







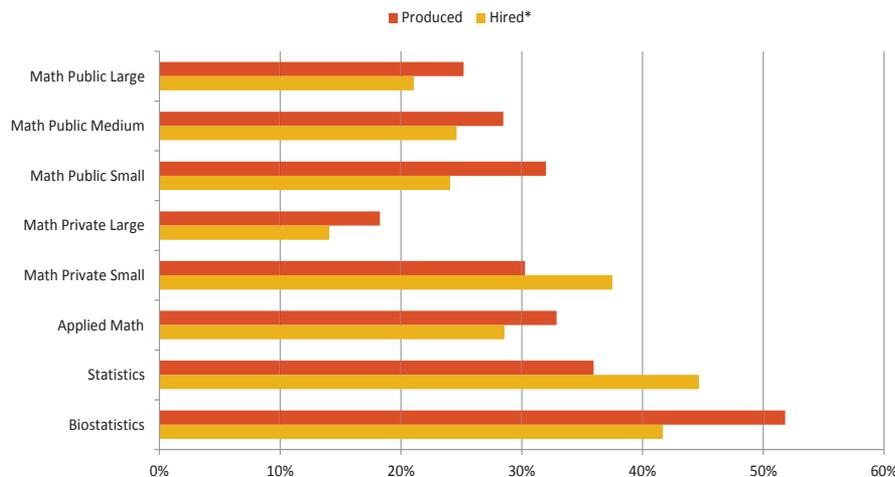




## Female New Doctoral Recipients

After increasing last year to 32%, the proportion of female new doctoral recipients decreased to 31% this year. Of the 864 new PhDs hired into academic positions, 31% (268) were women, down from 32% last year. Twenty-five percent of those hired into postdoc positions were women, with 45% of the women in postdocs being US citizens, up from 43% last year. The US unemployment rate for females is 5.0%, compared to 6.6% for males and 6.1% overall.

**Figure F.1: Females as a Percentage of New Doctoral Recipients Produced by and Hired by Department Grouping**



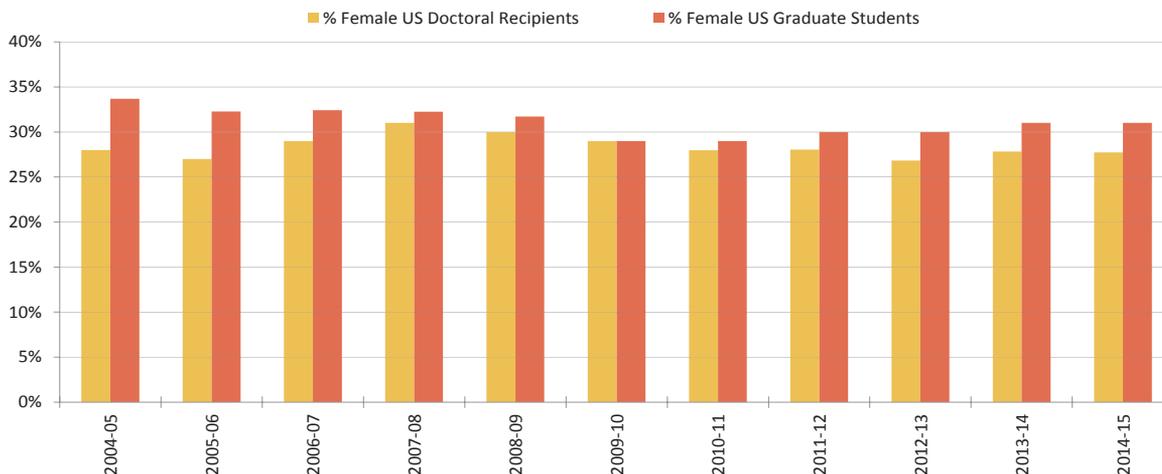
\* Females as a percentage of total hires by the department grouping.

