

Size of Undergraduate Physics Programs

Data from the AIP Enrollments and Degrees and Academic Workforce Surveys

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Each year, many undergraduate physics programs are required to undergo a departmental review and, in some cases, to justify their continued degree-granting status.

This *focus on* is intended to assist those departments by presenting data that will permit individual departments to see where they fit on the national landscape of physics bachelor's degree production. This publication provides data on the size of physics departments in terms of both the number of physics bachelors they award and the number of physics faculty members they have. The size of undergraduate physics programs varies dramatically by the highest physics degree they offer. Thus, the data in this *focus on* are presented separately for departments whose highest degree is a physics bachelor's, master's, or PhD.

Table 1

Physics departments offering a physics bachelor's degree in the 2007-08 academic year.

	Highest physics degree offered			Total
	Bachelor's	Master's	PhD	
Number of Departments	511	62	180	753
Number of faculty (FTE)	2,900	800	5,400	9,100
Number of bachelor's degrees	2,468	370	2,929	5,767

More than two-thirds of the physics departments with an undergraduate program award a bachelor's as their highest degree.

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

Table 2**Number of physics departments by size of bachelor's class
Bachelor's is highest degree offered**

Average number of bachelor's over 3 years*	Number of Departments	Cumulative %
0**	25	5
1	71	19
2	79	35
3	59	46
4	66	59
5	49	69
6	41	77
7	31	83
8	21	87
9	8	89
10	11	91
11	10	93
12	9	95
13+	26	100
Total number of departments	506	
*Classes of 2006, 2007 and 2008.		
**Includes 16 departments that conferred one bachelor's degree during the 3 year period.		
Note: Table includes the 506 departments that offered a bachelor's as their highest physics degree in each of the last 3 years.		

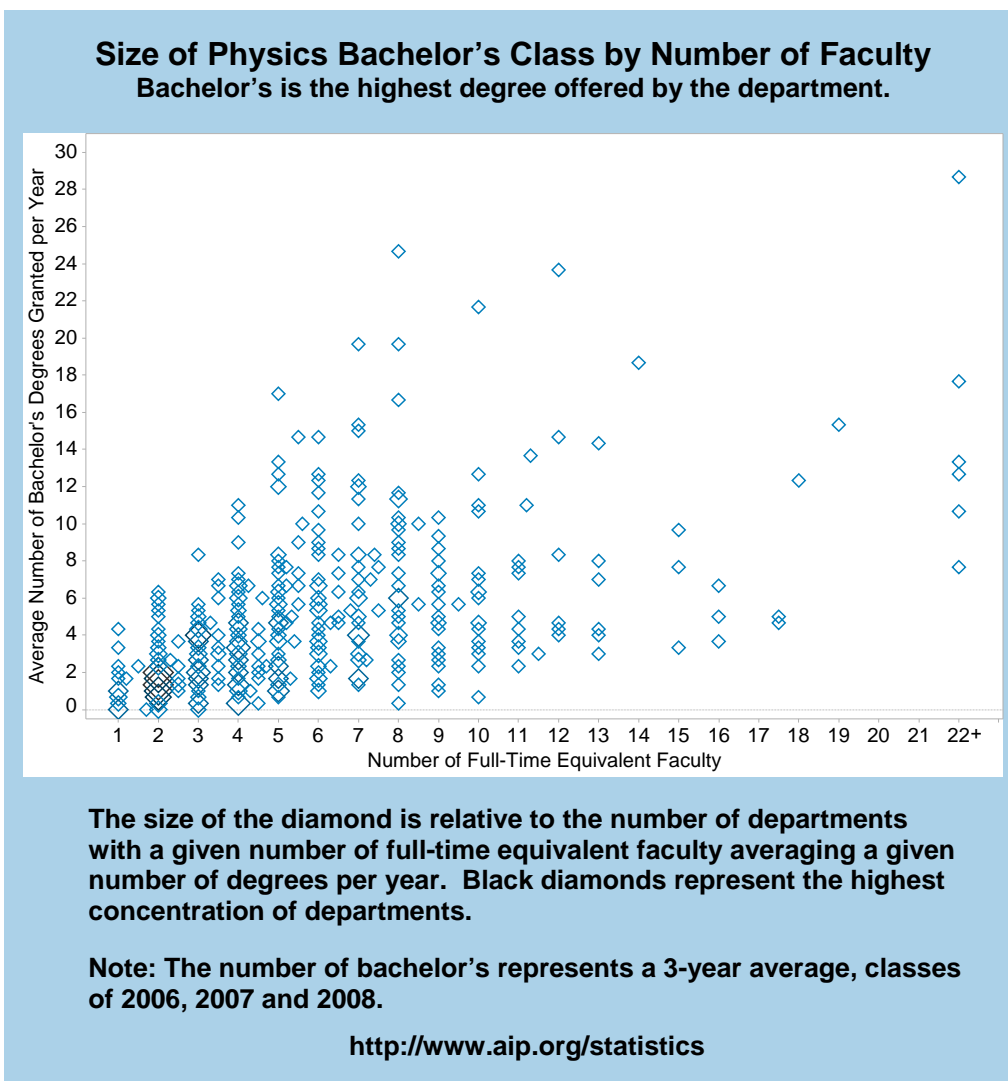
Nearly 70% of physics departments that award a bachelor's as their highest degree average 5 or fewer degrees per year.

