

ASEE 2019 Edition

Engineering
& Engineering Technology
BY THE NUMBERS



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Engineering and Engineering Technology by the Numbers, 2019

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Engineering by the Numbers 2019

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1 ENGINEERING IN 2019

Joseph R. Roy, Ph.D.

In the fall of 2019 the ASEE began replacement of the Profiles data collection system and the Engineering Data Management System (EDMS). All aspects of the data collection process are being upgraded, including our production of the descriptive statistics of engineering and engineering technology programs. The *Engineering by the Numbers* has been expanded this year to a dynamically linked document meant to be easier to navigate. There is also a separate section on engineering technology included as well.

For engineering disciplines there has been a 7.5% increase in 2019 for the number of engineering bachelors degrees awarded while there was a 0.4% decrease in undergraduate enrollment. For masters programs, both degrees awarded and enrollment decreased, 4.9% and 7.0% respectively. Doctoral programs mirrored undergraduate program changes from 2018 by increasing the number of graduates (5.3%) with a small increase in enrollment (-3.0%) for 2019. The remainder of this report highlights changes this year along and some noticeable trends in the data that may be of interest to the reader.

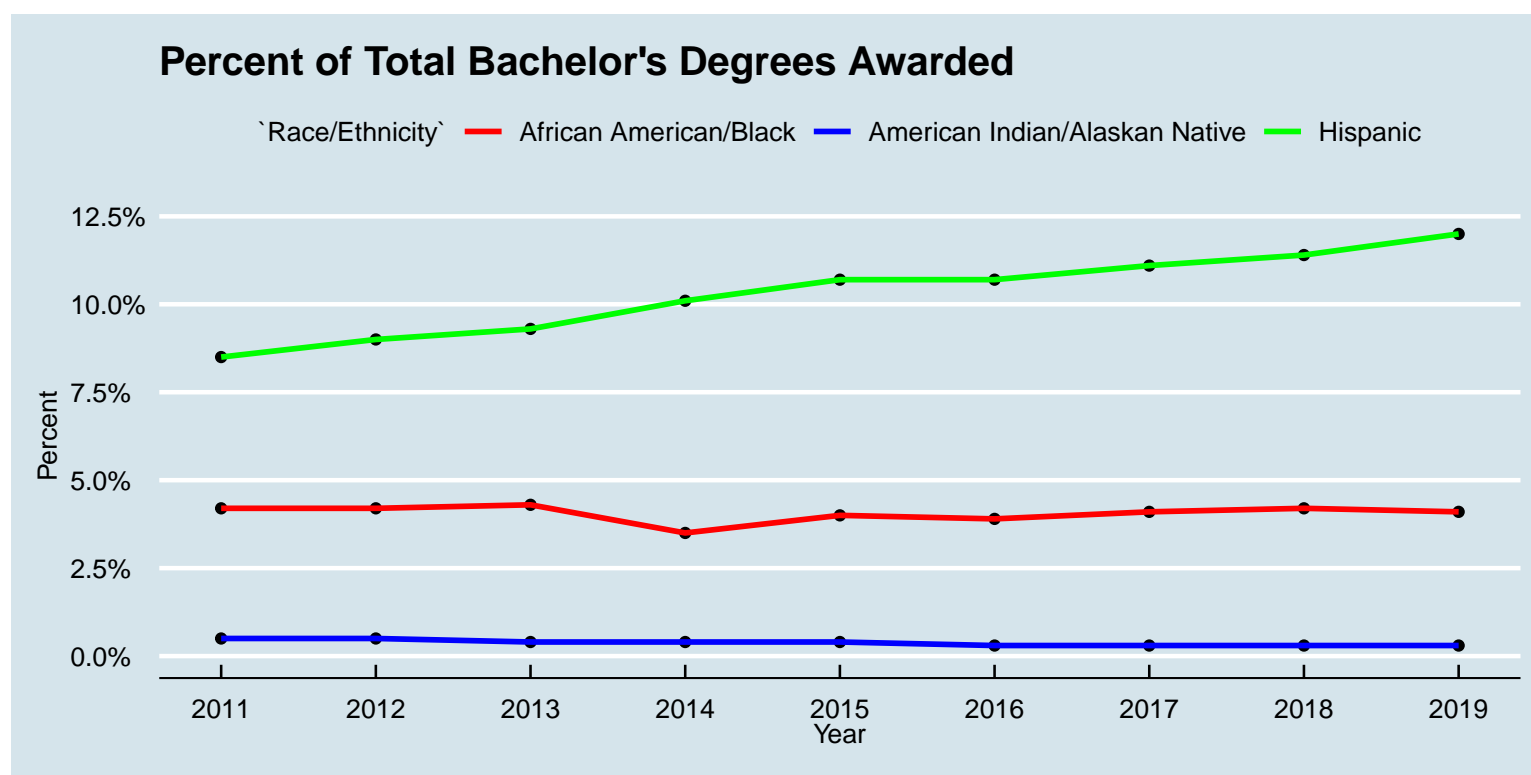
1.1 Gender in ASEE Data Collections

After consultation with the Data Task Force appointed by the Board of Directors in 2018 and 2017 as well as consultation with the Engineering Deans Council Data Committee, the gender categories ASEE Profiles collects were expanded to include non-binary gendered individuals and individuals with another or unknown (along with the established male and female categories). Previously, we had followed the federal government guidelines for reporting individuals who are not male or female in the headcounts collected. The guidelines require institutions report these individuals, but in the category of male or female, at the institutions discretion. This year, only 11 institutions reported any individuals who were non-binary gendered or other gendered. Those graduates are included in the total counts for institutions reported in the the following tables. The numbers collected this year are too small to draw many conclusions from (for example, only 4 individuals were reported to identify as non-binary gendered in the Engineering bachelors degrees awarded).

1.2 Representation in Engineering of Underrepresented Minorities

The ASEE Profiles data collection is in alignment with how the federal government collects race/ethnicity characteristics from institutions. The full definition of each race/ethnicity category is included in the methodology section. The term *underrepresented minority*(URM) refers to three groups which have representation in the science and engineering workforce far below their representation in the adult US population. This includes individuals who are Hispanic, Black/African American and American Indian/Alaskan Native.

The figure below represents the percent of bachelor degrees in engineering awarded to URM graduates over the last 8 years. The percent of Hispanic graduates has increased from 8.5% in 2011 to 11.9% in 2019 with a steady increase in the intervening years. The percent of Black graduates, however, has not increased over the same time span with 4.2% in 2011 and 4.3 % in 2019 and no growth upward in the data. There has been a steady decline in the percent of American Indian/Alaskan Natives from 0.5% in 2011 to 0.3 % in 2019.

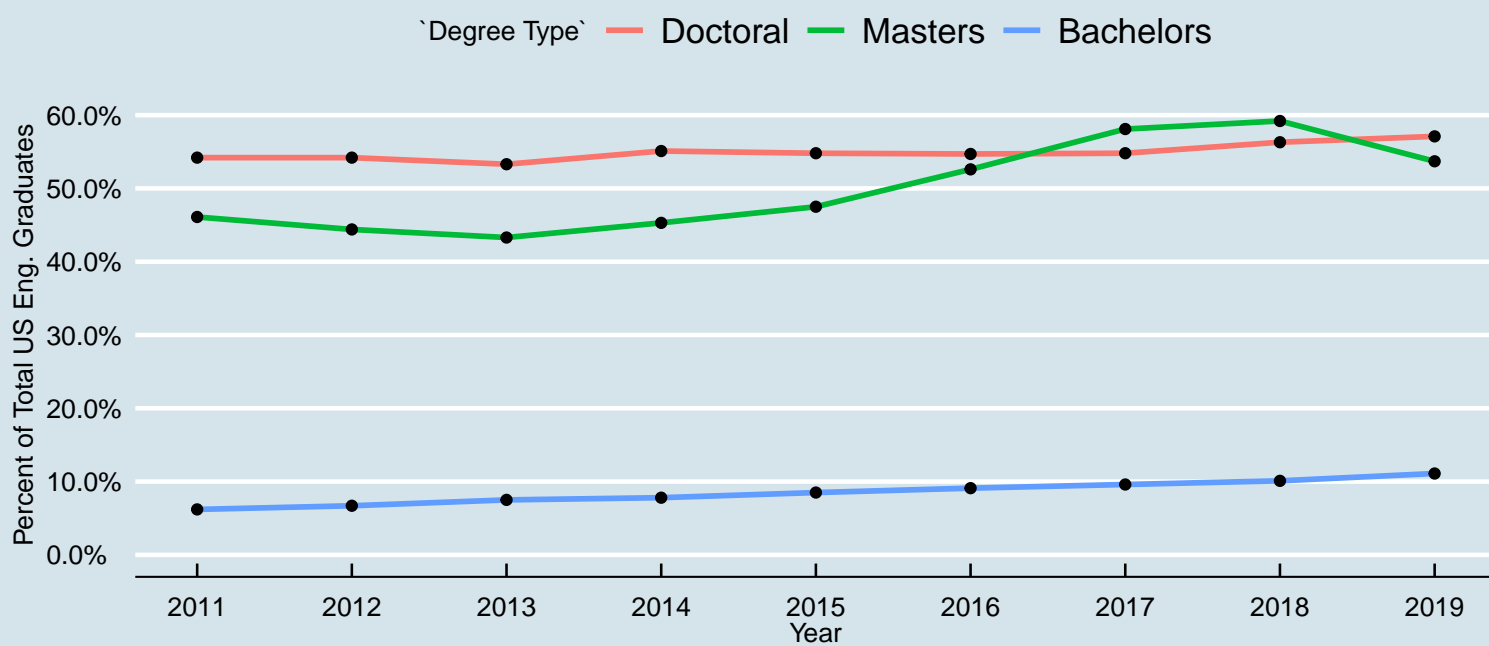


1.3 International Students in Engineering

The data below represent the percent of international graduates within engineering since 2011. There is a slight trend upward in the Masters graduates for engineering, but generally the last 8 years have looked remarkably similar with the respect of the amount of international students graduating from US Engineering programs. The gap, however, between undergraduate and graduate engineering talent production is very large. The majority of Masters students and Doctoral students graduating with degrees in engineering have been international students.