**Table F.1: Number of Female New Doctoral Recipients Produced by and Hired by Department Groupings**

Department Grouping	Females Produced	Females Hired
Math Public Large	105	24
Math Public Medium	86	16
Math Public Small	64	13
Math Private Large	40	9
Math Private Small	23	9
Applied Math	49	8
Statistics	124	21
Biostatistics	100	15
<b>Total</b>	<b>591</b>	<b>115</b>

- 42% of those hired by the Bachelor’s Group were women (down from 44% last year) and 26% of those hired by the Master’s Group were women (down from 34% last year).
- 26% of those hired into Research Institutes/Other non-profit positions were women (down from 33% last year).
- 42% of those hired into Government positions were women (up from 34% last year).
- 63% of the women employed in all doctoral groups are in postdoc positions, compared to 75% of males employed in these groups.

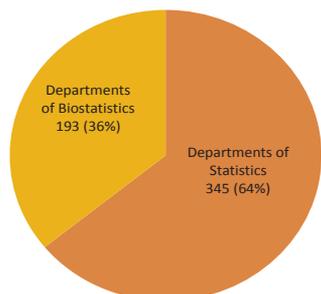
**Figure F.2: Females as a Percentage of US Citizen Doctoral Recipients**



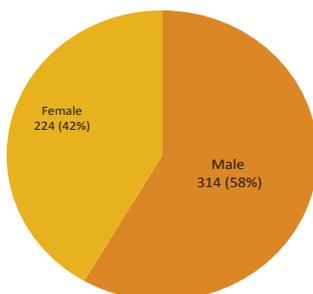
## PhDs Awarded by Statistics and Biostatistics Departments

This section contains information about new doctoral recipients in 58 statistics and 47 biostatistics departments. Statistics and biostatistics departments produced 538 new doctorates, of which all had dissertations in statistics/biostatistics. This is a 4% increase in the number reported for fall 2014, which was 519. In addition, Math Public, Math Private and Applied Math departments combined had 113 PhD recipients with dissertations in statistics. 36% (191) of the new PhDs awarded by statistics and biostatistics departments are US citizens (while in the other groups combined, 51% are US citizens). The US unemployment among this group of new PhDs is 3.1%, up from 2.5%.

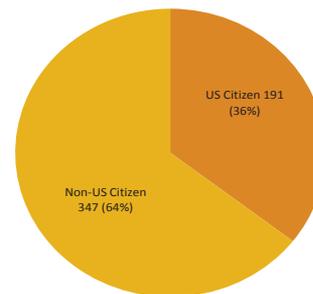
**Figure S.1: PhDs Awarded by Statistics/Biostatistics Departments**



**Figure S.2: Gender of PhD Recipients from Statistics/Biostatistics Departments**

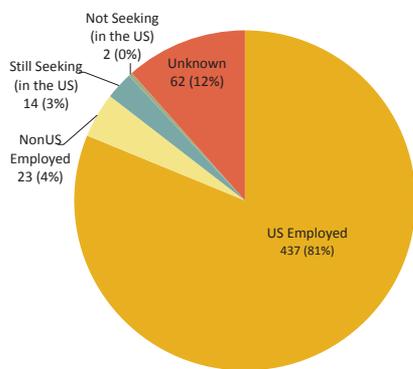


**Figure S.3: Citizenship of PhD Recipients from Statistics/Biostatistics Departments**



- 28% of all mathematical sciences PhDs awarded were in statistics/biostatistics.
- Females account for 36% of statistics and 52% of biostatistics PhDs awarded.
- Females accounted for 42% of the 538 PhDs in Statistics and Biostatistics, compared to Doctoral Math, where 27% are female.
- 37% of Statistics/Biostatistics US citizen PhD recipients are females, while in Doctoral Math 25% of the US citizens are females.

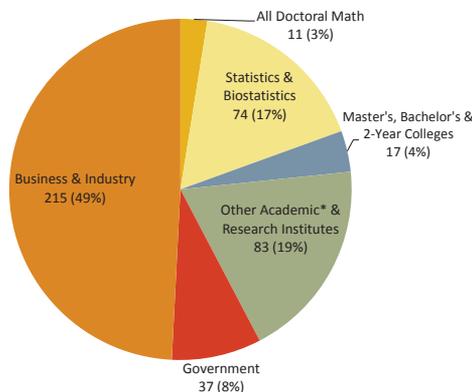
**Figure S.4: Employment Status of PhD Recipients from Statistics/Biostatistics Departments**



**Total PhDs Awarded: 538**

- 3.1% of Statistics/Biostatistics PhDs are unemployed compared to 7.3% among Doctoral Math. This is up from 2.5% in 2013-14.
- Unemployment among new PhDs with dissertations in statistics/biostatistics is 3.4%, up from 2.6%. Among all other dissertation groupings, 6.2% are unemployed.

