

Table 64**Statistical profile of doctorate recipients in engineering fields, by sex and field of doctorate: 2019**

(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) ^a	10,303	379	1,164	981	701	1,799	234	992	1,533	2,520
Sex (%)										
Male	76.0	85.2	61.9	67.8	77.3	83.4	73.5	70.7	83.7	76.4
Female	24.0	14.8	38.1	32.2	22.7	16.5	26.5	29.2	16.3	23.6
Unknown	*	0.0	0.0	0.0	0.0	0.1	0.0	0.1	0.0	0.0
Citizenship (%)										
U.S. citizen or permanent resident	41.3	55.9	66.3	48.9	28.5	28.8	35.9	50.5	39.1	35.2
Temporary visa holder	55.2	40.4	30.8	48.8	65.9	66.6	59.8	46.5	57.4	61.5
Unknown	3.6	3.7	2.8	2.2	5.6	4.6	4.3	3.0	3.5	3.3
Marital status (%)										
Never married	43.2	46.7	49.0	50.8	33.0	41.0	38.0	49.2	42.5	39.8
Married	40.6	30.9	33.8	33.7	47.8	44.1	44.4	32.7	40.7	45.9
Marriage-like relationship	4.0	D	6.9	5.2	2.7	2.7	D	5.6	3.7	2.8
Separated, divorced, widowed	1.3	D	1.5	0.8	1.0	1.6	D	1.0	0.8	1.6
Unknown	11.0	15.0	8.8	9.5	15.5	10.7	13.7	11.5	12.3	9.8
Bachelor's in same field as doctorate (%) ^b										
Master's earned (%)	77.1	80.7	71.3	83.5	79.5	82.1	71.8	66.5	85.1	72.2
Age at doctorate (median years)	72.0	81.3	54.6	51.2	83.5	78.2	81.2	59.1	76.6	80.6
Time to doctorate (median years)	30.1	29.8	29.4	28.8	31.4	30.6	31.3	29.2	30.1	30.8

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From bachelor's	7.4	7.3	7.0	6.2	8.5	8.0	8.6	6.6	7.3	8.0
From graduate school start	6.8	6.8	6.1	5.8	7.5	7.3	7.7	6.0	6.8	7.3
From doctoral program start ^c	5.3	5.3	5.3	5.0	4.8	5.4	5.0	5.0	5.3	5.0
Male doctorate recipients (number)	7,833	323	720	665	542	1,501	172	701	1,283	1,926
Citizenship (%)										
U.S. citizen or permanent resident	39.8	56.3	64.3	49.6	27.3	29.1	31.4	49.1	39.4	34.1
Temporary visa holder	56.8	40.2	33.1	48.3	67.3	67.0	64.0	47.9	57.2	62.9
Unknown	3.4	3.4	2.6	2.1	5.4	3.9	4.7	3.0	3.4	3.1
Marital status (%)										
Never married	43.1	45.8	50.4	51.0	D	42.4	D	50.1	42.9	39.3
Married	41.2	31.9	33.6	34.1	49.4	43.7	48.8	33.0	40.7	46.6
Marriage-like relationship	3.6	D	7.1	D	2.0	D	D	D	D	2.4
Separated, divorced, widowed	1.1	D	0.8	D	D	D	D	D	D	1.4
Unknown	10.9	15.2	8.1	9.0	15.9	9.7	14.0	11.4	11.9	10.2
Bachelor's in same field as doctorate (%) ^b	78.8	81.1	73.1	85.0	79.9	83.1	70.9	67.6	86.6	74.3
Master's earned (%)	73.1	81.4	54.4	49.8	83.6	78.5	80.2	58.2	77.5	81.5
Age at doctorate (median years)	30.3	29.8	29.5	28.9	31.8	30.7	31.8	29.3	30.2	31.0

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Time to doctorate (median years)										
From bachelor's	7.5	7.3	7.0	6.3	8.5	8.0	9.3	6.6	7.4	8.1
From graduate school start	6.8	6.8	6.3	5.8	7.6	7.3	7.8	6.0	6.8	7.3
From doctoral program start ^C	5.3	5.3	5.3	5.0	4.9	5.4	5.0	5.0	5.3	5.0
Female doctorate recipients (number)	2,468	56	444	316	159	297	62	290	250	594
Citizenship (%)										
U.S. citizen or permanent resident	45.9	53.6	69.6	47.5	32.7	27.3	48.4	54.1	37.6	38.7
Temporary visa holder	50.0	41.1	27.3	50.0	61.0	65.0	48.4	43.1	58.4	57.2
Unknown	4.1	5.4	3.2	2.5	6.3	7.7	3.2	2.8	4.0	4.0
Marital status (%)										
Never married	43.4	51.8	46.6	50.3	D	34.3	D	47.2	40.8	41.4
Married	38.4	25.0	34.2	32.9	42.1	46.1	32.3	32.1	40.8	43.6
Marriage-like relationship	5.1	8.9	6.5	D	5.0	D	D	D	D	4.0
Separated, divorced, widowed	1.7	0.0	2.5	D	D	D	D	D	D	2.4
Unknown	11.4	14.3	10.1	10.4	14.5	15.2	12.9	11.4	14.0	8.6

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Bachelor's in same field as doctorate (%) ^b	71.7	78.6	68.5	80.4	78.0	77.1	74.2	64.1	77.2	65.5
Master's earned (%)	68.5	80.4	54.7	54.1	83.0	76.8	83.9	61.4	72.0	77.6
Age at doctorate (median years)	29.6	29.9	29.2	28.7	30.6	30.3	30.5	28.8	29.4	30.3
Time to doctorate (median years)										
From bachelor's	7.1	7.3	6.9	6.1	8.1	7.9	7.9	6.6	7.0	7.8
From graduate school start	6.3	6.8	5.9	5.8	7.3	7.3	7.0	6.0	6.5	6.9
From doctoral program start ^c	5.1	5.5	5.3	5.0	4.8	5.3	5.0	5.3	5.0	5.0

* = value between 0.00% and 0.05%; D = suppressed to avoid disclosure of confidential information.

^a Includes respondents who did not report sex.^b 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.^c 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):**

Due to rounding, percentages may not sum to 100.

Source(s):

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