We expanded the race/ethnicity category for faculty to include non-resident aliens this year. In 2019, 1.9 % of engineering tenure-track faculty were comprised of non-resident aliens. The most recent recent year we have data for all faculty at 4-year institutions, 2018, showed that non-resident aliens comprised 4.4 % of all tenure-track faculty. This may be surprising given the large number of international doctorates in engineering. However, this could be an artifact of the difference between students and faculty: Most international students are on some type of temporary visa in the US which means they would appear in institutional data collections, such as this one, that asks to separate out the temporary residents from the other race/ethnicity categories. Most tenure-track positions are not temporary and, in fact, the expectation generally would be an institution would sponsor a more permanent residency (i.e. green card) for such faculty members. Therefore, those individuals would be reported under the race/ethnicity category they selected upon initial hire and not as a temporary resident.

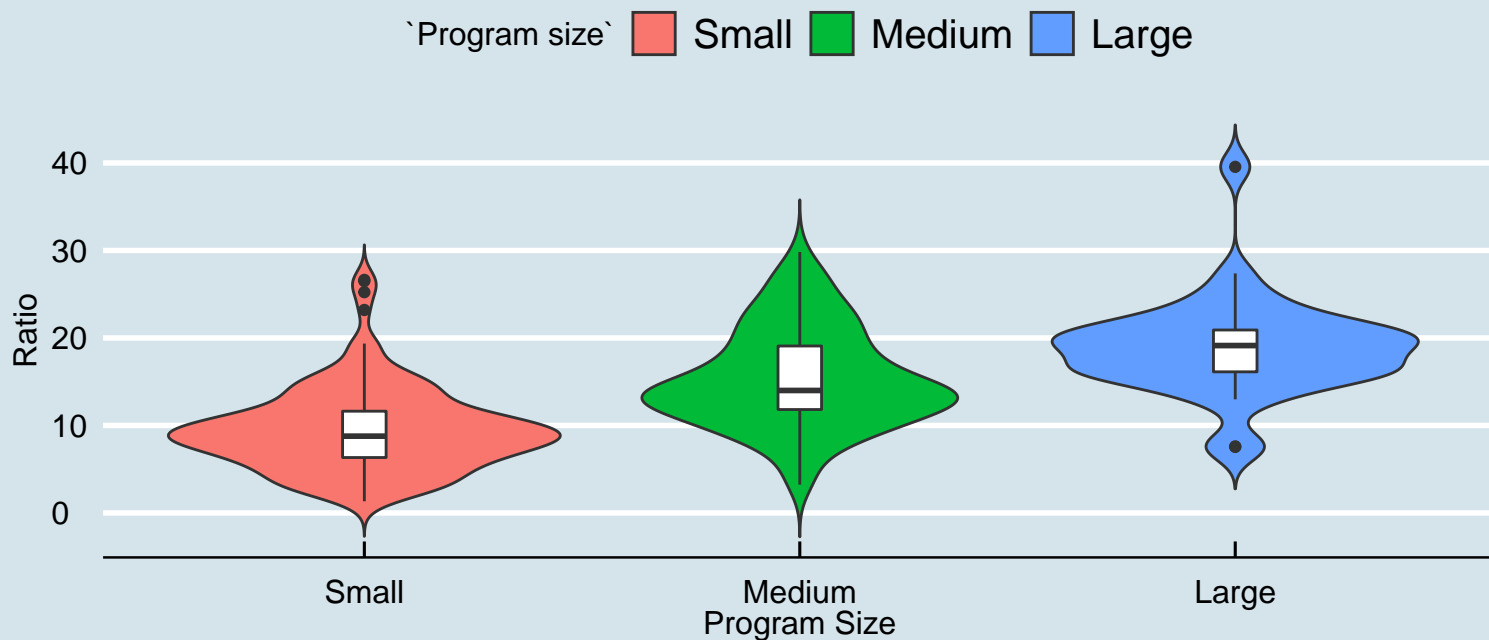
Percentage of Degrees Awarded to International Graduates



1.4 Faculty to Student Ratios

The listing of the institutions with the highest and lowest bachelor degree recipients to tenured/tenure track faculty ratios has been removed from the tables that follow. While this is an important measure for building peer group analysis for institutions, the measure itself becomes complicated by the increase of the amount of teaching professional track faculty which are not included in this measure, but in some instances make up a majority of instructional faculty at an institution. As of 2018, the most recent year for which there is data, there are currently 681,848 full-time instructional faculty at four-year institutions, and professional (non-tenure) track faculty make up 261,307 of those positions.

Ratio of Bachelor's Degrees to Tenured/Tenure Track Faculty



In the figure above, we remove institutions awarding less than 50 bachelor degrees, which leaves a total of 257 institutions. We categorize institutions as small programs with 400 or less graduates, medium programs with between 400 and 1000 graduates and then over 1000 graduates as a large program. We can see the distribution in the violin plot with a traditional box-plot situated within each violin of the data. The violins represent the mass of the data (we can see the widest part occurs at the median for each program size). The trend is that larger programs have larger ratios, unsurprisingly, but there are some institutional exceptions seen in the black dots, at the high and low end of the distribution.

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2 ENGINEERING BACHELORS

2.1 ENGINEERING BACHELOR'S DEGREES

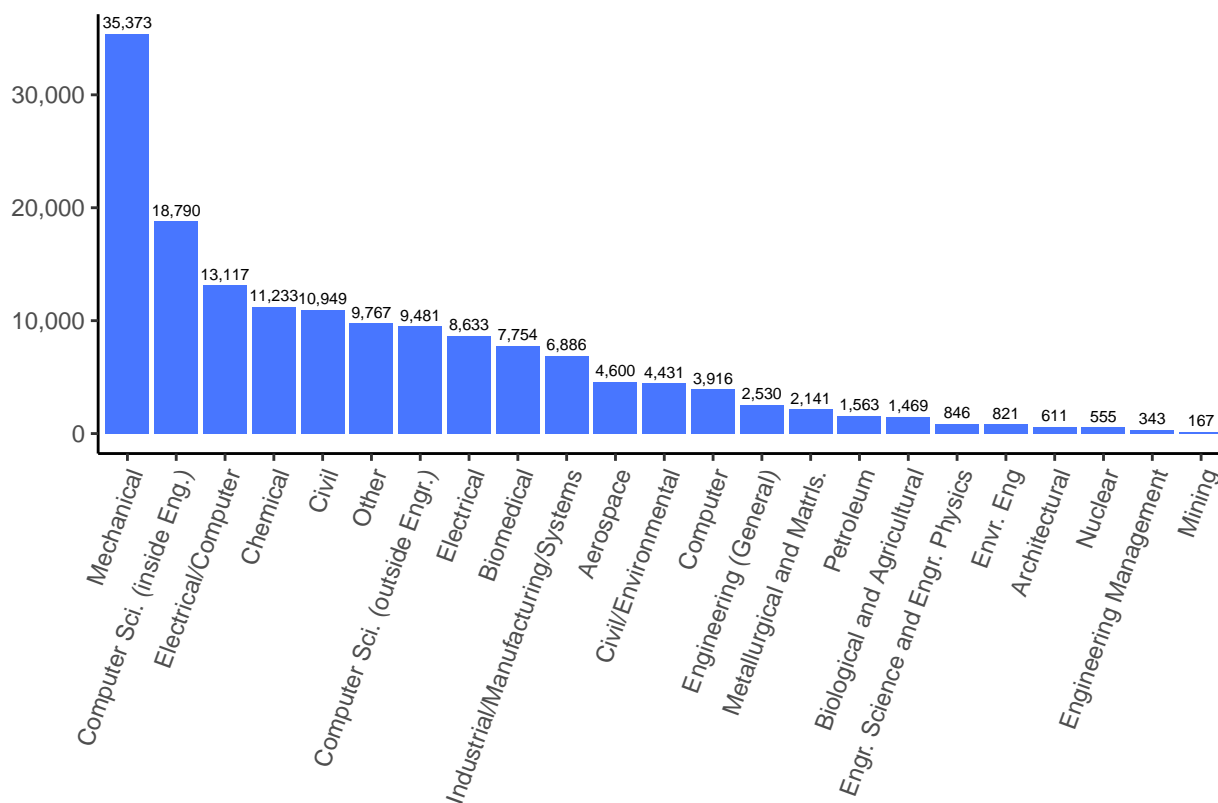
2.1.1 Total Bachelor's Degrees Awarded by Engineering Discipline

Table 1: Bachelors Degrees by Discipline: 146,495*

Discipline Name	Degrees Awarded
Mechanical	35,373
Computer Sci. (inside Eng.)	18,790
Electrical/Computer	13,117
Chemical	11,233
Civil	10,949
Other	9,767
Computer Sci. (outside Engr.)	9,481
Electrical	8,633
Biomedical	7,754
Industrial/Manufacturing/Systems	6,886
Aerospace	4,600
Civil/Environmental	4,431
Computer	3,916
Engineering (General)	2,530
Metallurgical and Matrls.	2,141
Petroleum	1,563
Biological and Agricultural	1,469
Engr. Science and Engr. Physics	846
Envr. Eng	821
Architectural	611
Nuclear	555
Engineering Management	343
Mining	167

* Total does not include computer science (outside engineering).

Bachelor's Degrees Awarded by Engineering Discipline



2.1.2 Total Bachelor's Degrees Awarded to Underrepresented Minorities by Engineering Discipline

Table 2: Bachelor's Degrees Awarded to Underrepresented Minorities by Engineering Discipline: 43,324

Discipline Name	Degrees Awarded
Mechanical	10,816
Computer Sci. (inside Eng.)	5,278
Civil	3,988
Electrical	3,396
Electrical/Computer	3,202
Chemical	2,898
Other	2,478
Industrial/Manufacturing/Systems	2,080
Computer Sci. (outside Engr.)	2,072
Biomedical	2,042
Computer	1,522
Civil/Environmental	1,506
Aerospace	1,236
Engineering (General)	704
Petroleum	514
Metallurgical and Matrls.	498
Biological and Agricultural	284
Envr. Eng	224
Engr. Science and Engr. Physics	204
Architectural	176
Nuclear	152
Engineering Management	92
Mining	34

* Total does not include computer science (outside engineering).

