

TABLE 64

## Statistical profile of doctorate recipients in engineering fields, by sex and field of study: 2017

(Number, percent, and median years)

Characteristic	All engineering fields	Aerospace, aeronautical, and astronautical engineering	Bioengineering and biomedical engineering	Chemical engineering	Civil engineering	Electrical, electronics, and communications engineering	Industrial and manufacturing engineering	Materials science engineering	Mechanical engineering	Other engineering
All doctorate recipients (number) <sup>a</sup>	9,843	378	1,041	936	741	1,900	253	958	1,409	2,227
Sex (%)										
Male	75.1	88.4	58.8	70.8	70.2	81.1	66.8	73.7	82.9	75.3
Female	24.9	11.6	41.2	29.1	29.6	18.9	32.8	26.3	17.1	24.7
Unknown	0.1	0.0	0.0	0.1	0.3	0.0	0.4	0.0	0.0	0.1
Citizenship (%)										
U.S. citizen or permanent resident	44.1	63.5	67.2	50.3	32.8	30.8	34.0	50.4	42.0	42.1
Temporary visa holder	51.5	32.3	29.1	45.8	59.9	64.7	63.6	45.2	53.2	53.8
Unknown	4.4	4.2	3.7	3.8	7.3	4.4	2.4	4.4	4.8	4.1
Marital status (%)										
Never married	39.3	39.9	44.7	47.5	35.8	37.5	34.8	42.4	38.3	35.7
Married	41.3	41.5	34.4	33.7	45.5	45.2	50.6	35.1	41.7	44.2
Marriage-like relationship	6.2	6.3	9.4	8.2	4.0	4.1	2.4	8.8	5.3	6.4
Separated, divorced, widowed	1.5	D	1.4	0.6	1.3	1.7	D	1.7	1.4	1.8
Unknown	11.7	D	10.1	9.9	13.4	11.5	D	12.1	13.3	11.9
Bachelor's in same field as doctorate (%) <sup>b</sup>	76.9	85.7	72.8	84.4	78.7	82.7	72.7	63.7	84.7	69.7
Master's earned (%)	72.2	80.7	52.0	50.1	86.0	80.9	83.8	58.1	77.7	78.9
Age at doctorate (median years)	29.9	29.8	29.1	28.8	31.1	30.4	31.7	29.1	30.1	30.8
Time to doctorate (median years)										
From bachelor's	7.3	7.0	6.6	6.1	8.3	7.8	8.6	6.6	7.3	8.0
From graduate school start	6.7	6.5	6.0	5.5	7.6	7.0	7.3	6.0	6.7	6.9
From doctoral program start <sup>c</sup>	5.3	5.7	5.3	5.1	5.6	5.7	5.3	5.2	5.3	5.3
Male doctorate recipients (number)	7,389	334	612	663	520	1,541	169	706	1,168	1,676
Citizenship (%)										
U.S. citizen or permanent resident	43.9	64.4	67.3	53.1	31.5	31.7	32.5	51.4	43.1	41.4
Temporary visa holder	53.6	33.2	30.6	44.0	64.4	66.3	67.5	46.0	54.4	56.1
Unknown	2.5	2.4	2.1	2.9	4.0	2.1	0.0	2.5	2.6	2.4
Marital status (%)										
Never married	40.3	42.2	47.5	49.9	35.6	38.9	34.9	43.1	40.2	35.8
Married	42.4	41.6	31.5	31.8	49.2	46.3	52.1	36.3	43.0	46.4
Marriage-like relationship	5.9	D	9.2	7.8	3.5	3.9	D	8.8	D	6.3
Separated, divorced, widowed	1.4	D	1.1	D	D	1.6	3.0	D	D	1.4
Unknown	9.9	8.7	10.6	D	D	9.3	D	D	10.6	10.0

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Characteristic	All engineering fields	Aerospace, aeronautical, and astronautical engineering	Bioengineering and biomedical engineering	Chemical engineering	Civil engineering	Electrical, electronics, and communications engineering	Industrial and manufacturing engineering	Materials science engineering	Mechanical engineering	Other engineering
Bachelor's in same field as doctorate (%) <sup>b</sup>	78.6	87.1	72.5	83.4	82.1	84.3	79.9	64.0	86.4	71.6
Master's earned (%)	73.8	82.6	52.0	50.4	87.9	81.8	84.6	58.2	78.8	79.7
Age at doctorate (median years)	30.1	29.8	29.3	28.8	31.3	30.5	31.8	29.2	30.2	30.8
Time to doctorate (median years)										
From bachelor's	7.3	7.0	6.8	6.2	8.3	7.8	8.7	6.6	7.3	8.0
From graduate school start	6.7	6.5	6.1	5.6	7.7	7.1	7.7	6.0	6.7	7.0
From doctoral program start <sup>c</sup>	5.3	5.6	5.4	5.3	5.4	5.7	5.3	5.1	5.3	5.3
Female doctorate recipients (number)	2,448	44	429	272	219	359	83	252	241	549
Citizenship (%)										
U.S. citizen or permanent resident	44.6	56.8	67.1	43.8	36.1	27.3	37.3	47.6	36.9	44.4
Temporary visa holder	45.3	25.0	27.0	50.4	49.8	58.2	56.6	42.9	47.7	46.8
Unknown	10.0	18.2	5.8	5.9	14.2	14.5	6.0	9.5	15.4	8.7
Marital status (%)										
Never married	36.3	22.7	40.6	41.9	36.5	31.5	34.9	40.5	29.5	35.7
Married	37.8	40.9	38.5	38.2	37.0	40.7	48.2	31.7	35.3	37.7
Marriage-like relationship	7.1	D	9.8	9.2	5.5	4.7	D	8.7	D	6.6
Separated, divorced, widowed	1.9	D	1.9	D	D	2.2	D	D	D	2.7
Unknown	16.9	D	9.3	D	D	20.9	D	D	26.1	17.3
Bachelor's in same field as doctorate (%) <sup>b</sup>	71.7	75.0	73.2	87.1	71.2	75.8	59.0	62.7	76.3	64.1
Master's earned (%)	67.6	65.9	52.0	49.6	82.2	77.2	83.1	57.9	72.6	76.5
Age at doctorate (median years)	29.5	30.0	28.8	28.7	30.6	29.9	31.0	28.8	29.5	30.3
Time to doctorate (median years)										
From bachelor's	7.0	7.0	6.3	6.0	8.0	7.8	8.4	6.5	7.0	7.9
From graduate school start	6.3	6.6	5.8	5.3	7.3	7.0	7.0	6.0	6.3	6.8
From doctoral program start <sup>c</sup>	5.3	6.0	5.3	5.0	5.8	5.7	5.0	5.3	5.8	5.3

D = suppressed to avoid disclosure of confidential information.

<sup>a</sup> Includes respondents who did not report sex.

<sup>b</sup> A bachelor's degree is counted as "in same field as doctorate" if the fields of study of the doctorate recipient's first or most recent bachelor's degree and doctoral degree are both in the same major field category, except for engineering and education fields where broad field categories need to be the same. See table A-6 in the technical notes for a listing of major fields and their constituent subfields based on the National Center for Science and Engineering Statistics' field of study taxonomy.

<sup>c</sup> Time to doctorate from doctoral program start is based on master's degree entry if the master's degree was at the doctoral institution in the same fine field of study or was a prerequisite to the doctorate; otherwise, it is based on doctoral program entry.

Note(s)

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**Due to rounding, percentages may not sum to 100.**

**Source(s)**

**National Science Foundation, National Center for Science and Engineering Statistics, Survey of Earned Doctorates, 2017.**