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Departments that award a bachelor's as their highest physics degree are comparatively small. However, there are more than 500 of these departments across the country and they combine to produce about 2,400 or 42% of the 5,700 physics bachelor's degrees awarded annually in recent years.

The number of bachelor's degrees awarded is related to the number of physics faculty. Figures 1, 2 and 3 are designed to allow faculty members to compare their degree production with those bachelor's-granting physics departments that have a similar number of faculty members.

Figure 1



Physics departments that award a bachelor's as their highest physics degree are comparatively small, two-thirds of these departments have 6 or fewer faculty.

Table 3

**Number of physics departments by size of bachelor's class
Master's is highest degree offered**

Average number of bachelor's over 3 years*	Number of Departments	Cumulative %
0 or 1	4	6
2	6	16
3	8	29
4	11	47
5	8	60
6	5	68
7	6	77
8	2	81
9	3	85
10	2	89
11	2	92
12	1	93
13+	4	100
Total number of departments	62	
*Classes of 2006, 2007 and 2008.		
Note: Table includes the 62 departments that offered a master's as their highest physics degree in each of the last 3 years.		

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

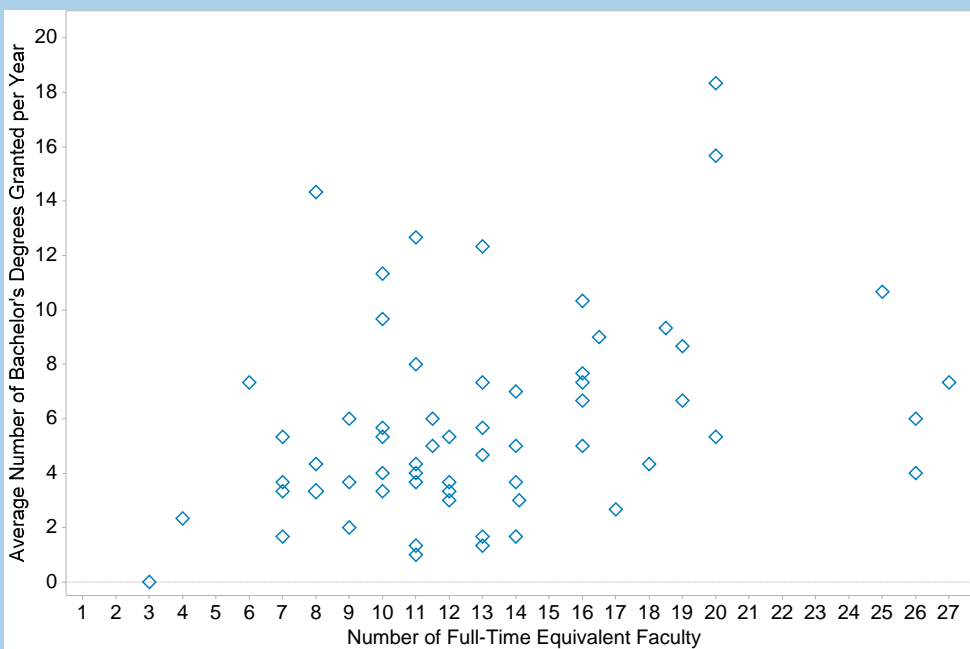
Departments that award a master's as their highest degree typically award between 3 and 7 physics bachelor's degrees per year.

Departments that award a master's as their highest degree are uncommon in physics, making up only 8% of the 753 departments with undergraduate physics programs. However, master's-granting departments often fill an important niche.

The 62 physics departments that award a master's as their highest degree conferred 350 or 6% of the 5,700 physics bachelors awarded annually in recent years. Master's-granting departments have about 800 physics faculty members which represent about 9% of all physics faculty.