2.1.3 Percentage of Bachelors Degrees Awarded to Underrepresented Minorities by Discipline

Table 3: Percentage of Bachelors Degrees Awarded to Underrepresented Minorities by Discipline 14.6 % of Total

Discipline Name	Percent Women
Electrical	19.7%
Computer	19.4%
Civil	18.2%
Civil/Environmental	17%
Petroleum	16.4%
Mechanical	15.3%
Industrial/Manufacturing/Systems	15.1%
Architectural	14.4%
Computer Sci. (inside Eng.)	14%
Engineering (General)	13.9%
Nuclear	13.7%
Envr. Eng	13.6%
Aerospace	13.4%
Engineering Management	13.4%
Biomedical	13.2%
Chemical	12.9%
Other	12.7%
Electrical/Computer	12.2%
Engr. Science and Engr. Physics	12.1%
Metallurgical and Matrls.	11.6%
Computer Sci. (outside Engr.)	10.9%
Mining	10.2%
Biological and Agricultural	9.7%

2.1.4 Percentage of Bachelors Degrees Awarded to Women by Discipline

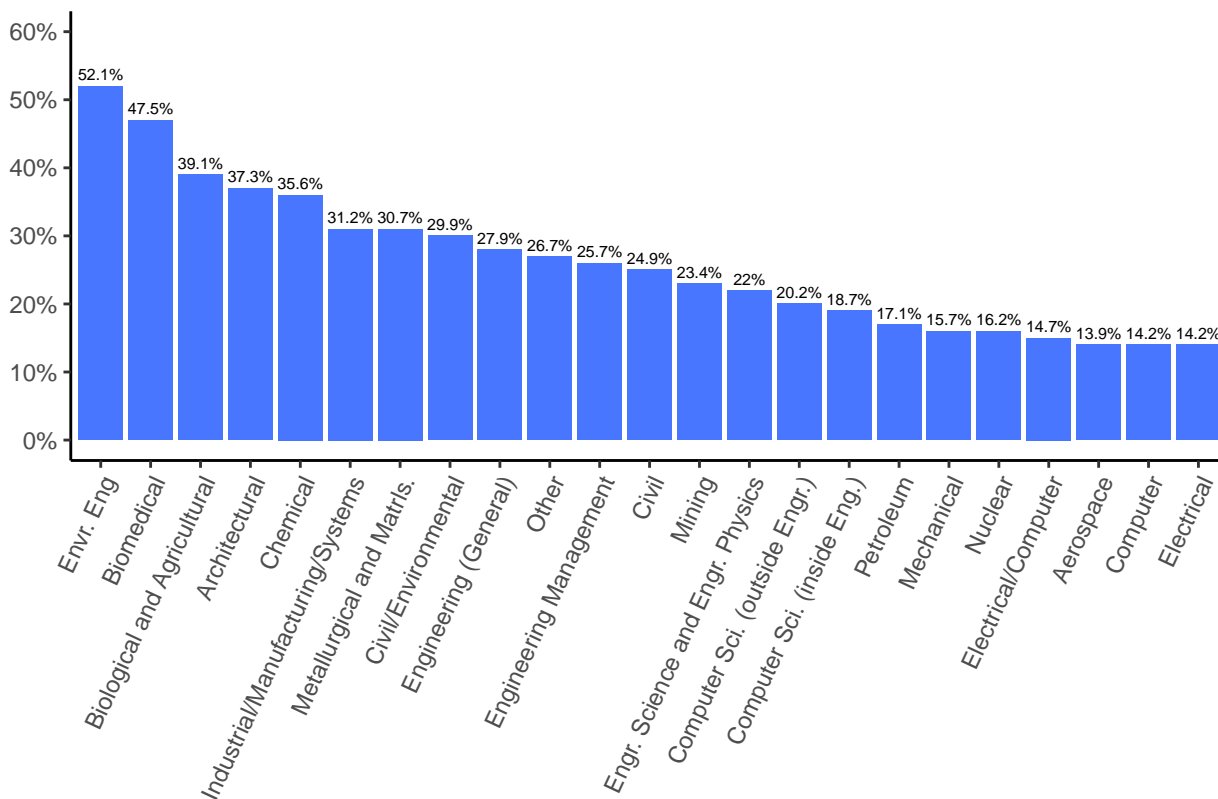
Table 4: Percentage of Bachelors Degrees Awarded to Women by Discipline 22.5 % of Total

Discipline Name	Percent Women
Envr. Eng	52.1%
Biomedical	47.5%
Biological and Agricultural	39.1%
Architectural	37.3%
Chemical	35.6%
Industrial/Manufacturing/Systems	31.2%
Metallurgical and Matrls.	30.7%
Civil/Environmental	29.9%
Engineering (General)	27.9%

Table 4: Percentage of Bachelors Degrees Awarded to Women by Discipline 22.5 % of Total (*continued*)

Discipline Name	Percent Women
Other	26.7%
Engineering Management	25.7%
Civil	24.9%
Mining	23.4%
Engr. Science and Engr. Physics	22%
Computer Sci. (outside Engr.)	20.2%
Computer Sci. (inside Eng.)	18.7%
Petroleum	17.1%
Nuclear	16.2%
Mechanical	15.7%
Electrical/Computer	14.7%
Computer	14.2%
Electrical	14.2%
Aerospace	13.9%

Percentage of Bachelors Degrees Awarded to Women by Discipline



2.1.5 Institutions Awarding the Highest Number of Engineering Bachelor's Degrees

Table 5: Institutions Awarding the Highest Number of Engineering Bachelor's Degrees

No	Institutions	Degrees Awarded
1	Georgia Institute of Technology	2,812
2	University of Illinois at Urbana-Champaign	2,410
3	Purdue University	2,339
4	Arizona State University	2,275
5	Texas A&M University	2,236
6	The Pennsylvania State University	1,953
7	Virginia Polytechnic Institute and State University	1,952
8	University of Michigan	1,883
9	University of California, Irvine	1,738
10	University of Wisconsin-Madison	1,729
11	The Ohio State University	1,715
12	The University of Texas at Austin	1,666
13	Iowa State University	1,653
14	University of California, Berkeley	1,646
15	North Carolina State University at Raleigh	1,638
16	University of Maryland, College Park	1,624
17	Oregon State University	1,597
18	University of Central Florida	1,533
19	University of Florida	1,519
20	California Polytechnic State University, San Luis Obispo	1,424
21	Rutgers, The State University of New Jersey, School of Engineering	1,373
22	University of Washington in Seattle	1,366
23	University of California, San Diego	1,361
24	North Carolina State University	1,320
25	Stony Brook University	1,291
26	University at Buffalo, SUNY	1,274
27	Louisiana State University	1,177
28	Missouri University of Science and Technology	1,153

Table 5: Institutions Awarding the Highest Number of Engineering Bachelor's Degrees (*continued*)

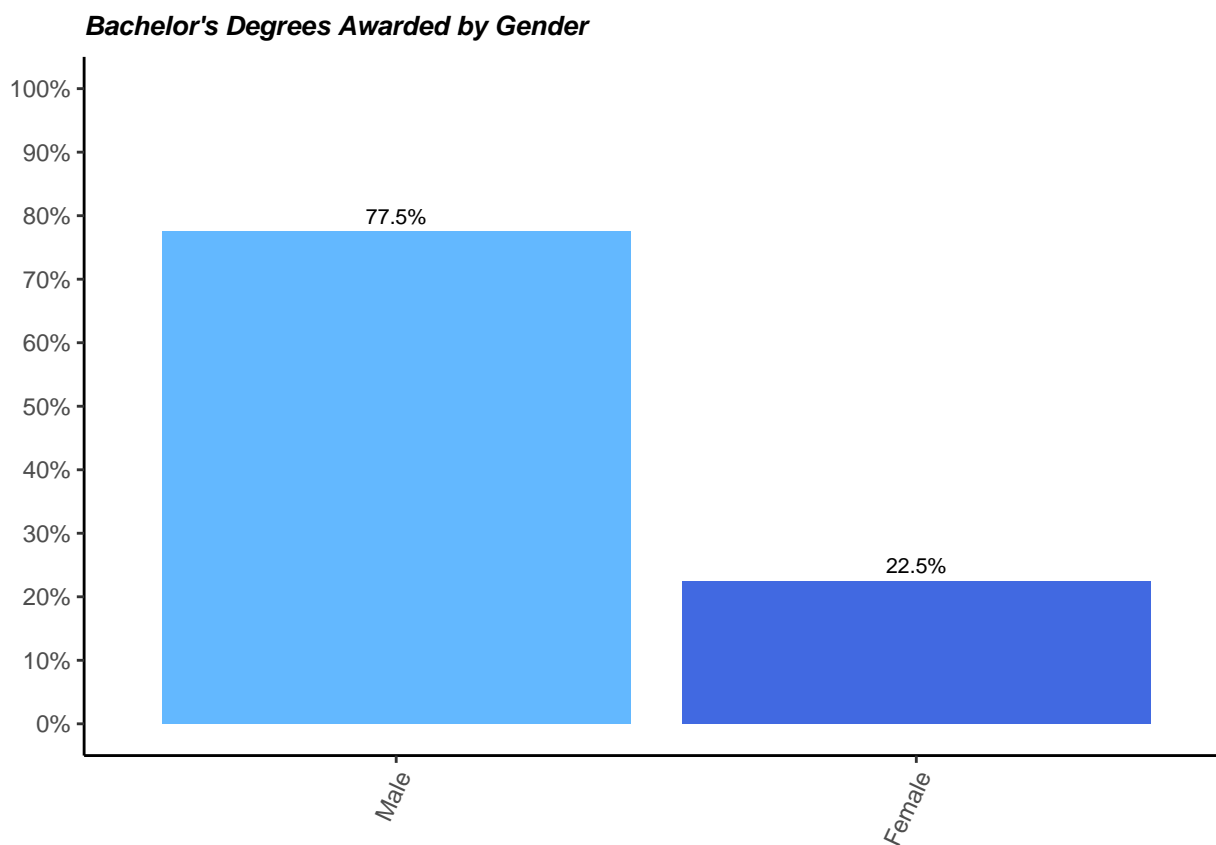
No	Institutions	Degrees Awarded
29	University of Minnesota -Twin Cities	1,131
30	Colorado School of Mines	1,118
31	Clemson University	1,091
32	University of California, Davis	1,088
33	Florida International University	1,084
34	Michigan State University	1,072
35	Northeastern University	1,071
36	New Jersey Institute of Technology	1,062
37	University of Colorado Boulder	1,047
38	Texas Tech University	1,026
39	George Mason University	993
39	The University of Texas at Dallas	993
41	The University of Alabama	988
42	San Jose State University	980
43	California State University, Long Beach	970
44	Rensselaer Polytechnic Institute	966
45	University of Houston	949
46	Auburn University	944
47	University of Pittsburgh	935
48	University of South Florida	929
49	Brigham Young University	902
50	Drexel University	891

