

Table 8-6**Engineering research doctorate recipients, statistical profile by sex and major field of doctorate: 2021**

(Number, percent, and median years)

Characteristic	Total	Biological, biomedical, and biosystems engineering	Chemical and petroleum engineering	Civil, environmental, and transportation engineering	Electrical and computer engineering	Engineering technologies	Industrial engineering and operations research	Materials and mining engineering	Mechanical engineering	Engineering, other
Years since earning bachelor's degree	7.5	7.0	6.6	8.4	8.0	8.0	8.3	6.8	7.4	7.2
From graduate school start	6.7	6.3	5.8	7.3	7.0	7.3	7.4	5.9	6.7	6.3
From doctoral program start ^c	5.3	5.3	5.0	5.0	5.6	5.3	5.0	5.0	5.3	5.3
Received tuition remission (%)	85.7	87.5	90.1	84.0	83.5	86.3	80.3	88.0	87.1	83.4
Male doctorate recipients (number)	7,050	636	912	703	1,681	322	434	459	1,154	749
Citizenship status (%)										
U.S. citizen or permanent resident	37.6	67.5	41.1	27.6	27.1	25.8	32.9	39.9	39.4	44.5
Temporary visa holder	57.6	28.9	54.4	68.0	68.2	72.0	62.9	53.6	55.5	48.6
Unknown	4.8	3.6	4.5	4.4	4.7	2.2	4.1	6.5	5.1	6.9
Marital status (%)										
Never married	44.7	45.4	51.2	39.8	44.4	44.7	37.3	47.1	44.4	44.9
Married	36.6	35.2	29.9	45.8	37.4	42.9	45.9	30.3	34.7	33.8
Marriage-like relationship	6.5	11.2	D	4.7	5.7	D	4.6	D	5.6	D
Separated, divorced, widowed	1.3	0.9	D	1.7	1.3	D	2.8	D	1.7	D
Unknown	10.9	7.2	10.0	8.0	11.1	5.9	9.4	14.2	13.6	13.9
Has dependent age 18 or younger (%)	17.8	13.2	12.1	26.6	19.0	22.4	24.8	16.5	16.3	14.6
Has one or more functional limitations (%)	7.9	8.5	7.2	8.5	6.9	12.0	7.5	9.6	7.3	8.3
Age at doctorate (median years)	30.3	29.8	29.4	31.6	30.8	31.0	31.2	29.8	30.2	29.9

Table 8-6**Engineering research doctorate recipients, statistical profile by sex and major field of doctorate: 2021**

(Number, percent, and median years)

Characteristic	Total	Biological, biomedical, and biosystems engineering	Chemical and petroleum engineering	Civil, environmental, and transportation engineering	Electrical and computer engineering	Engineering technologies	Industrial engineering and operations research	Materials and mining engineering	Mechanical engineering	Engineering, other
Bachelor's in same field as doctorate (%) ^b	83.8	74.6	89.0	89.7	85.1	75.6	69.9	71.4	92.7	82.7
Master's earned (%)	78.2	59.5	60.9	92.7	84.4	88.6	86.9	65.1	81.3	82.0
Master's earned at same doctorate institution (%)	50.1	53.7	50.2	38.1	49.6	43.0	47.6	52.4	53.1	61.9
Time to doctorate (median years)										
Years since earning bachelor's degree	7.6	7.1	6.6	8.7	8.0	8.2	8.3	6.9	7.4	7.3
From graduate school start	6.8	6.3	5.8	7.4	7.0	7.4	7.7	6.0	6.5	6.3
From doctoral program start ^c	5.3	5.4	5.0	4.9	5.6	5.2	5.0	5.0	5.3	5.3
Received tuition remission (%)	85.2	87.5	90.3	83.4	82.8	85.0	79.2	87.0	87.4	82.9
Female doctorate recipients (number)	2,511	434	380	317	366	130	170	212	259	243
Citizenship status (%)										
U.S. citizen or permanent resident	45.2	69.8	43.4	41.3	26.8	37.7	35.3	49.5	44.8	44.4
Temporary visa holder	48.0	28.1	50.8	51.7	64.8	60.0	60.6	42.5	47.9	39.1
Unknown	6.8	2.1	5.8	6.9	8.5	2.3	4.1	8.0	7.3	16.5
Marital status (%)										
Never married	41.2	46.1	48.2	40.4	37.7	37.7	42.4	42.5	40.2	29.2
Married	34.6	31.1	31.8	35.3	39.1	44.6	38.8	28.3	34.4	35.0
Marriage-like relationship	9.2	13.6	D	6.3	6.8	D	D	D	8.9	D

Table 8-6**Engineering research doctorate recipients, statistical profile by sex and major field of doctorate: 2021**

(Number, percent, and median years)

Characteristic	Total	Biological, biomedical, and biosystems engineering	Chemical and petroleum engineering	Civil, environmental, and transportation engineering	Electrical and computer engineering	Engineering technologies	Industrial engineering and operations research	Materials and mining engineering	Mechanical engineering	Engineering, other
Separated, divorced, widowed	2.0	2.3	D	2.2	2.2	D	D	D	2.7	D
Unknown	13.0	6.9	10.8	15.8	14.2	4.6	9.4	15.6	13.9	25.9
Has dependent age 18 or younger (%)	12.8	6.0	10.0	16.7	16.8	19.4	15.8	10.6	11.7	17.0
Has one or more functional limitations (%)	9.0	8.5	9.3	11.0	7.1	13.1	8.0	8.4	8.3	9.9
Age at doctorate (median years)	29.8	28.8	28.8	30.4	30.5	30.3	31.2	29.0	30.0	29.8
Bachelor's in same field as doctorate (%) ^b	78.0	73.5	83.0	84.6	82.2	70.3	65.2	70.7	87.1	74.0
Master's earned (%)	71.8	53.0	56.5	89.8	86.7	79.7	80.1	60.8	81.1	75.6
Master's earned at same doctorate institution (%)	50.6	58.4	53.5	45.8	46.5	45.0	40.9	55.3	50.5	59.5
Time to doctorate (median years)										
Years since earning bachelor's degree	7.2	6.5	6.3	8.0	8.1	8.0	8.3	6.5	7.5	7.0
From graduate school start	6.3	6.0	5.8	7.0	7.3	6.8	7.0	5.8	7.0	6.3
From doctoral program start ^c	5.3	5.3	5.0	5.0	5.8	5.3	5.3	4.9	5.3	5.3
Received tuition remission (%)	87.1	87.4	89.5	85.5	86.8	89.6	82.9	90.3	86.0	84.9

* = 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 broad field category.

^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 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. Beginning in 2021, a modified version of the 2020 Classification of Instructional Programs (CIP) codes was used in the survey data collection, and the new broad, major, and detailed fields were used in tables reporting only the most recent data year. Therefore, the field of doctorate data in 2021 may not be comparable to prior years; see the "Technical Notes" for more information, table A-4 for a summary of SED-CIP codes in the new SED field taxonomy, table A-5 for a full list of SED-CIP codes in the new field taxonomy, and table A-6 for the SED-CIP code crosswalk to the historical field taxonomy.

Source(s):

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