**Figure S.5: US-Employed PhD Recipients from Statistics/Biostatistics Departments by Type of Employer**



\*Other Academic consists of departments outside the mathematical sciences including numerous medical-related units.

**Total US Employed: 437**

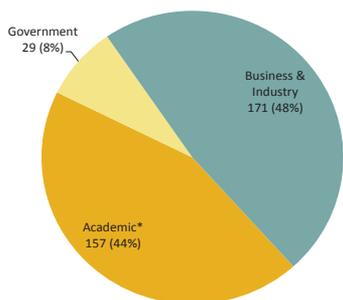
- 49% of Statistics/Biostatistics PhDs are employed in Business/Industry, compared to 29% in Math.
- 43% of those hired by Statistics and Biostatistics were females, compared to 23% in Math.

**Information from the Employment Experiences of New Doctorates (EENDR) Survey**

This section contains additional information on employment gathered from a subset of the 2014-15 new PhDs on the EENDR Survey. It expands on the details of employment which are not available through the departments.

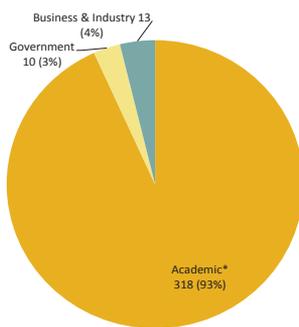
The EENDR survey was sent to the 1,686 new PhDs for which departments provided current contact information by early October of 2015. Of these individuals, 823 (49%) responded. The employment status is known for 817 of these individuals; the US unemployment among this group is 2.4%. Of the 793 who reported being employed, 29% indicated they were actively looking for new employment.

**Figure EE.1: EENDR Respondents Reporting Permanent US Employment by Sector**



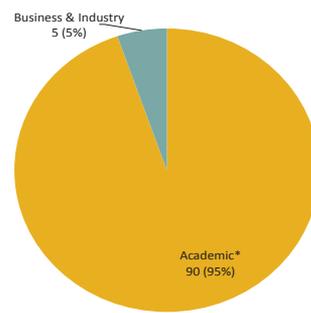
\* Includes research institutes and other non-profits.

**Figure EE.2: EENDR Respondents Reporting Temporary US Employment by Sector**



\* Includes research institutes and other non-profits.

**Figure EE.3: EENDR Respondents Employed Outside the US by Sector**



\* Includes research institutes and other non-profits.

Of the 357 permanently employed:

- 35% are women.
- 58% of those reporting academic employment hold tenured/tenure-track positions (down from 71% last year).

Of the 341 temporarily employed:

- 30% are women.
- 47% were unable to find a suitable permanent position (up from 43% last year).
- 76% are employed in postdocs and 40% of these reported they could not find a suitable permanent position.

Of the 95 employed outside the US:

- 26% are women.
- 34% are US citizens.
- 76% are employed in postdocs.

**Table EE.1: Number and Percentage of EENDR Respondents Employed in the US by Job Status**

Year	Perm		Temp		Temporary		Temporary Postdocs				#(%) Unknown
	Total	%	Total	%	Perm Not Avail	% of Temp Total	Total	% of Temp Total	Perm Not Avail	% of Temp Postdocs	
Fall 2011	251	44%	319	56%	133	42%	225	71%	87	39%	0
Fall 2012	261	44%	328	56%	127	39%	242	74%	108	45%	0
Fall 2013	374	53%	335	47%	173	52%	247	74%	106	43%	0
Fall 2014	363	51%	343	49%	148	43%	260	76%	88	34%	0
Fall 2015	357	51%	341	49%	160	47%	258	76%	102	40%	0

A comparison of the employment status of EENDR respondents employed in the US over the last five years, reveals that:

- 51% of those employed for fall 2015 are in permanent positions. While this is lower than the proportion reported for fall 2013, it is higher than the low of 44%.
- The proportion of those in temporary positions is the same as last year (51%), but lower than the five-year high of 56%.
- 47% of those holding temporary positions were unable to find suitable permanent positions. While this is up from last year, it is lower than the five-year high of 52%.
- 40% of those holding postdoc positions were unable to find suitable permanent positions. This figure is up six percentage points from 2013-14 five-year low of 34%.