* 427 Institutions included

2.1.6 Bachelor's Degrees Awarded by Gender

Table 6: Bachelor's Degrees Awarded by Gender

Male	Female
77.5%	22.5%



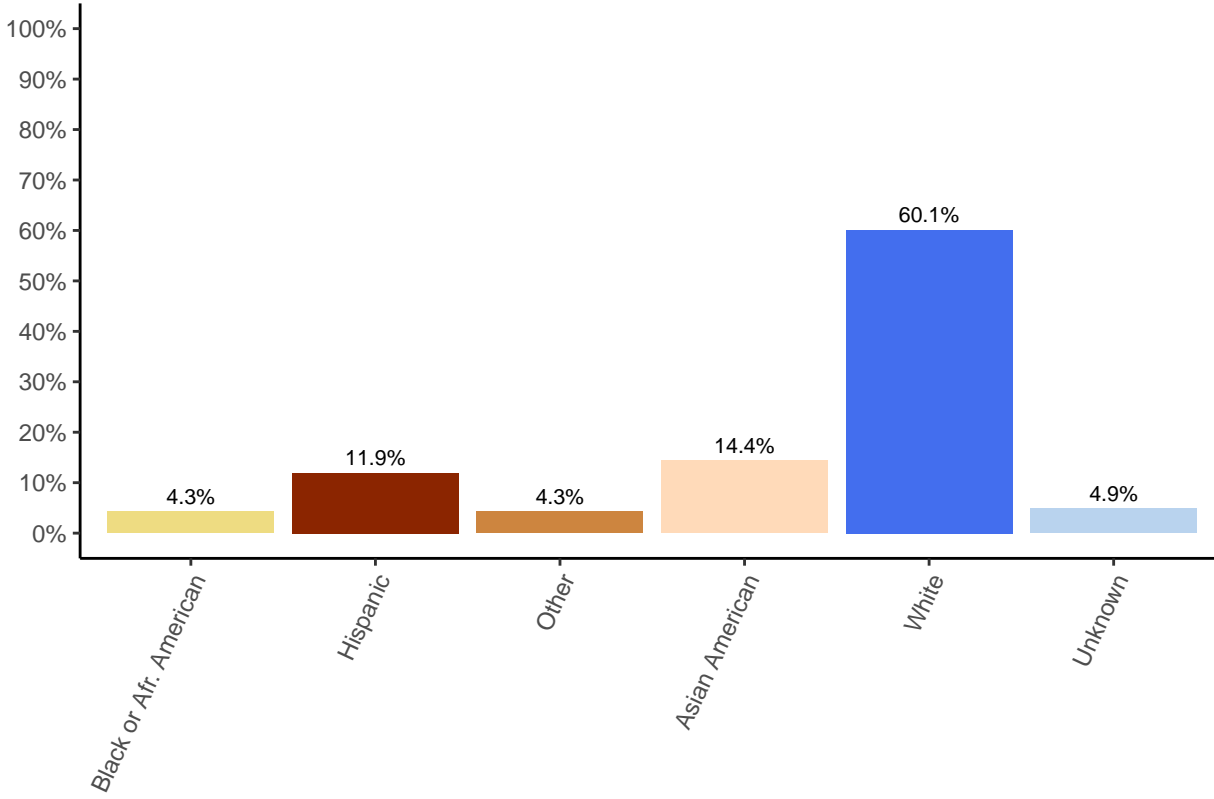
2.1.7 Bachelor's Degrees Awarded by Race and Ethnicity

Table 7: Bachelor's Degrees Awarded by Ethnicity

Ethnicity	2011	2012	2013	2014	2015	2016	2017	2018	2019
Black or Afr. American	4.2%	4.2%	4.3%	3.5%	4.0%	3.9%	4.1%	4.2%	4.3%
Hispanic	8.5%	9.0%	9.3%	10.1%	10.7%	10.7%	11.1%	11.4%	11.9%
Other	1.6%	2.0%	2.3%	2.9%	3.1%	3.6%	3.8%	3.5%	4.3%
Asian American	12.2%	12.2%	12.9%	13.1%	13.4%	14.2%	14.6%	14.7%	14.4%
White	66.6%	66.2%	65.7%	65.9%	64.9%	63.4%	62.3%	61.5%	60.1%
Unknown	6.9%	6.5%	5.6%	4.5%	3.9%	4.2%	4.1%	4.2%	4.9%

*Data on ethnicity does not include foreign nationals. American Indian/Alaska Native (0.3%), Native Hawaiian/Other Pacific Islander(0.2%) and Multiracial (3.8%) are combined under Other.

Bachelor's Degrees Awarded by Race and Ethnicity

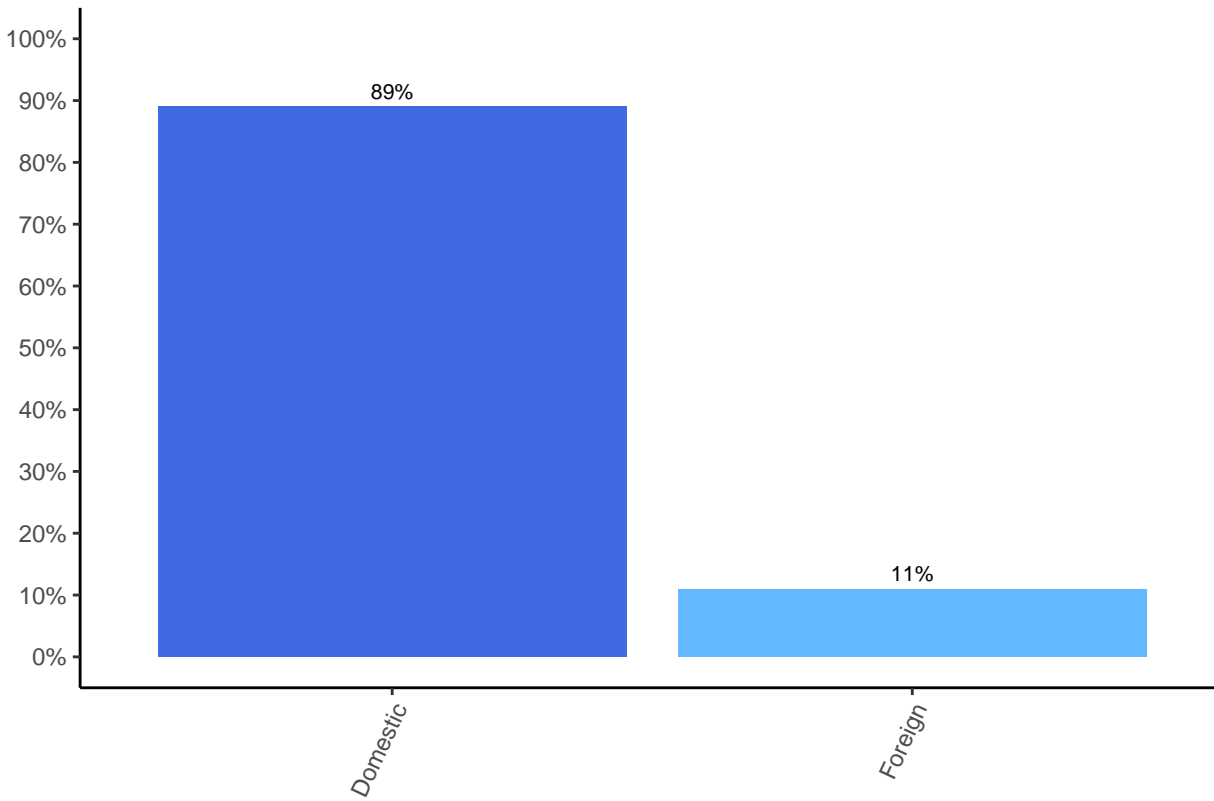


2.1.8 Bachelor's Degrees Awarded by Residency

Table 8: Bachelor's Degrees Awarded by Residency

Nationality	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Foreign	6.2%	6.2%	6.7%	7.5%	7.8%	8.5%	9.1%	9.6%	10.1%	11.0%
Domestic	94.0%	93.8%	93.3%	92.5%	92.2%	91.5%	90.9%	90.4%	89.9%	89.0%

Bachelor's Degrees Awarded by Residency



2.1.9 Bachelor's Degrees Awarded by Race, Ethnicity, and Gender

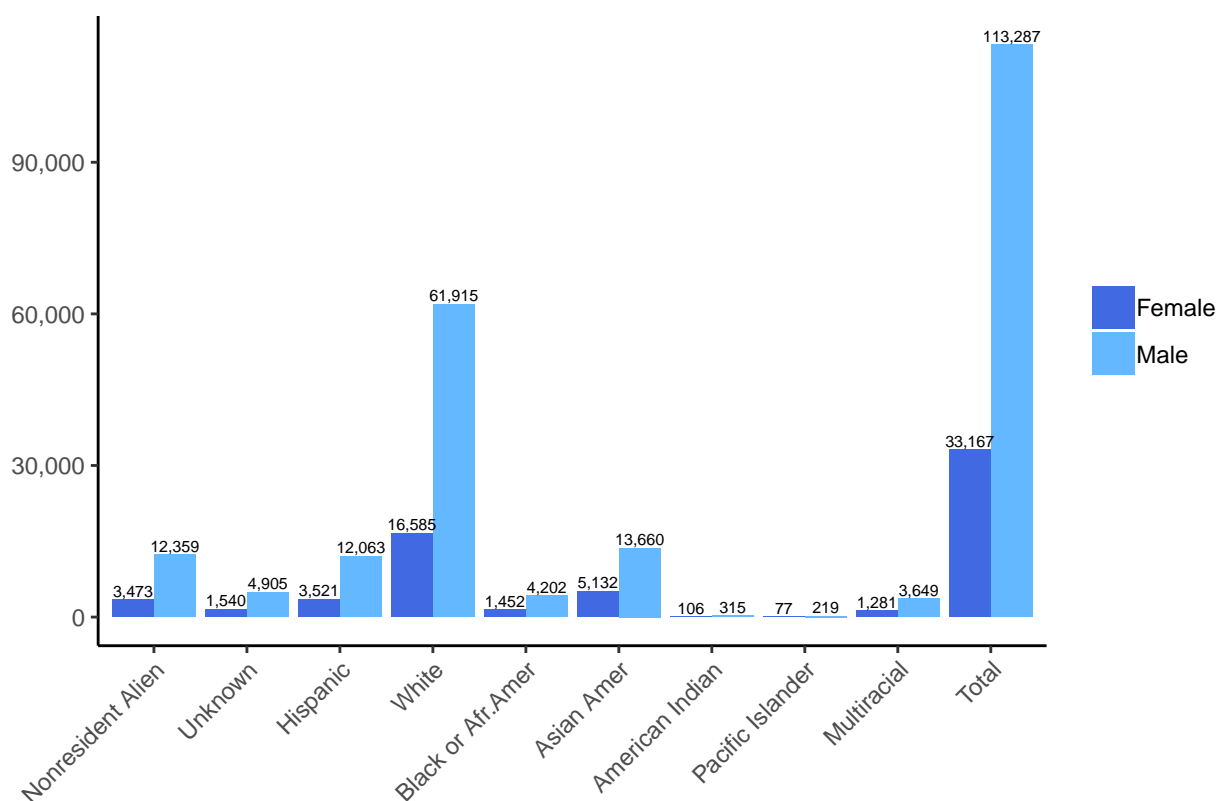
Table 9: Bachelor's Degrees Awarded by Race, Ethnicity, and Gender 146,495*

Ethnicity	Degrees Awarded
Nonresident Alien Male	12,359
Nonresident Alien Female	3,473
Unknown Male	4,905
Unknown Female	1,540
Hispanic Male	12,063
Hispanic Female	3,521
White Male	61,915
White Female	16,585
Black or Afr. American Male	4,202
Black or Afr. American Female	1,452
Asian American Male	13,660
Asian American Female	5,132
American Indian Male	315
American Indian Female	106
Native Hawaiian/Other Pacific Islander Male	219
Native Hawaiian/Other Pacific Islander Female	77
Multiracial Male	3,649
Multiracial Female	1,281
Total Male	113,287
Total Female	33,167

* Total degree includes 4 total Non binary graduates and 50 total Other Gender graduates.

