

Table 9-6. Engineering research doctorate recipients, postgraduation plans by sex and major field of doctorate: 2024

(Number and percent)

Characteristic	All engineering fields	Aerospace, aeronautical, astronautical, and space engineering	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
Doctorate recipients reporting postgraduation status (number)	9,455	538	1,182	1,132	1,117	1,800	400	542	774	1,352	618
Definite postdoctoral training plans	25.1	21.4	30.9	25.5	27.3	19.3	19.3	18.3	28.6	26.7	30.7
Definite employment plans	44.5	50.4	25.7	41.2	47.4	54.9	49.5	56.6	41.5	41.8	41.9
Seeking employment or study	28.3	26.0	38.7	31.4	23.5	24.3	29.3	23.1	28.9	29.9	24.9
Other status ^a	2.1	2.2	4.7	1.8	1.7	1.4	1.8	2.0	1.0	1.6	2.3
Definite postdoctoral training plans (%) ^b											
Postdoc fellowship or research associateship	96.7	100.0	95.9	97.9	96.7	94.0	92.2	96.0	96.4	98.1	99.5
Other training or unknown ^c	3.3	0.0	4.1	2.1	3.3	6.0	7.8	4.0	3.6	1.9	0.5
Definite employment plans (%) ^d											
Academe	15.9	D	18.8	8.2	19.4	13.9	D	29.0	7.8	14.3	16.6
In tenure track faculty position (%)	43.3	D	14.0	34.2	55.3	49.6	D	67.4	28.0	44.4	27.9
Not in tenure track position (%)	48.7	58.5	82.5	60.5	35.9	41.6	48.4	30.3	68.0	48.1	60.5
Government	7.8	19.2	3.3	3.0	13.8	3.8	6.1	8.1	9.3	7.3	13.1
Industry or business ^e	71.3	52.0	71.1	85.6	60.8	78.3	74.2	55.0	77.3	74.3	64.5
Nonprofit organization	3.1	D	5.3	1.9	3.0	2.6	D	3.3	3.7	2.5	4.6
Other or unknown ^f	1.9	0.7	1.6	1.3	3.0	1.3	2.5	4.6	1.9	1.6	1.2
Primary activity ^g											
Research and development	59.7	60.1	65.9	68.1	26.1	68.0	60.8	50.2	68.1	64.3	64.3
Teaching	7.6	9.1	6.8	4.4	11.6	5.1	9.1	14.7	5.1	7.0	9.9
Management or administration	2.9	2.3	4.1	4.0	3.5	1.7	5.4	5.1	2.6	2.0	2.4
Professional services and other	29.7	28.5	23.3	23.5	58.8	25.2	24.7	30.0	24.3	26.7	23.4
Secondary activity ^g											
Research and development	19.7	23.2	11.5	16.0	32.2	17.3	D	25.6	D	17.9	15.9
Teaching	5.9	6.8	6.1	2.0	6.9	6.9	D	14.7	D	4.6	6.0
Management or administration	12.0	11.4	13.5	12.7	13.5	8.5	13.4	10.6	15.7	12.1	15.5
Professional services and other	18.9	22.4	24.0	21.5	9.8	20.4	18.3	13.7	20.4	20.7	17.5
No secondary activity	43.5	36.1	44.9	47.7	37.6	46.9	44.6	35.5	45.0	44.7	45.2
Activity unknown	3.3	3.0	2.6	2.4	3.8	3.3	6.1	4.6	2.5	3.4	2.7
Postgraduation location (%) ^h											
United States ⁱ	93.2	94.0	96.4	93.1	90.9	93.6	91.6	89.4	95.6	93.3	92.4
Midwest	15.0	15.5	16.7	16.2	14.9	11.1	13.1	16.3	16.1	18.0	14.3
Northeast	18.5	15.0	28.8	22.3	16.0	14.8	18.2	22.2	16.6	18.3	14.9
South	28.2	34.2	27.5	30.7	32.2	26.5	26.9	29.1	22.9	25.5	28.7
West	31.2	29.0	23.0	23.6	27.2	40.9	33.5	21.2	39.7	31.0	34.1
Outside the United States	6.7	5.7	3.6	6.9	9.1	6.1	8.4	10.3	4.4	6.6	7.6

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(Number and percent)