## Information from the Employment Experiences of New Doctorates (EENDR) Survey

**Table EE.2: Percentage of EENDR Respondents Employed in the US by Employment Sector within Job Status**

Year	Permanent			Temporary		
	Acad	Govn	B/I	Acad	Govn	B/I
Fall 2011	61%	8%	31%	94%	5%	1%
Fall 2012	61%	8%	32%	92%	5%	2%
Fall 2013	53%	7%	40%	92%	4%	4%
Fall 2014	54%	6%	40%	92%	5%	3%
Fall 2015	44%	8%	48%	93%	3%	4%

Looking at Table EE.2, we see that

- Permanent employment in the academic sector continues a downward trend, dropping to a five-year low of 44%, whereas employment in business/industry continues to climb jumping to 48%.
- Temporary employment has increased slightly in both the academic and business/industry sectors, while decreasing in government.

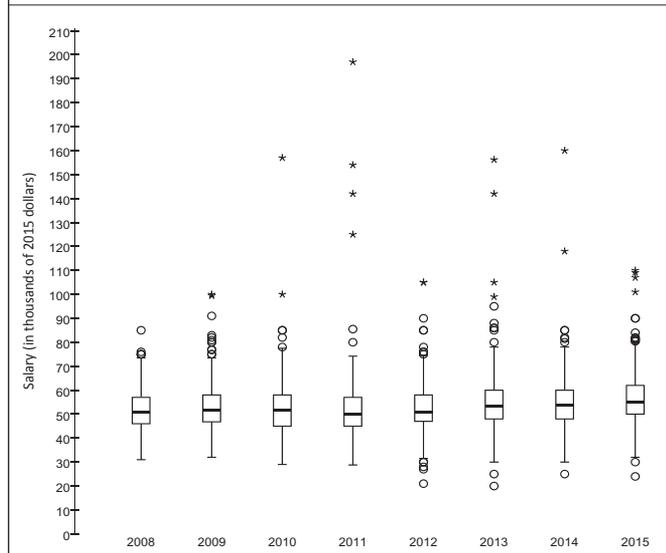
## Starting Salaries of the 2014–2015 Doctoral Recipients

The starting salary figures were compiled from information gathered on the EENDR questionnaires sent to 1,686 individuals using addresses provided by the departments granting the degrees; 823 individuals responded between late October and April. Responses with insufficient data or from individuals who indicated they had part-time or non-US employment were excluded. Numbers of usable responses for each salary category are reported in the following tables.

Readers should be warned that the data in this report are obtained from a self-selected sample, and inferences from them may not be representative of the full population. Detailed information, including boxplots which traditionally appeared in this report, is available on the AMS website at [www.ams.org/annual-survey/survey-reports](http://www.ams.org/annual-survey/survey-reports).

### Academic Teaching/Teaching and Research 9–10-Month Starting Salaries\* (in thousands of dollars)

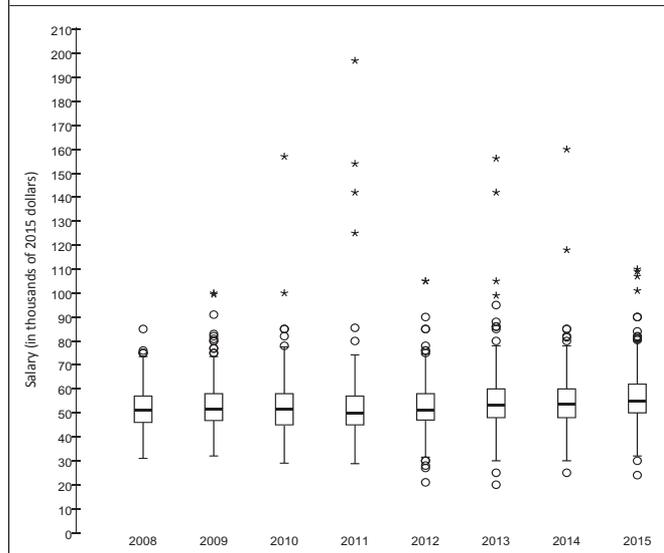
PhD Year	Min	Q <sub>1</sub>	Median	Q <sub>3</sub>	Max
Total (167 male/80 female)					
2015 M	24.0	50.0	54.0	60.0	101.0
2015 F	32.0	50.0	57.0	65.5	110.0
One year or less experience (147 male/76 female)					
2015 M	24.0	50.0	54.2	61.0	101.0
2015 F	32.0	50.3	57.5	65.5	110.0