* Includes 324 male and 118 female graduates from Puerto Rico.

Bachelor's Degrees Awarded by Race, Ethnicity, and Gender



2.1.10 Top 50 Institutions by Total Bachelor's Degrees awarded to Underrepresented Minorities

Table 10: Top 50 Institutions by Total Bachelor's Degrees awarded to Underrepresented Minorities

No	Institutions	Degrees Awarded
1	Florida International University	793
2	Texas A&M University	536
3	University of Central Florida	472
4	University of Puerto Rico, Mayaguez Campus	442
5	Arizona State University	423
6	The University of Texas at El Paso	421
7	University of Florida	382
8	Georgia Institute of Technology	346
9	The University of Texas at San Antonio	338
10	University of California, Irvine	334
11	California State University, Long Beach	321
12	University of Houston	312
13	New Jersey Institute of Technology	303
14	The University of Texas at Austin	263
15	The University of Texas Rio Grande Valley	261
16	Texas Tech University	260
17	California State University, Los Angeles	244
18	University of South Florida	234
19	California State University, Fullerton	232

Table 10: Top 50 Institutions by Total Bachelor's Degrees awarded to Underrepresented Minorities (*continued*)

No	Institutions	Degrees Awarded
20	California State University, Northridge	216
21	California Polytechnic State University, San Luis Obispo	215
22	University of Maryland, College Park	214
23	University of Wisconsin-Madison	212
24	San Jose State University	204
25	San Diego State University	195
26	The University of Texas at Arlington	194
27	Texas A&M University - Kingsville	193
28	University of Illinois at Chicago	192
29	The University of Texas at Dallas	191
30	University of Arizona	190
31	George Mason University	188
32	Florida Atlantic University	179
33	Rutgers, The State University of New Jersey, School of Engineering	173
34	California State University, Sacramento	169
35	City College of the City University of New York	167
36	FAMU-FSU College of Engineering	163
37	Stanford University	161
37	University of Illinois at Urbana-Champaign	161
39	Massachusetts Institute of Technology	160
39	North Carolina A&T State University	160
41	University of California, Davis	156
41	University of Maryland, Baltimore County	156
43	Kennesaw State University	153
44	The University of New Mexico	147
45	Virginia Polytechnic Institute and State University	145
46	Stony Brook University	142
47	Prairie View A & M University	140
48	University at Buffalo, SUNY	138
49	Cornell University	137
50	North Carolina State University at Raleigh	136

* 427 Institutions included

2.1.11 Top 50 Institutions by Total Bachelor's Degrees awarded to Women

Table 11: Top 50 Institutions by Total Bachelor's Degrees awarded to Women

No	Institutions	Degrees Awarded
1	Georgia Institute of Technology	831
2	Purdue University	569
3	North Carolina State University at Raleigh	524
4	Texas A&M University	523
5	University of Michigan	494
6	University of Illinois at Urbana-Champaign	482
7	University of California, Irvine	442
8	Virginia Polytechnic Institute and State University	432
9	University of California, Berkeley	431
10	The Pennsylvania State University	430
11	The University of Texas at Austin	421
12	Arizona State University	419
13	University of Washington in Seattle	413
14	The Ohio State University	406
15	University of Florida	398
16	Massachusetts Institute of Technology	388
17	Cornell University	370
18	California Polytechnic State University, San Luis Obispo	366
19	University of Wisconsin-Madison	359
20	University at Buffalo, SUNY	347
21	Colorado School of Mines	332
21	Stony Brook University	332
23	Rutgers, The State University of New Jersey, School of Engineering	330
24	University of California, San Diego	321
25	University of California, Davis	318
25	University of Maryland, College Park	318
27	Oregon State University	313
28	Stanford University	310
29	Northeastern University	293
30	University of Virginia	292
31	Worcester Polytechnic Institute	282
32	Rensselaer Polytechnic Institute	281
33	Iowa State University	271
33	University of Minnesota -Twin Cities	271
35	Louisiana State University	256
36	Michigan State University	253
37	The University of Alabama	252
38	Clemson University	251
39	University of Colorado Boulder	247
40	University of Pittsburgh	246
41	University of Central Florida	245

Table 11: Top 50 Institutions by Total Bachelor's Degrees awarded to Women (*continued*)

No	Institutions	Degrees Awarded
42	George Mason University	234
43	Carnegie Mellon University	233
44	University of Southern California	228
45	University of Houston	226
46	Missouri University of Science and Technology	218
47	University of Oklahoma, Gallogly College of Engineering	215
48	Florida International University	213
49	Boston University	211
49	New Jersey Institute of Technology	211

* 427 Institutions included

2.1.12 Top 50 Institutions by Percentage of Bachelor's Degrees awarded to Underrepresented Minorities

Table 12: Top 50 Institutions by Percentage of Bachelor's Degrees awarded to Underrepresented Minorities

No	Institutions	Percent Underrepresented Minorities
1	Bethune-Cookman University	100%
1	Central State University	100%
1	Hampton University	100%
1	Navajo Technical University	100%
1	Texas A & M International University	100%
1	University of Puerto Rico, Mayaguez Campus	100%
7	Southern University and A & M College	96.2%
8	Virginia State University	95.2%
9	Alabama A & M University	92.5%
10	Norfolk State University	89.5%
11	The University of Texas Rio Grande Valley	83.4%
12	Prairie View A & M University	81.4%
13	Jackson State University	80%
14	Florida International University	73.2%
15	The University of Texas at El Paso	71.6%
16	North Carolina A&T State University	66.4%
17	California State University-San Bernardino	62.5%
18	Texas A&M University - Kingsville	61.3%
19	The University of Texas of the Permian Basin	56%
20	Tuskegee University	55.8%
21	California State University, Los Angeles	55%
22	The University of Texas at San Antonio	52.6%
23	Andrews University	50%
24	Morgan State University	49.8%
25	Howard University	47.2%
26	Fort Lewis College	46.7%
27	Texas A & M University-Corpus Christi	46.3%
28	California State University-Bakersfield	45%
29	The University of New Mexico	44.3%
30	Florida Atlantic University	43.3%
31	Texas State University	43.3%
32	University of Maryland Eastern Shore	40.9%
33	West Texas A & M University	40.2%
34	University of California, Merced	40.2%
35	St. Mary's University	39.6%
36	Texas A & M University-Commerce	39.4%
37	Pennsylvania State University-Penn State Hazleton	37.5%
38	Frostburg State University	37.2%
39	The University of Texas at Tyler	36.9%
40	Tennessee State University	36.4%
41	Lamar University	35.6%
42	Colorado State University-Pueblo	33.3%
42	Muskingum University	33.3%
44	California State University, Long Beach	33.1%
45	University of Houston	32.9%
46	New Mexico Institute of Mining and Technology	31.9%
47	California State University, Northridge	31.9%
48	University of Massachusetts-Boston	31.8%
49	College of Staten Island CUNY	31.7%
50	California State University, Fullerton	31%

* 427 Institutions included

2.1.13 Top 20 Institutions by Percentage of Bachelor's Degrees awarded to Women

Table 13: Top 20 Institutions by Percentage of Bachelor's Degrees awarded to Women

No	Institutions	Percent Women
1	Smith College	100%
1	Sweet Briar College	100%
3	Hampton University	57.1%
4	The George Washington University	52.6%

Table 13: Top 20 Institutions by Percentage of Bachelor's Degrees awarded to Women (*continued*)

No	Institutions	Percent Women
5	Loras College	50%
5	Navajo Technical University	50%
7	Brown University	46.6%
8	Massachusetts Institute of Technology	46.2%
9	Tulane University	45%
10	University of North Carolina at Chapel Hill	44.2%
11	Harvey Mudd College	43.4%
12	California Institute of Technology	43.2%
13	Cornell University	42.9%
14	SUNY College of Environmental Science and Forestry	41.6%
15	Columbia University	39.9%
15	Fu Foundation School of Engineering and Applied Science - Columbia University	39.9%
17	Stanford University	39.6%
18	Southern Methodist University	38.4%
19	Dartmouth College	37.6%
19	Southern Denmark School of Engineering	37.6%

* 427 Institutions included

2.1.14 Top 20 Institutions by Total Bachelor's Degrees awarded to African Americans

Table 14: Top 20 Institutions by Total Bachelor's Degrees awarded to African Americans

No	Institutions	Degrees Awarded
1	Georgia Institute of Technology	153
2	North Carolina A&T State University	150
3	University of Maryland, Baltimore County	117
4	Prairie View A & M University	116
5	University of Maryland, College Park	109
6	Florida International University	97
7	Morgan State University	94
8	University of Central Florida	93
9	New Jersey Institute of Technology	90
10	Kennesaw State University	87
11	George Mason University	84
12	Florida Atlantic University	66
13	City College of the City University of New York	64
14	Jackson State University	63
15	Alabama A & M University	62
15	Georgia Southern University	62
15	Mississippi State University	62
18	Texas Tech University	61
19	Howard University	60
19	University of South Carolina	60

* 427 Institutions included

2.1.15 Top 20 Institutions by Total Bachelor's Degrees awarded to Asian Americans

Table 15: Top 20 Institutions by Total Bachelor's Degrees awarded to Asian Americans

