

Table 64. Statistical profile of doctorate recipients in engineering fields, by sex and field of study: 2016

| 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 | 9,469 | 369 | 1,089 | 923 | 565 | 1,827 | 256 | 985 | 1,299 | 2,156 |
| Sex (%) | | | | | | | | | | |
| Male | 76.9 | 84.8 | 63.1 | 67.8 | 77.5 | 83.9 | 72.3 | 73.4 | 84.4 | 77.7 |
| Female | 23.1 | 15.2 | 36.9 | 32.2 | 22.5 | 16.1 | 27.7 | 26.6 | 15.6 | 22.3 |
| Unknown | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Citizenship (%) | | | | | | | | | | |
| U.S. citizen or permanent resident | 44.2 | 63.1 | 68.5 | 50.9 | 38.8 | 29.9 | 32.0 | 46.3 | 45.0 | 39.1 |
| Temporary visa holder | 51.2 | 32.2 | 27.5 | 43.7 | 54.5 | 63.7 | 64.1 | 50.4 | 50.2 | 57.6 |
| Unknown | 4.6 | 4.6 | 3.9 | 5.4 | 6.7 | 6.3 | 3.9 | 3.4 | 4.8 | 3.3 |
| Marital status (%) | | | | | | | | | | |
| Never married | 38.3 | 40.1 | 42.6 | 46.7 | 31.0 | 36.7 | 31.3 | 42.7 | 36.2 | 35.7 |
| Married | 41.5 | 36.3 | 36.7 | 32.5 | 48.0 | 41.7 | 50.8 | 36.1 | 42.0 | 47.6 |
| Marriage-like relationship | 6.6 | 7.3 | 9.3 | 7.7 | 3.9 | 5.3 | D | D | 5.6 | 6.3 |
| Separated, divorced, widowed | 1.3 | 1.9 | 1.7 | 0.7 | 1.1 | 1.0 | D | D | 1.2 | 2.0 |
| Unknown | 12.3 | 14.4 | 9.6 | 12.5 | 16.1 | 15.3 | 12.5 | 11.9 | 14.9 | 8.3 |
| Bachelor's in same field as doctorate (%) ^b | 75.9 | 75.1 | 73.8 | 83.4 | 77.3 | 79.0 | 69.5 | 65.2 | 82.4 | 72.7 |
| Master's earned (%) | 69.7 | 79.7 | 51.3 | 47.2 | 83.2 | 74.5 | 79.3 | 58.7 | 73.5 | 81.1 |
| Age at doctorate (median years) | 30.0 | 29.8 | 29.2 | 28.7 | 31.3 | 30.5 | 31.3 | 29.1 | 30.0 | 30.7 |
| Time to doctorate (median years) | | | | | | | | | | |
| From bachelor's | 7.3 | 7.3 | 6.7 | 6.1 | 8.2 | 7.8 | 8.3 | 6.4 | 7.3 | 8.0 |
| From graduate school start | 6.5 | 6.7 | 6.0 | 5.7 | 7.0 | 7.0 | 7.1 | 5.7 | 6.6 | 7.0 |
| From doctoral program start ^c | 5.3 | 5.6 | 5.4 | 5.0 | 4.9 | 5.3 | 5.0 | 5.1 | 5.3 | 5.2 |

Table 64. Statistical profile of doctorate recipients in engineering fields, by sex and field of study: 2016

| 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 |
|--|------------------------|--|---|----------------------|-------------------|---|--|-------------------------------|------------------------|-------------------|
| U.S. citizen or permanent resident | 46.7 | 62.5 | 69.4 | 46.1 | 48.0 | 27.8 | 29.6 | 44.7 | 49.0 | 40.2 |
| Temporary visa holder | 48.3 | 35.7 | 27.1 | 48.1 | 43.3 | 64.4 | 67.6 | 51.5 | 43.6 | 56.5 |
| Unknown | 5.0 | 1.8 | 3.5 | 5.7 | 8.7 | 7.8 | 2.8 | 3.8 | 7.4 | 3.3 |
| Marital status (%) | | | | | | | | | | |
| Never married | 38.5 | 35.7 | 41.8 | 44.4 | 31.5 | 34.9 | 23.9 | 40.5 | 36.6 | 38.1 |
| Married | 39.2 | 39.3 | 36.6 | 33.3 | 41.7 | 40.7 | 63.4 | 35.1 | 35.1 | 43.8 |
| Marriage-like relationship | 7.3 | D | 10.2 | 6.7 | D | 4.7 | D | D | D | 6.5 |
| Separated, divorced, widowed | 2.0 | D | 2.0 | D | D | 2.7 | 0.0 | D | D | 2.9 |
| Unknown | 13.1 | 17.9 | 9.5 | D | 19.7 | 16.9 | D | 13.4 | 18.3 | 8.8 |
| Bachelor's in same field as doctorate (%) ^b | 72.1 | 67.9 | 74.1 | 81.8 | 69.3 | 74.2 | 73.2 | 64.9 | 76.2 | 66.5 |
| Master's earned (%) | 67.0 | 82.1 | 49.3 | 48.8 | 80.3 | 72.2 | 90.1 | 61.1 | 71.8 | 82.5 |
| Age at doctorate (median years) | 29.4 | 29.6 | 28.7 | 28.6 | 30.7 | 30.0 | 31.2 | 28.9 | 29.5 | 30.2 |
| Time to doctorate (median years) | | | | | | | | | | |
| From bachelor's | 7.0 | 7.5 | 6.3 | 6.0 | 8.2 | 7.4 | 8.8 | 6.3 | 7.2 | 7.7 |
| From graduate school start | 6.3 | 7.0 | 5.8 | 5.7 | 6.8 | 7.0 | 7.2 | 5.7 | 6.3 | 6.9 |
| From doctoral program start ^c | 5.3 | 5.5 | 5.3 | 5.0 | 5.0 | 5.3 | 5.0 | 5.2 | 5.3 | 5.1 |

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 for the doctorate recipient's bachelor's degree and doctorate degree are both in the same major field category of the National Science Foundation's field of study taxonomy, except for engineering and education fields where broad field categories need be the same. See table A-6 in the technical notes for a listing of major fields and their constituent subfields.

Table 64. Statistical profile of doctorate recipients in engineering fields, by sex and field of study: 2016

^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: Due to rounding, percentages may not sum to 100.

SOURCE: National Science Foundation, National Center for Science and Engineering Statistics, Survey of Earned Doctorates, 2016.