\* Includes postdoctoral salaries.

### Academic Postdoctorates Only\* 9–10-Month Starting Salaries (in thousands of dollars)

PhD Year	Min	Q <sub>1</sub>	Median	Q <sub>3</sub>	Max
Total (72 male/26 female)					
2015 M	33.6	50.0	57.0	60.3	84.0
2015 F	40.0	54.0	61.0	69.6	80.0
One year or less experience (68 male/26 female)					
2015 M	33.6	50.0	57.0	61.1	84.0
2015 F	40.0	54.0	61.0	69.6	80.0

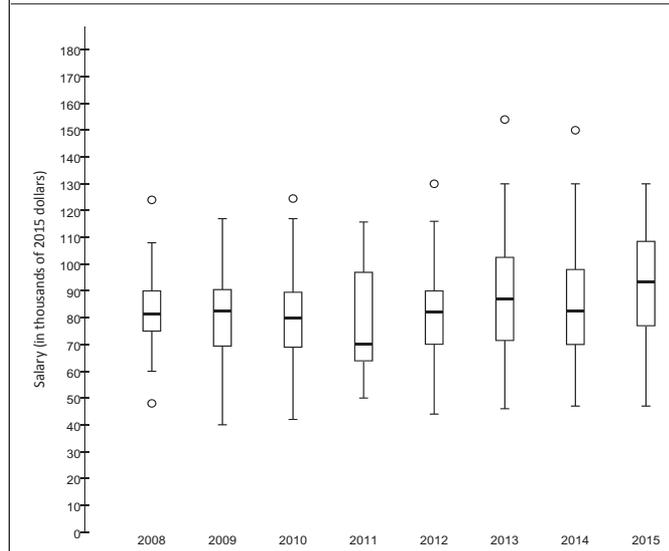


\* A postdoctoral appointment is a temporary position primarily intended to provide an opportunity to extend graduate training or to further research experience.

## Starting Salaries of the 2014–2015 Doctoral Recipients

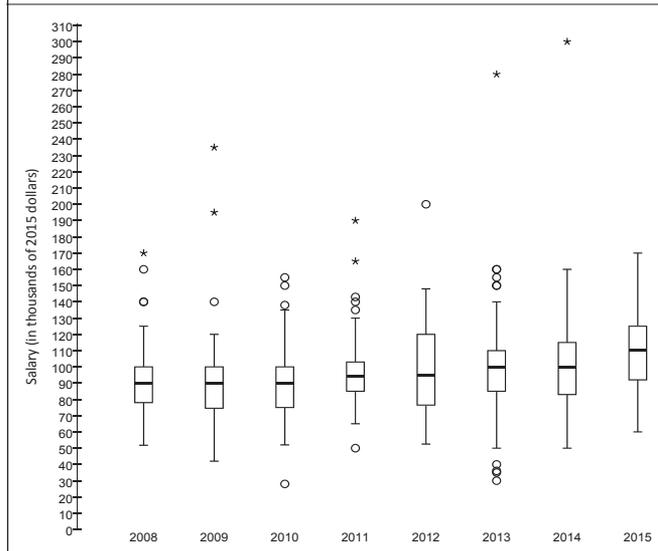
### Government 11–12-Month Starting Salaries (in thousands of dollars)