No	Institutions	Degrees Awarded
1	University of California, Berkeley	902
2	University of California, Irvine	750
3	Georgia Institute of Technology	665
4	The University of Texas at Austin	591
5	University of Illinois at Urbana-Champaign	590
6	University of California, San Diego	520
7	Rutgers, The State University of New Jersey, School of Engineering	480
8	San Jose State University	427
9	Stony Brook University	412
9	University of Maryland, College Park	412
11	University of California, Davis	396
12	University of Washington in Seattle	376
13	University of California, Los Angeles	375
14	University of Michigan	358
15	George Mason University	311
16	Purdue University	295
17	The University of Texas at Dallas	294
18	California State University, Long Beach	288
19	Texas A&M University	267
20	Cornell University	266

* 427 Institutions included

2.1.16 Top 20 Institutions by Total Bachelor's Degrees awarded to Hispanics

Table 16: Top 20 Institutions by Total Bachelor's Degrees awarded to Hispanics

No	Institutions	Degrees Awarded
1	Florida International University	696
2	Texas A&M University	485
3	University of Puerto Rico, Mayaguez Campus	442
4	The University of Texas at El Paso	417
5	University of Central Florida	375
6	Arizona State University	365
7	University of Florida	325
8	California State University, Long Beach	302
9	The University of Texas at San Antonio	299
10	University of California, Irvine	290
11	The University of Texas Rio Grande Valley	260
12	University of Houston	257
13	California State University, Los Angeles	234
14	The University of Texas at Austin	229
15	California State University, Fullerton	220
16	California Polytechnic State University, San Luis Obispo	207
17	California State University, Northridge	198
18	Texas Tech University	197
19	Georgia Institute of Technology	193
20	University of Wisconsin-Madison	192

* 427 Institutions included

2.1.17 Top 20 Institutions by Total Bachelor's Degrees awarded in Aerospace Engineering

Table 17: Top 20 Institutions by Total Bachelor's Degrees awarded in Aerospace Engineering

No	Institutions	Degrees Awarded
1	West Virginia University	289
2	Embry Riddle Aeronautical University-Daytona Beach	224
3	Georgia Institute of Technology	207
4	Purdue University	160
4	Virginia Polytechnic Institute and State University	160
6	University of Central Florida	152
7	Texas A&M University	147
8	The University of Texas at Austin	138
9	The Pennsylvania State University	133
10	University of Illinois at Urbana-Champaign	131
11	Iowa State University	122
12	University of Southern California	118
13	University of Colorado Boulder	115
14	Embry Riddle Aeronautical University, Prescott	114
15	University of Michigan	112
16	University of Maryland, College Park	104
17	University of Florida	103
18	Arizona State University	98
18	University of California, San Diego	98
20	California Polytechnic State University, San Luis Obispo	97

* 69 Institutions included

2.1.18 Top 20 Institutions by Total Bachelor's Degrees awarded in Biomedical Engineering

Table 18: Top 20 Institutions by Total Bachelor's Degrees awarded in Biomedical Engineering

No	Institutions	Degrees Awarded
1	Georgia Institute of Technology	239
2	Dartmouth College	232
2	Southern Denmark School of Engineering	232
4	North Carolina State University at Raleigh	151
5	Arizona State University	142
6	University of California, San Diego	136
7	Texas A&M University	130
8	Boston University	129
8	The University of Iowa	129
10	California Polytechnic State University, San Luis Obispo	116
11	Clemson University	112
12	University of Wisconsin-Madison	106
13	The University of Texas at Austin	103
14	Drexel University	102
14	The Pennsylvania State University	102
16	Rutgers, The State University of New Jersey, School of Engineering	100
17	The Johns Hopkins University	99
18	Duke University	96
19	University of California, Riverside	94
19	University of Connecticut	94

* 159 Institutions included

2.1.19 Top 50 Institutions by Total Bachelor's Degrees awarded in Chemical Engineering

Table 19: Top 20 Institutions by Total Bachelor's Degrees awarded in Chemical Engineering

No	Institutions	Degrees Awarded
1	The Ohio State University	243
2	The Pennsylvania State University	226
3	Texas A&M University	224
4	Georgia Institute of Technology	220
5	The University of Alabama	206
6	Arizona State University	177
7	Purdue University	173
8	Colorado School of Mines	170
9	Northeastern University	155
10	Michigan State University	154
10	The University of Texas at Austin	154
12	Iowa State University	152
12	Montana State University	152
14	University of Colorado Boulder	149
14	University of Illinois at Urbana-Champaign	149
16	North Carolina State University at Raleigh	148
17	Louisiana State University	139
18	University of California, Davis	133
18	University of Michigan	133
20	University of South Florida	132
21	University of Cincinnati	128
22	University of Florida	127
23	University of California, Berkeley	126
24	Brigham Young University	117
25	Mississippi State University	116
26	Rensselaer Polytechnic Institute	115
26	University of Pittsburgh	115
28	Oregon State University	114
29	University of California, Riverside	106
29	University of Wisconsin-Madison	106
31	University of Kentucky	105
32	Virginia Polytechnic Institute and State University	102
33	University of Minnesota -Twin Cities	101
34	University of California, San Diego	99
35	Auburn University	98
36	University of Massachusetts Amherst	95
37	Michigan Technological University	92
37	New Jersey Institute of Technology	92
37	University of Tennessee, Knoxville	92
40	University of Massachusetts Lowell	90
41	University of Kansas	89
42	Clemson University	88
43	FAMU-FSU College of Engineering	87
43	The Johns Hopkins University	87
43	University of Connecticut	87
43	University of Maryland, College Park	87
47	University of California, Los Angeles	86
47	University of Puerto Rico, Mayaguez Campus	86
47	University of Utah	86
47	West Virginia University	86

* 162 Institutions included

2.1.20 Top 50 Institutions by Total Bachelor's Degrees awarded in Civil Engineering

Table 20: Top 50 Institutions by Total Bachelor's Degrees awarded in Civil Engineering

No	Institutions	Degrees Awarded
1	Texas A&M University	248
2	Iowa State University	245
3	Virginia Polytechnic Institute and State University	217
4	Purdue University	195
5	University of Illinois at Urbana-Champaign	180
6	The Pennsylvania State University	176
7	North Carolina State University at Raleigh	169
8	California State University, Long Beach	167
9	The University of Alabama	146
10	University of Florida	140
11	University of Washington in Seattle	139
12	California State University, Fullerton	137
13	San Jose State University	135
14	California State University, Sacramento	134
15	University of Maryland, College Park	130
16	Georgia Institute of Technology	129
17	New Jersey Institute of Technology	125
18	Auburn University	118
18	Clemson University	118
20	University of Nebraska, Lincoln	116

Table 20: Top 50 Institutions by Total Bachelor's Degrees awarded in Civil Engineering (*continued*)

No	Institutions	Degrees Awarded
21	Oregon State University	110
22	Michigan State University	107
23	FAMU-FSU College of Engineering	106
23	University of Central Florida	106
25	The University of Texas at Arlington	105
26	California State University, Northridge	102
27	University of California, Irvine	100
28	West Virginia University	96
29	California State University, Los Angeles	94
29	University of Wisconsin, Platteville	94
31	University of California, San Diego	93
31	University of Connecticut	93
33	University of Kentucky	92
34	University of California, Berkeley	91
35	Mississippi State University	89
35	Montana State University	89
37	The University of Texas at San Antonio	87
37	University of New Hampshire	87
39	University of Massachusetts Amherst	86
40	Morgan State University	83
41	University of Missouri	82
42	Kennesaw State University	81
43	Northeastern University	80
44	Michigan Technological University	79
44	University of Pittsburgh	79
46	Pennsylvania State University-Penn State Harrisburg	78
47	Rowan University	76
47	University of Delaware	76
49	San Francisco State University	75
50	City College of the City University of New York	74

* 210 Institutions included

2.1.21 Top 50 Institutions by Total Bachelor's Degrees awarded in Industrial/Manufacturing Engineering

Table 21: Top 50 Institutions by Total Bachelor's Degrees awarded in Industrial/Manufacturing Engineering

No	Institutions	Degrees Awarded
1	Georgia Institute of Technology	356
2	Purdue University	248
3	Brigham Young University	238
4	Texas A&M University	194
5	Virginia Polytechnic Institute and State University	184
6	The Pennsylvania State University	173
7	Arizona State University	169
8	University of Michigan	161
9	Iowa State University	156
10	Clemson University	154
11	The Ohio State University	134
12	University of Wisconsin-Madison	129
13	University of Florida	127
14	University of Illinois at Urbana-Champaign	125
15	West Virginia University	116
16	California Polytechnic State University, San Luis Obispo	115
17	Auburn University	108
18	University of Virginia	107
19	University of Arizona	104
20	University of Central Florida	95
21	Stanford University	93
22	Texas State University	87
23	Northwestern University	82
24	Cornell University	80
25	Rochester Institute of Technology	78
26	North Carolina State University at Raleigh	77
27	Columbia University	74
27	Oregon State University	74
27	Texas Tech University	74
27	The State University of New York at Binghamton	74
31	University of South Florida	72
32	Temple University	70
32	University of Pittsburgh	70
34	Louisiana State University	69
34	University of Arkansas	69
36	University of Southern California	68
37	North Carolina State University	66
38	San Jose State University	65
39	Kansas State University	64
39	University of Miami	64
41	University of Minnesota -Twin Cities	61
42	University of Washington in Seattle	59

Table 21: Top 50 Institutions by Total Bachelor's Degrees awarded in Industrial/Manufacturing Engineering (*continued*)

No	Institutions	Degrees Awarded
43	Rutgers, The State University of New Jersey, School of Engineering	54
43	The University of Texas at El Paso	54
45	University of Puerto Rico, Mayaguez Campus	52
46	Lehigh University	51
46	Southern Illinois University Edwardsville	51
48	University of Missouri	50
49	The University of Iowa	46
49	University at Buffalo, SUNY	46

* 147 Institutions included

2.1.22 Top 50 Institutions by Total Bachelor's Degrees awarded in Mechanical Engineering

Table 22: Top 20 Institutions by Total Bachelor's Degrees awarded in Mechanical Engineering