Figure 2

Size of Physics Bachelor's Class by Number of Faculty
 Master's is the highest degree offered by the department.



Physics departments that award a master's as their highest degree typically have between 10 and 16 faculty.

The size of the diamond is relative to the number of departments with a given number of full-time equivalent faculty averaging a given number of degrees per year.

Note: The number of bachelor's represents a 3-year average, classes of 2006, 2007 and 2008.

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

Table 4

**Number of physics departments by size of bachelor's class
Doctorate is highest degree offered**

Average number of bachelor's over 3 years*	Number of Departments	Cumulative %
1 or 2	6	3
3	6	7
4	14	14
5	12	21
6	12	28
7	11	34
8	9	39
9	6	42
10	6	45
11	11	51
12	7	55
13	6	59
14	6	62
15	4	64
16	7	68
17	5	71
18	5	73
19	1	74
20	2	75
21	3	77
22	3	78
23	2	80
24	1	80
25	1	81
26	1	81
27	1	82
28	2	83
29	1	83
30	3	85
31	0	85
32	5	88
33	1	88
34	2	90
35	2	91
36+	17	100

PhD-granting physics departments tend to have large undergraduate programs and typically award between 6 and 20 physics bachelor's per year.

Total number of departments 181

*Classes of 2006, 2007 and 2008.

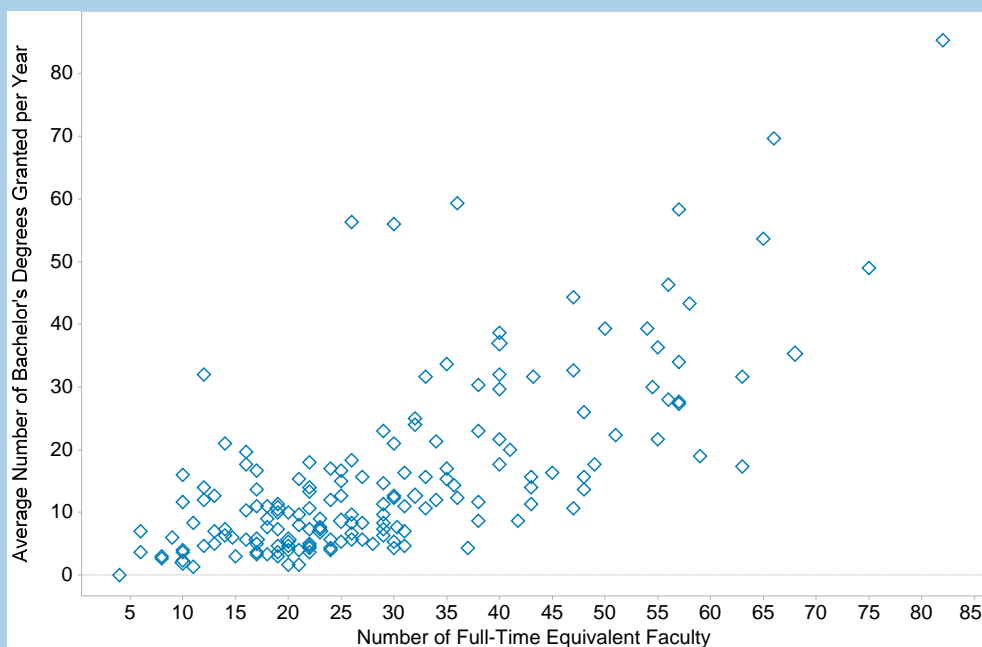
Note: Table includes the 181 departments that offered the doctorate as their highest physics degree in each of the last 3 years.

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

PhD-granting departments tend to be larger than physics departments that award either a bachelor's or master's as their highest degree. Although PhD-granting departments comprise just one-quarter of all physics departments, they employ about 5,400 of the 9,100 (about 60%) faculty members who work in physics degree-granting departments. The 180 PhD-granting departments that have physics undergraduate programs contribute about 2,900 or 52% of the bachelor's conferred annually in recent years.

Figure 3

Size of Physics Bachelor's Class by Number of Faculty
 Doctorate is the highest degree offered by the department.



The size of the diamond is relative to the number of departments with a given number of full-time equivalent faculty averaging a given number of degrees per year.

Note: The number of bachelor's represents a 3-year average, classes of 2006, 2007 and 2008.

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PhD-granting physics departments come in a wide variety of sizes with some having fewer than 10 faculty members and some having more than 60.

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