PhD Year	Min	Q <sub>1</sub>	Median	Q <sub>3</sub>	Max
Total (25 male/11 female)					
2015 M	47.0	80.8	94.3	110.0	116.0
2015 F	58.6	61.7	89.0	93.8	130.0
One year or less experience (23 male/4 female)					
2015 M	47.0	82.4	94.3	110.0	115.0
2015 F	58.6	62.2	69.2	80.4	96.5



### Business and Industry 11–12-Month Starting Salaries (in thousands of dollars)

PhD Year	Min	Q <sub>1</sub>	Median	Q <sub>3</sub>	Max
Total (116 male/58 female)					
2015 M	60.0	94.8	111.0	125.0	160.0
2015 F	60.0	87.5	106.0	120.0	170.0
One year or less experience (98 male/43 female)					
2015 M	60.0	92.5	105.5	125.0	160.0
2015 F	65.0	87.0	105.0	117.5	145.0



## Remarks on Starting Salaries

**Key to Tables and Graphs.** Salaries are those reported for the fall immediately following the survey cycle. Years listed denote the survey cycle in which the doctorate was received—for example, survey cycle July 1, 2014–June 30, 2015 is designated as 2015. Salaries reported as 9–10 months exclude stipends for summer grants or summer teaching or the equivalent. M and F are male and female, respectively. Male and female figures are not provided when the number of salaries available for analysis in a particular category was five or fewer. All categories of “Teaching/Teaching and Research” and “Research Only” contain those recipients employed at academic institutions only.

**Graphs.** The graphs show standard boxplots summarizing salary distribution information for the years 2008 through 2015. Values plotted for 2008 through 2015 are converted to 2015 dollars using the implicit price deflator prepared annually by the Bureau of Economic Analysis, US Department of Commerce. These categories are based on work activities reported in EENDR. Salaries of postdoctorates are shown separately.

They are also included in other academic categories with matching work activities.

For each boxplot the box shows the first quartile (Q<sub>1</sub>), the median (M), and the third quartile (Q<sub>3</sub>). The interquartile range (IQR) is defined as Q<sub>3</sub>–Q<sub>1</sub>. Think of constructing invisible fences: 1.5 IQR below Q<sub>1</sub> represents the lower fence and 1.5 IQR above Q<sub>3</sub> represents the upper fence. Whiskers are drawn from Q<sub>3</sub> to the largest observation that falls below the upper invisible fence and from Q<sub>1</sub> to the smallest observation that falls above the lower invisible fence. Think of constructing two more invisible fences, each falling 1.5 IQR above or below the existing invisible fences. Any observation that falls between the fences on each end of the boxplots is called an outlier and is plotted as  $\circ$  in the boxplots. Any observation that falls outside of both fences either above or below the box in the boxplot is called an extreme outlier and is marked as  $*$  in the boxplot.

## Remarks on US Unemployment Rate Calculations

In the unemployment calculations provided in this report, the individuals employed outside the US have been removed from the denominator used in the calculation of the rate, in addition to the routine removal of all individuals whose employment status is unknown. This is a change from Annual Survey Reports prior to 2009. As a consequence, the unemployment rate now being reported more accurately reflects the US labor market experienced by the new doctoral recipients. This change tends to increase the rate of unemployment over that reported in prior years.

Another small change from prior years is that, those individuals reported as not seeking employment have also been removed from the denominator. The number of individuals so designated is small each year, and the impact of this change is to produce a slight increase in the rate over that reported in prior years.

The unemployment rates for years prior to 2009 shown in this report have been recalculated using this method. One can view a comparison of the unemployment rates using the earlier method and the current method by visiting the AMS website at [www.ams.org/annual-survey/surveyreports.html](http://www.ams.org/annual-survey/surveyreports.html).

## Departmental Groupings and Response Rates

Starting with reports on the 2012 AMS-ASA-IMS-MAA-SIAM Annual Survey of the Mathematical Sciences, the Joint Data Committee has implemented a new method for grouping the doctorate-granting mathematics departments. These departments are first grouped into those at public institutions and those at private institutions. These groups are further subdivided based on the size of their doctoral program as reflected in the average annual number of PhDs awarded between 2000 and 2010, based on their reports to the Annual Survey during this period. Furthermore, doctorate-granting

departments which self-classify their PhD program as being in applied mathematics will join with the other applied mathematics departments previously in Group Va to form their own group. The former Group IV will be divided into two groups, one for departments in statistics and one for departments in biostatistics.