No	Institutions	Degrees Awarded
1	Georgia Institute of Technology	553
2	Iowa State University	473
3	Texas A&M University	387
4	Virginia Polytechnic Institute and State University	384
5	University of Central Florida	380
6	Purdue University	364
7	Texas Tech University	352
8	The Pennsylvania State University	348
9	The University of Alabama	342
10	Arizona State University	340
11	Colorado School of Mines	329
12	University of Florida	318
13	University of Wisconsin-Madison	317
14	Northeastern University	313
15	University of Maryland, College Park	312
16	University at Buffalo, SUNY	309
16	University of Michigan	309
18	Michigan Technological University	294
19	Rensselaer Polytechnic Institute	290
20	The University of Texas at Austin	275
21	San Diego State University	264
22	Oregon State University	263
23	University of Colorado Boulder	260
24	Michigan State University	259
25	Oklahoma State University	258
26	California Polytechnic State University, San Luis Obispo	255
27	Colorado State University	254
28	University of California, Irvine	253
29	Missouri University of Science and Technology	250
29	University of Illinois at Urbana-Champaign	250
31	Clemson University	245
32	Rutgers, The State University of New Jersey, School of Engineering	238
33	Worcester Polytechnic Institute	235
34	North Carolina State University at Raleigh	230
35	The University of Texas at El Paso	229
36	California State University, Northridge	224
37	University of Dayton	223
38	California State University, Fullerton	219
38	Drexel University	219
38	New Jersey Institute of Technology	219
38	University of Wisconsin, Platteville	219
42	University of North Carolina at Charlotte	211
43	Auburn University	208
43	The University of Texas at Tyler	208
45	University of Houston	204
46	The University of Texas at Dallas	203
46	The University of Texas at San Antonio	203
46	University of Minnesota -Twin Cities	203
49	University of Missouri	200
50	California State University, Long Beach	199

* 328 Institutions included

2.1.23 Top 50 Institutions by Total Bachelor's Degrees awarded in Electrical Engineering

Table 23: Top 50 Institutions by Total Bachelor's Degrees awarded in Electrical Engineering

No	Institutions	Degrees Awarded
1	Arizona State University	310
2	Texas A&M University	239
3	North Carolina State University at Raleigh	200
4	California State University, Long Beach	190

Table 23: Top 50 Institutions by Total Bachelor's Degrees awarded in Electrical Engineering (*continued*)

No	Institutions	Degrees Awarded
4	Georgia Institute of Technology	190
6	San Jose State University	151
7	University of Florida	135
8	University of Central Florida	131
9	The University of Texas at Dallas	127
10	California Polytechnic State University, San Luis Obispo	126
11	Oregon State University	125
12	Rochester Institute of Technology	118
12	University of Cincinnati	118
14	Stevens Institute of Technology	115
15	University at Buffalo, SUNY	114
16	University of California, Irvine	109
17	Kennesaw State University	102
18	University of Illinois at Chicago	97
19	The University of Texas at San Antonio	95
20	University of South Florida	94
21	University of Michigan	92
22	University of Hawaii at Manoa	89
23	Texas State University	84
24	Michigan Technological University	83
24	Rensselaer Polytechnic Institute	83
26	University of Michigan-Dearborn	82
27	City College of the City University of New York	80
28	California State University, Fullerton	79
28	California State University, Los Angeles	79
30	Northern Arizona University	78
31	Colorado School of Mines	74
31	University of Idaho	74
33	University of Pennsylvania	72
34	Auburn University	69
34	The University of Alabama	69
34	University of Puerto Rico, Mayaguez Campus	69
37	University of California, Riverside	67
37	University of North Texas	67
39	University of Arkansas	65
40	Kettering University	64
40	Old Dominion University	64
40	University of Connecticut	64
40	University of Pittsburgh	64
44	Stanford University	63
45	The University of Texas at Arlington	62
46	Georgia Southern University	61
46	Indiana University-Purdue University Indianapolis	61
46	University of Louisville	61
49	Morgan State University	59
50	Grand Valley State University	58

* 219 Institutions included

2.1.24 Top 50 Institutions by Total Bachelor's Degrees awarded in Computer Engineering

Table 24: Top 50 Institutions by Total Bachelor's Degrees awarded in Computer Engineering

No	Institutions	Degrees Awarded
1	San Jose State University	252
2	Georgia Institute of Technology	151
2	North Carolina State University at Raleigh	151
4	University of Central Florida	113
5	University of Florida	107
6	University of Nevada, Reno	106
7	University of Michigan	98
8	California Polytechnic State University, San Luis Obispo	89
9	Arizona State University	87
10	University of Pittsburgh	86
11	The University of Texas at Dallas	83
12	Santa Clara University	78
13	Rensselaer Polytechnic Institute	72
14	University of California-Santa Cruz	70
15	California State University, Fullerton	67
16	Rochester Institute of Technology	66
16	University of South Florida	66
18	Arizona State University-Polytechnic	64
19	University of Cincinnati	61

Table 24: Top 50 Institutions by Total Bachelor's Degrees awarded in Computer Engineering (*continued*)

No	Institutions	Degrees Awarded
20	University of California, Irvine	58
20	University of Puerto Rico, Mayaguez Campus	58
22	Florida Gulf Coast University	55
23	Michigan Technological University	52
23	University of California, Los Angeles	52
25	California State University, Long Beach	51
26	City College of the City University of New York	49
27	Embry Riddle Aeronautical University-Daytona Beach	45
28	University of Delaware	44
29	Florida Atlantic University	42
30	University of Washington in Seattle	41
31	University of Virginia	40
32	University of Houston-Clear Lake	36
32	University of Illinois at Chicago	36
34	San Francisco State University	35
34	The University of Texas at San Antonio	35
34	The University of Texas Rio Grande Valley	35
37	Indiana University-Purdue University Indianapolis	34
38	California State University-San Bernardino	32
38	Jackson State University	32
40	The University of Alabama	31
40	University of Georgia	31
40	Utah Valley University	31
43	Oklahoma State University	30
43	University of Michigan-Dearborn	30
45	Florida Polytechnic University	29
46	Wentworth Institute of Technology	28
47	Purdue University Northwest, Engineering	27
48	California State University-Fresno	26
49	Illinois Institute of Technology	25
49	Southern Illinois University Carbondale	25

* 152 Institutions included

2.1.25 Top 50 Institutions by Total Bachelor's Degrees awarded in Electrical/Computer Engineering

Table 25: Top 50 Institutions by Total Bachelor's Degrees awarded in Electrical/Computer Engineering

No	Institutions	Degrees Awarded
1	University of Illinois at Urbana-Champaign	616
2	The Pennsylvania State University	474
3	University of California, Berkeley	434
4	Purdue University	433
5	Iowa State University	373
6	Virginia Polytechnic Institute and State University	354
7	The University of Texas at Austin	339
8	The Ohio State University	274
9	University of Maryland, Baltimore County	270
10	University of California, San Diego	254
11	Rutgers, The State University of New Jersey, School of Engineering	248
12	University of Maryland, College Park	242
13	University of Washington in Seattle	221
14	University of Missouri	214
15	Milwaukee School of Engineering	211
16	Florida International University	206
17	University of Wisconsin-Madison	203
18	Missouri University of Science and Technology	193
19	Carnegie Mellon University	190
20	Brigham Young University - Idaho	182

* 146 Institutions included

2.1.26 Top 50 Institutions by Total Bachelor's Degrees awarded in Computer Science (outside engineering)

Table 26: Top 50 Institutions by Total Bachelor's Degrees awarded in Computer Science (outside engineering)

No	Institutions	Degrees Awarded
1	University of California, Irvine	903
2	Georgia Institute of Technology	617
3	University of California, Berkeley	594
4	University of Maryland, College Park	592
5	University of Wisconsin-Madison	537

Table 26: Top 50 Institutions by Total Bachelor's Degrees awarded in Computer Science (outside engineering) (*continued*)

No	Institutions	Degrees Awarded
6	Rutgers, The State University of New Jersey, School of Engineering	481
7	Purdue University	414
8	New Jersey Institute of Technology	394
9	The University of Texas at Austin	365
10	University of Michigan	270
11	University of Massachusetts Amherst	266
12	Northeastern University	264
13	University of Houston	261
14	FAMU-FSU College of Engineering	224
15	University of Pittsburgh	216
16	University of Virginia	205
17	Brigham Young University	204
18	Rensselaer Polytechnic Institute	197
19	The University of Texas at San Antonio	186
20	Boston University	182

* 53 Institutions included

2.1.27 Top 50 Institutions by Total Bachelor's Degrees awarded in Computer Science (inside engineering)

Table 27: Top 50 Institutions by Total Bachelor's Degrees awarded in Computer Science (inside engineering)

No	Institutions	Degrees Awarded
1	Oregon State University	657
2	Arizona State University	550
3	University of Central Florida	518
4	University of Illinois at Urbana-Champaign	503
5	The University of Texas at Dallas	489
6	University of Michigan	465
7	University of California, San Diego	447
8	Florida International University	397
9	Texas A&M University	368
10	University of California, Davis	362
11	University of Washington in Seattle	361
12	Stony Brook University	342
13	Stanford University	330
14	Virginia Polytechnic Institute and State University	304
15	The Ohio State University	296
16	University of Minnesota -Twin Cities	295
17	University at Buffalo, SUNY	273
18	Cornell University	272
19	University of Southern California	263
20	George Mason University	250
21	California State University, Fullerton	246
22	University of California, Los Angeles	245
23	California State University, Sacramento	243
24	Michigan State University	233
25	California Polytechnic State University, San Luis Obispo	229
26	University of Pennsylvania	208
27	California State University, Northridge	207
28	University of Illinois at Chicago	205
29	University of North Texas	203
29	University of Utah	203
31	California State University, Long Beach	200
32	Auburn University	193
33	The University of Texas at Arlington	186
34	University of California, Riverside	182
35	University of Virginia	172
36	University of Washington-Tacoma	165
37	Miami University	155
38	University of Florida	154
39	University of Connecticut	153
40	Washington University in St. Louis	152
41	University of Colorado Boulder	151
42	Florida Atlantic University	146
42	Portland State University	146
44	Princeton University	145
45	Clemson University	140
45	Oakland University	140
45	University of South Florida	140
48	Harvard University	139
49	NYU Tandon School of Engineering	137
50	University of Rochester	133

Table 27: Top 50 Institutions by Total Bachelor's Degrees awarded in Computer Science (inside engineering) (*continued*)

No	Institutions	Degrees Awarded
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* 142 Institutions included

