with their employment. Level of responsibility received the highest rating, with 91% of the masters indicating being satisfied.

When asked about the most rewarding aspects of their work, respondents frequently cited autonomy and creative freedom as positives. Many also indicated that feeling challenged at work was important to them. Some were more practical, indicating that simply getting paid was the most rewarding aspect of their position (**Figure 5**).

**Figure 6**

**Job Satisfaction of Exiting Physics Masters in Colleges & Universities, Classes of 2012, 2013 & 2014 Combined.**



Exiting masters are individuals who, upon receiving their master’s degrees, leave their current physics departments.

Percentages represent the physics masters who chose “very satisfied” or “somewhat satisfied” on a four-point scale that also included “somewhat dissatisfied” and “very dissatisfied”. Figure is based on the responses of 23 individuals.

<http://www.aip.org/statistics>

*All exiting physics master’s respondents employed at a college or university were satisfied with their level of responsibility.*

Every exiting master who responded to our survey and were employed at a college or university reported that they were satisfied with the ‘level of responsibility’ associated with their position. Although satisfaction levels varied a little by category, the vast majority (91%) reported that overall they were satisfied with their positions. Many of those working at a college or university in a position that involved teaching cited seeing their students grow and develop as a rewarding aspect of their employment (**Figure 6**).



## **Employment Sector Profiles for Exiting Physics Masters Combined Classes of 2012, 2013, & 2014**

### Private Sector

The private sector employed the largest proportion--over half--of new exiting physics masters. These positions were at a variety of different types of companies, ranging from multibillion dollar corporations to smaller startups. The vast majority (over 90%) of these jobs were in STEM fields, with many of their job titles including terms such as “engineer” and “technician”.

### College/University/UARI

About a fifth of the employed exiting physics masters were employed at two- or four-year colleges, universities, or at university affiliated research institutes (UARI). A quarter of masters employed at colleges or universities indicated they were employed part-time and were most commonly at two-year colleges.

Specific job titles varied depending on the employer. Two-year college jobs were typically adjunct faculty positions. Four-year college employees were often instructors, lecturers and research assistants. Masters at university affiliated research institutes tended to have titles such as research assistant and scientist.

### Civilian Government

The civilian government employed about a tenth of the exiting physics masters. Employers included national labs as well as civilian government organizations such as the US Patent Office. The majority of exiting physics masters employed in civilian government worked in either physics or in engineering. Common job titles included terms such as “engineer” and “scientist”.

### High School

Half of exiting physics masters employed at high schools were continuing at positions that they held for over a year prior to receiving their degrees. In many states a master’s degree is mandatory for high school teachers to maintain their certification. The most commonly taught subject among this group was physics, although there were also a number of respondents who indicated that they were teaching mathematics.

### Active Military

Exiting physics masters in the active military come from two sources. The primary source is master’s recipients that attended one of two military academies with graduate physics programs: Naval Postgraduate School (Monterrey, CA) and the Air Force Institute of Technology (Wright-Patterson AFB, OH). The other source is typically active military personnel who attended a non-military university to obtain a physics master’s degree. Physics masters who are military personnel have specialized degrees and enter into or continue with a variety of highly technical positions within the armed services.

## Survey Methodology

Each fall, the Statistical Research Center conducts the Survey of Enrollments and Degrees. This survey asks physics and astronomy departments to provide information on the number of students enrolled and the number of recent degree recipients conferred the previous academic year. This survey also asks for the names and contact information of recent degree recipients. This degree recipient information is used to conduct our master's follow-up survey in the winter following the academic year in which they received their degrees.

Recent master's degree recipients can be very difficult to reach because they tend to move after receiving their degrees and frequently do not keep in contact with their master's-granting departments. To assist us in determining degree recipient outcomes and to help obtain updated contact information, we contact the advisors of non-responding degree recipients.

Because of the relatively small number of individuals receiving physics masters each year and the difficulty in obtaining accurate contact information, we are reporting on three years of survey responses combined. The physics master's classes of 2012, 2013, and 2014 consisted of 801, 801 and 870 degree recipients, respectively, who left their departments. We received post-degree information on 32% of these degree recipients, with about half of the information coming directly from the degree recipients.

We thank the many physics degree recipients and faculty advisors who made this publication possible.

## e-Updates

You can sign up to receive e-mail alerts which notify you when we post a new report. Visit [http://www.aip.org/statistics/e\\_updates](http://www.aip.org/statistics/e_updates) to register. You can indicate your area(s) of interest; we will send you an e-Update only when we post a new report that includes data of interest to you. If you sign up for every possible notification, you should receive no more than 20 messages in a year.



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## Career Resources

The American Institute of Physics has a Career Resources page that centralizes an array of career-related information for members of the physical science community (<http://www.aip.org/career-resources>). Content includes career advice, the latest science and engineering job opportunities, employment statistics, fellowship information, and science education and career path recommendations.