For further details on the change in the doctoral department groupings, see the article in the October 2012 issue of *Notices of the AMS* at [www.ams.org/notices/201209/rtx120901262p.pdf](http://www.ams.org/notices/201209/rtx120901262p.pdf).

## Department Grouping Response Rates

**Doctorates Granted  
Departmental Response Rates by Grouping**

<b>Math Public Large</b>	26 of 26 including	0 with no degrees
<b>Math Public Medium</b>	40 of 40 including	0 with no degrees
<b>Math Public Small</b>	62 of 64 including	7 with no degrees
<b>Math Private Large</b>	24 of 24 including	0 with no degrees
<b>Math Private Small</b>	29 of 29 including	4 with no degrees
<b>Applied Math</b>	30 of 30 including	1 with no degrees
<b>Statistics</b>	58 of 58 including	5 with no degrees
<b>Biostatistics</b>	44 of 47 including	9 with no degrees
<b>Total</b>	312 of 318 including	26 with no degrees

As of press time for this issue of *Notices*, the following departments had not responded to the survey. Therefore, any PhDs which may have been awarded by these departments are not included in this report.

### Mathematics Departments

University of Oklahoma  
Utah State University

### Biostatistics Departments

University of Cincinnati, Medical College  
University of Illinois at Chicago  
University of Louisville  
University of South Carolina

## Department Groupings

In this report, *Mathematical Sciences* departments are those in four-year institutions in the US that refer to themselves with a name that incorporates (with a few exceptions) “Mathematics” or “Statistics” in some form. For instance, the term includes, but is not limited to, departments of “Mathematics,” “Mathematical Sciences,” “Mathematics and Statistics,” “Mathematics and Computer Science,” “Applied Mathematics,” “Statistics,” and “Biostatistics.” Also, *Mathematics (Math)* refers to departments that (with exceptions) have “mathematics” in the name; *Statistics* refers to departments that incorporate (again, with exceptions) “statistics” in the name but do not use “mathematics.” The streamlining of language here militates against the possible objection to foreshortening the full subject names.

Starting with reports on the 2012 AMS-ASA-IMS-MAA-SIAM Annual Survey of the Mathematical Sciences, the Joint Data Committee implemented a new method for grouping doctorate-granting Mathematics departments. These departments are first grouped into those at public institutions and those at private institutions. These groups are further subdivided based on the size of their doctoral program as reflected in the average annual number of PhDs awarded between 2000 and 2010, based on their reports to the Annual Survey during that period.

For further details on the change in the doctoral department groupings, see the article in the October 2012 issue of *Notices of the AMS* at [www.ams.org/journals/notices/201209/rtx120901262p.pdf](http://www.ams.org/journals/notices/201209/rtx120901262p.pdf).

**Math Public Large** consists of departments with the highest annual rate of production of PhDs, ranging between 7.0 and 24.2 per year.

**Math Public Medium** consists of departments with an annual rate of production of PhDs, ranging between 3.9 and 6.9 per year.

**Math Public Small** consists of departments with an annual rate of production of PhDs of 3.8 or less per year.

**Math Private Large** consists of departments with an annual rate of production of PhDs, ranging between 3.9 and 19.8 per year.

**Math Private Small** consists of departments with an annual rate of production of PhDs of 3.8 or less per year.

**Applied Mathematics** consists of doctoral-degree-granting applied mathematics departments.

**Statistics** consists of doctoral-degree-granting statistics departments.

**Biostatistics** consists of doctoral-degree-granting biostatistics departments.

**Masters** contains US departments granting a Master’s degree as the highest graduate degree.

**Bachelors** contains US departments granting a Baccalaureate degree only.

**Doctoral Math** contains all US math public, math private, and applied math mathematics departments granting a PhD as the highest graduate degree.

**Mathematics** contains all US math public, math private, and applied math, Master’s, and Bachelor’s groups above.

Listings of the actual departments that compose these groups are available on the AMS website at [www.ams.org/annual-survey/groups](http://www.ams.org/annual-survey/groups).