Characteristic	All engineering fields	Aerospace, aeronautical, astronautical, and space engineering	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
Location unknown	0.1	0.3	0.0	0.0	0.0	0.3	0.0	0.2	0.0	0.1	0.0
Postgraduation location in same state as doctorate institution (%)	40.6	42.0	50.1	36.6	46.0	37.9	41.1	30.0	41.1	40.2	40.3
Male doctorate recipients reporting postgraduation status (number)	6,818	443	656	765	751	1,464	304	372	539	1,081	443
Definite postdoctoral training plans	24.7	21.9	31.6	25.5	26.9	19.2	19.1	20.7	27.3	26.5	30.7
Definite employment plans	45.9	49.9	25.6	40.7	48.9	56.3	53.3	53.2	43.0	42.5	42.2
Seeking employment or study	27.5	26.2	37.8	32.2	22.6	23.3	25.7	23.9	28.9	29.7	24.8
Other status ^a	1.8	2.0	5.0	1.6	1.6	1.2	1.6	2.2	0.7	1.4	2.3
Definite postdoctoral training plans (%) ^b											
Postdoc fellowship or research associateship	96.9	100.0	96.6	98.5	97.0	94.7	89.7	94.8	95.9	98.3	99.3
Other training or unknown ^c	3.1	0.0	3.4	1.5	3.0	5.3	10.3	5.2	4.1	1.7	0.7
Definite employment plans (%) ^d											
Academe	14.4	24.9	15.5	D	19.1	D	12.3	D	D	D	13.4
In tenure track faculty position (%)	42.9	27.3	D	D	55.7	D	40.0	D	D	45.2	24.0
Not in tenure track position (%)	49.1	56.4	D	56.5	35.7	44.3	45.0	39.1	70.6	D	60.0
Government	8.0	18.1	3.0	D	14.4	D	D	5.6	9.1	7.2	13.9
Industry or business ^e	73.0	52.5	74.4	85.9	60.5	78.5	77.8	63.1	78.0	75.6	68.4
Nonprofit organization	2.8	3.6	6.0	D	2.5	D	D	D	D	D	3.2
Other or unknown ^f	1.9	0.9	1.2	1.0	3.5	1.3	1.9	5.1	2.2	1.5	1.1
Primary activity ^g											
Research and development	61.1	59.7	73.5	70.2	26.5	67.4	63.4	50.8	67.9	65.4	65.9
Teaching	7.1	D	4.3	3.9	12.5	D	6.5	13.9	4.9	6.1	7.7
Management or administration	2.7	2.8	3.1	3.9	2.8	D	D	5.3	D	D	D
Professional services and other	29.1	27.8	19.1	22.0	58.1	25.8	25.5	29.9	25.0	26.7	23.6
Secondary activity ^g											
Research and development	19.4	D	7.4	14.4	34.2	17.8	19.0	24.6	D	16.9	17.6
Teaching	5.1	D	3.7	D	6.8	5.9	D	10.2	D	4.5	4.4
Management or administration	12.6	11.1	17.3	D	13.4	8.6	D	11.2	16.5	12.8	17.0
Professional services and other	19.7	21.8	24.1	22.3	9.1	21.9	17.6	14.4	22.8	21.8	17.6
No secondary activity	43.1	36.1	47.5	45.6	36.5	45.8	47.1	39.6	42.4	44.0	43.4
Activity unknown	3.5	2.3	3.6	1.9	4.4	3.6	5.6	5.6	3.4	3.1	2.7
Postgraduation location (%) ^h											
United States ⁱ	92.5	D	D	92.1	89.3	93.1	92.3	88.7	95.0	92.8	91.3
Midwest	14.8	17.3	15.5	14.0	14.9	11.2	13.6	16.0	15.6	18.8	14.9
Northeast	18.0	13.8	30.1	20.9	15.1	15.1	17.7	21.8	16.1	18.9	15.5

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(Number and percent)

Characteristic	All engineering fields	Aerospace, aeronautical, astronautical, and space engineering	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
United States ⁱ	95.1	D	D	95.2	94.4	95.7	89.1	90.8	96.9	95.6	95.2
Midwest	15.4	7.4	18.4	20.5	14.7	10.4	10.9	16.8	17.2	14.9	12.7
Northeast	19.8	20.6	27.2	24.9	18.0	13.4	20.0	22.9	17.8	15.5	13.5
South	27.0	30.9	28.2	27.7	28.2	22.1	36.4	28.2	20.9	24.9	33.3
West	32.3	D	D	21.7	33.1	48.9	21.8	20.6	40.5	40.3	35.7
Outside the United States	4.8	D	D	4.8	5.6	3.5	10.9	9.2	3.1	4.4	4.8
Location unknown	0.1	0.0	0.0	0.0	0.0	0.9	0.0	0.0	0.0	0.0	0.0
Postgraduation location in same state as doctorate institution (%)	39.2	30.9	48.0	35.3	47.0	29.0	50.9	26.7	31.9	42.5	46.0

D = suppressed to avoid disclosure of confidential information.

^a Other status includes doctorate recipients reporting: no plans to work or study, some other type of postgraduation plans, or definite plans for other full-time degree program.

^b Definite postdoctoral training plans excludes doctorate recipients reporting plans for other full-time degree program. Percentages are based on the number of doctorate recipients reporting definite postdoctoral plans for study.

^c Other training includes doctorate recipients who reported definite postdoctoral plans for traineeship, internship or clinical residency, or other study.

^d Percentages are based on the number of doctorate recipients reporting definite postgraduation plans for employment.

^e Industry or business includes doctorate recipients reporting self-employment.

^f Other is mainly composed of elementary and secondary schools.

^g Percentages are based on the number of doctorate recipients reporting definite postgraduation plans for employment and primary or secondary work activity.

^h Percentages are based on the number of doctorate recipients reporting definite postgraduation plans and type of plans.

ⁱ United States includes doctorate recipients with an unknown U.S. region of employment after doctorate; thus, the percentages by regions will not sum to the value for United States. See the "Technical Notes" for states or territories included in regions.

Note(s):

A definite postgraduation commitment includes accepting new employment or a postdoctoral study (postdoc) position or returning to predoctoral employment, while postgraduation employment includes accepting new employment or returning to predoctoral employment that is not a postdoctoral study (postdoc) position. 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 new broad, major, and detailed fields are used in tables reporting data from 2021 to the present; see the field list in table A-4. Therefore, the field of doctorate data prior to 2021 may not be comparable to subsequent years. For more information about the 2021 taxonomy change, see the "Technical Notes."

Source(s):

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