

TABLE 4-3

Labor force participation rate among U.S. residing doctoral scientists and engineers, by fine field of doctorate: 2019

(Percent and SE)

Field of study	Labor force participation rate	
	Percent	SE
All fields	86.4	0.20
Science	85.4	0.20
Biological, agricultural, and environmental life sciences	86.9	0.30
Agricultural and food sciences	82.1	1.10
Agricultural sciences	70.3	2.90
Animal sciences	87.1	1.80
Food sciences and technology	81.7	2.60
Plant sciences	81.6	1.95
Soil sciences	80.9	3.60
Biochemistry and biophysics	85.0	0.95
Biochemistry	84.5	1.05
Biophysics	87.4	2.00
Cell, cellular biology, and molecular biology	91.2	0.80
Microbiological sciences and immunology	87.9	1.05
Immunology	91.9	1.30
Microbiological sciences	85.7	1.45
Natural resources and conservation	82.0	1.60
Fish, fisheries, wildlife and wildlands science and management	79.0	4.35
Forestry	82.3	3.25
Natural resource conservation, research, management, and policy	83.5	1.90
Zoology	74.2	1.65
Other biological sciences	88.4	0.45
Biomathematics, bioinformatics, and computational biology	93.1	1.20
Botany and plant biology	77.4	1.80
Epidemiology, ecology, and population biology	88.2	1.10
Genetics	88.8	1.80
Neurobiology and neuroscience	95.9	0.75
Nutrition sciences	85.1	1.95
Pharmacology and toxicology	87.7	1.50
Physiology, pathology, and related sciences	87.1	1.05
Biological and biomedical sciences, general	89.8	1.25
Biological and biomedical sciences, other	81.1	2.65
Computer and information sciences	93.3	0.65
Computer science	93.9	0.80
Information science, studies	86.4	1.50
Computer and information sciences, other	95.7	0.90
Mathematics and statistics	85.0	0.80
Applied mathematics	90.2	1.35
Mathematics	81.3	1.30
Statistics	86.7	1.75
Mathematics and statistics, other	87.6	1.45
Physical sciences, geosciences, atmospheric sciences, and ocean sciences	84.4	0.40
Astronomy and astrophysics	88.8	1.55
Chemistry, except biochemistry	82.8	0.70
Inorganic chemistry	84.9	1.35
Organic chemistry	79.2	1.50
Chemistry, other, except biochemistry	84.1	0.90
Geosciences, atmospheric sciences, and ocean sciences	85.4	0.70
Atmospheric sciences and meteorology	89.1	0.95
Geological and earth sciences, geosciences	83.7	0.95

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Field of study	Labor force participation rate	
	Percent	SE
Ocean sciences and marine sciences	91.4	1.20
Oceanography, chemical and physical	84.5	1.85
Physics	85.9	0.90
Psychology	83.5	0.50
Clinical psychology	87.0	0.95
Counseling and applied psychology	87.0	1.35
Educational and school psychology	77.6	1.35
Industrial and organizational psychology	86.9	1.70
Research and experimental psychology	80.3	0.90
Psychology, general	83.0	2.00
Psychology, other	79.5	2.50
Social sciences	83.6	0.45
Economics	83.7	1.05
Political science and government	88.1	1.00
Political science and government	87.7	1.20
Public policy analysis	90.2	1.50
Sociology, demography, and population studies	79.1	1.40
Other social sciences	83.0	0.70
Anthropology	82.8	1.50
Area, ethnic, cultural, gender, and group studies	86.8	1.70
Geography and cartography	84.8	1.55
International relations and national security studies	85.6	2.30
Linguistics	81.5	2.20
Urban studies, affairs	75.9	2.60
Social sciences, other	82.5	1.40
Engineering	90.2	0.40
Aerospace, aeronautical, and astronautical engineering	91.1	1.35
Chemical engineering	87.1	1.25
Civil engineering	91.7	1.10
Electrical and computer engineering	91.7	0.85
Computer engineering	92.7	1.20
Electrical, electronics, and communications engineering	91.6	0.95
Mechanical engineering	91.7	1.00
Metallurgical and materials engineering	87.2	1.15
Other engineering	89.6	0.65
Agricultural engineering	85.6	2.20
Bioengineering and biomedical engineering	94.6	0.95
Engineering mechanics, physics, and science	85.5	1.95
Industrial and manufacturing engineering	87.1	1.45
Nuclear engineering	86.0	1.45
Engineering, other	89.2	1.50
Health	85.7	0.70
Communication disorders sciences and services	76.0	2.20
Hospital and medical administration services	78.5	2.95
Pharmacy, pharmaceutical sciences, and administration	91.1	1.35
Public health	90.5	1.30
Registered nursing, nursing administration, nursing research	80.3	1.75
Health sciences, other	87.4	1.35

SE = standard error.

Note(s):

Labor force is defined as those employed (E) plus those unemployed and seeking work (U). Unemployed includes individuals who were not working during the survey reference week but had been seeking work in the prior 4 weeks or who were on layoff from their job. Population (P) is defined as all science, engineering, or health doctorate holders under age 76, residing in the United States during the week of 1 February 2019, who earned doctorates from U.S. institutions. Labor force participation rate (LFR) = (E+U) / P. Residence location is based on reported living location on 1 February 2019.

Source(s):

National Center for Science and Engineering Statistics, Survey of Doctorate Recipients: 2019.