2.2 ENGINEERING UNDERGRADUATE ENROLLMENT, FALL 2019

2.2.1 Undergraduate Enrollment by Race, Ethnicity, and Gender

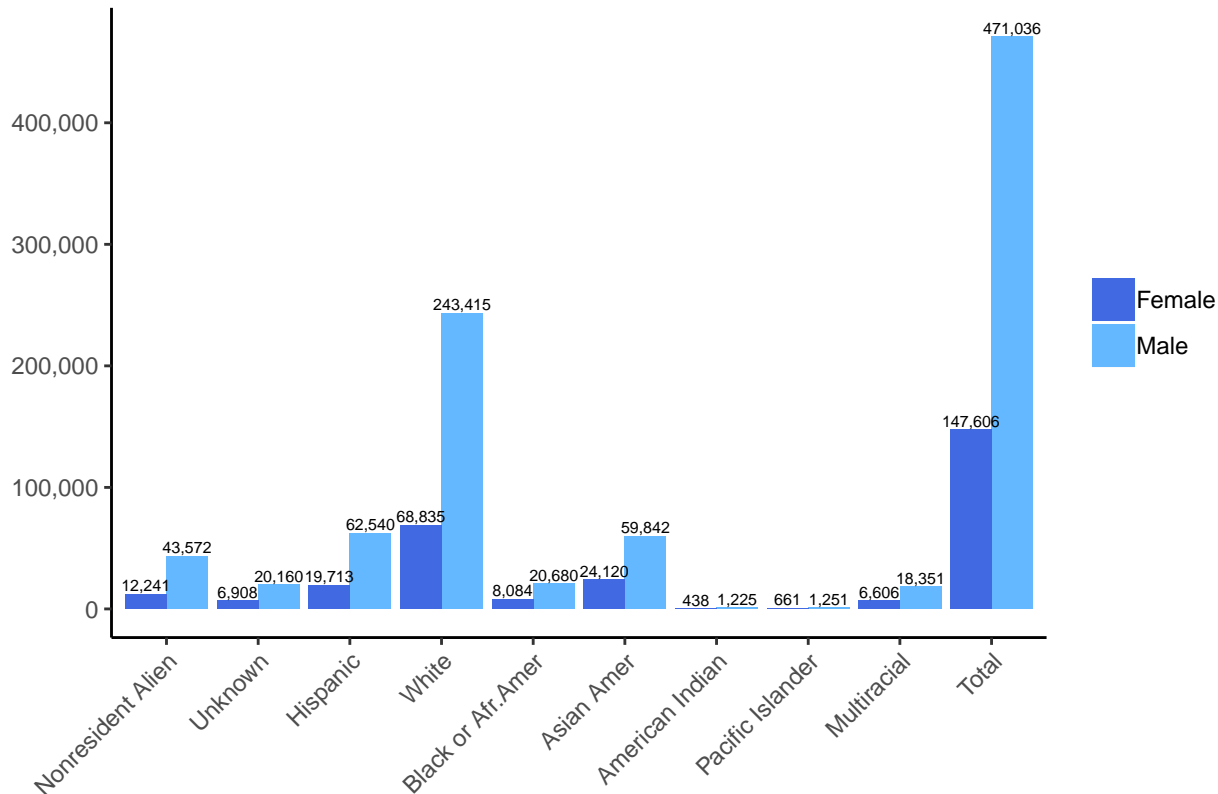
Table 28: Undergraduate Enrollment Awarded by Race, Ethnicity, and Gender 618,642*

Ethnicity	Enrollments
Nonresident Alien Male	43,572
Nonresident Alien Female	12,241
Unknown Male	20,160
Unknown Female	6,908
Hispanic Male	62,540
Hispanic Female	19,713
White Male	243,415
White Female	68,835
Black or Afr. American Male	20,680
Black or Afr. American Female	8,084
Asian American Male	59,842
Asian American Female	24,120
American Indian Male	1,225
American Indian Female	438
Native Hawaiian/Other Pacific Islander Male	1,251
Native Hawaiian/Other Pacific Islander Female	661
Multiracial Male	18,351
Multiracial Female	6,606
Total Male	471,036
Total Female	147,606

* Total Enrollment includes is for full time students

* Includes 3,193 male and 1,195 female.

Undergraduate Enrollment by Race, Ethnicity, and Gender



2.2.2 Engineering Undergraduate Enrollment by Institutions

Table 29: Top 50 Engineering Undergraduate Enrollment by Institutions

No	Institutions	Enrollment
1	Texas A&M University	14,141
2	Arizona State University	14,107
3	Georgia Institute of Technology	11,583
4	Purdue University	11,386
5	University of Central Florida	10,816
6	Virginia Polytechnic Institute and State University	8,927
7	The Pennsylvania State University	8,182
8	University of Illinois at Urbana-Champaign	8,156

Table 29: Top 50 Engineering Undergraduate Enrollment by Institutions (*continued*)

No	Institutions	Enrollment
9	Oregon State University	7,943
10	The Ohio State University	7,931
11	University of Florida	7,892
12	The University of Texas at Austin	7,812
13	California State University, Sacramento	7,751
14	University of Arizona	7,610
15	Iowa State University	7,562
16	University of California, Irvine	7,461
17	University of Michigan	7,334
18	North Carolina State University	7,300
19	University of Maryland, College Park	6,797
20	University of Wisconsin-Madison	6,397
21	George Mason University	6,336
22	California Polytechnic State University, San Luis Obispo	6,318
23	The University of Texas at Dallas	6,273
24	Northeastern University	6,113
25	Michigan State University	6,108
26	Florida International University	6,062
27	University of California, San Diego	6,005
28	University of California, Berkeley	5,647
29	Auburn University	5,579
29	The University of Alabama	5,579
31	New Jersey Institute of Technology	5,470
32	Clemson University	5,338
33	University of Colorado Boulder	5,246
34	Missouri University of Science and Technology	5,232
35	University of South Florida	5,180
36	Colorado School of Mines	5,074
37	University of Washington in Seattle	5,062
38	Rutgers, The State University of New Jersey, School of Engineering	5,021
39	The University of Texas at Arlington	5,018
40	Louisiana State University	4,780
41	University of Puerto Rico, Mayaguez Campus	4,722
42	California State University, Long Beach	4,721
43	University of California, Davis	4,696
44	Rensselaer Polytechnic Institute	4,685
45	California State University, Northridge	4,611
46	University of Minnesota -Twin Cities	4,463
47	University of Cincinnati	4,451
48	Brigham Young University - Idaho	4,399
49	Drexel University	4,369
50	Mississippi State University	4,235

* Enrollment is full time plus part time students.

* Some Institutions donot permit formal enrollment in their engineering colleges until the second or third year.

2.2.3 Undergraduate Enrollment by Engineering Discipline

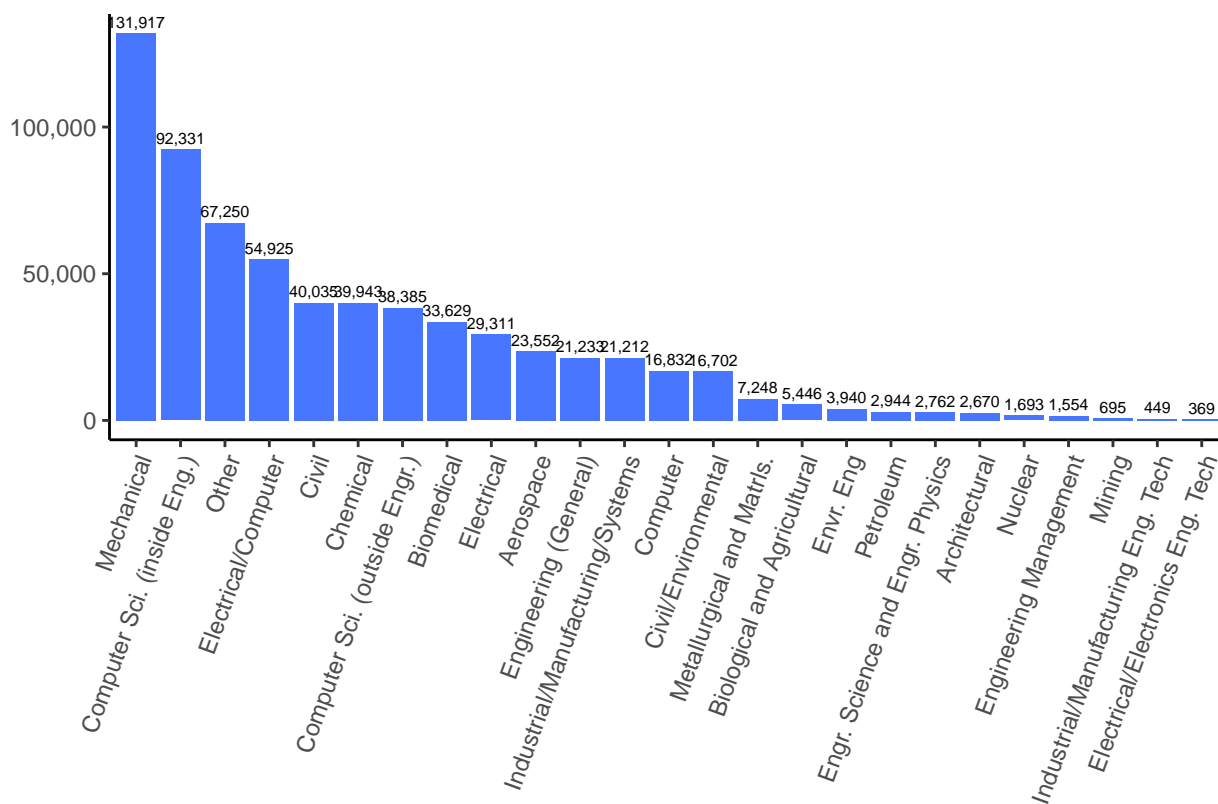
Table 30: Undergraduate Enrollment by Engineering Discipline: 618,642

Discipline Name	Enrollments
Mechanical	131,917
Computer Sci. (inside Eng.)	92,331
Other	67,250
Electrical/Computer	54,925
Civil	40,035
Chemical	39,943
Computer Sci. (outside Engr.)	38,385
Biomedical	33,629
Electrical	29,311
Aerospace	23,552
Engineering (General)	21,233
Industrial/Manufacturing/Systems	21,212
Computer	16,832
Civil/Environmental	16,702
Metallurgical and Matrls.	7,248
Biological and Agricultural	5,446
Envr. Eng	3,940
Petroleum	2,944
Engr. Science and Engr. Physics	2,762
Architectural	2,670
Nuclear	1,693
Engineering Management	1,554
Mining	695
Industrial/Manufacturing Eng. Tech	449
Electrical/Electronics Eng. Tech	369

* Total does not include Computer Science (outside engineering)

* Enrollment is for full-time bachelor's degree candidates in engineering.

Undergraduate Enrollment by Engineering Discipline



2.2.4 Undergraduate Enrollment by Engineering Discipline:(Full time and Part time)

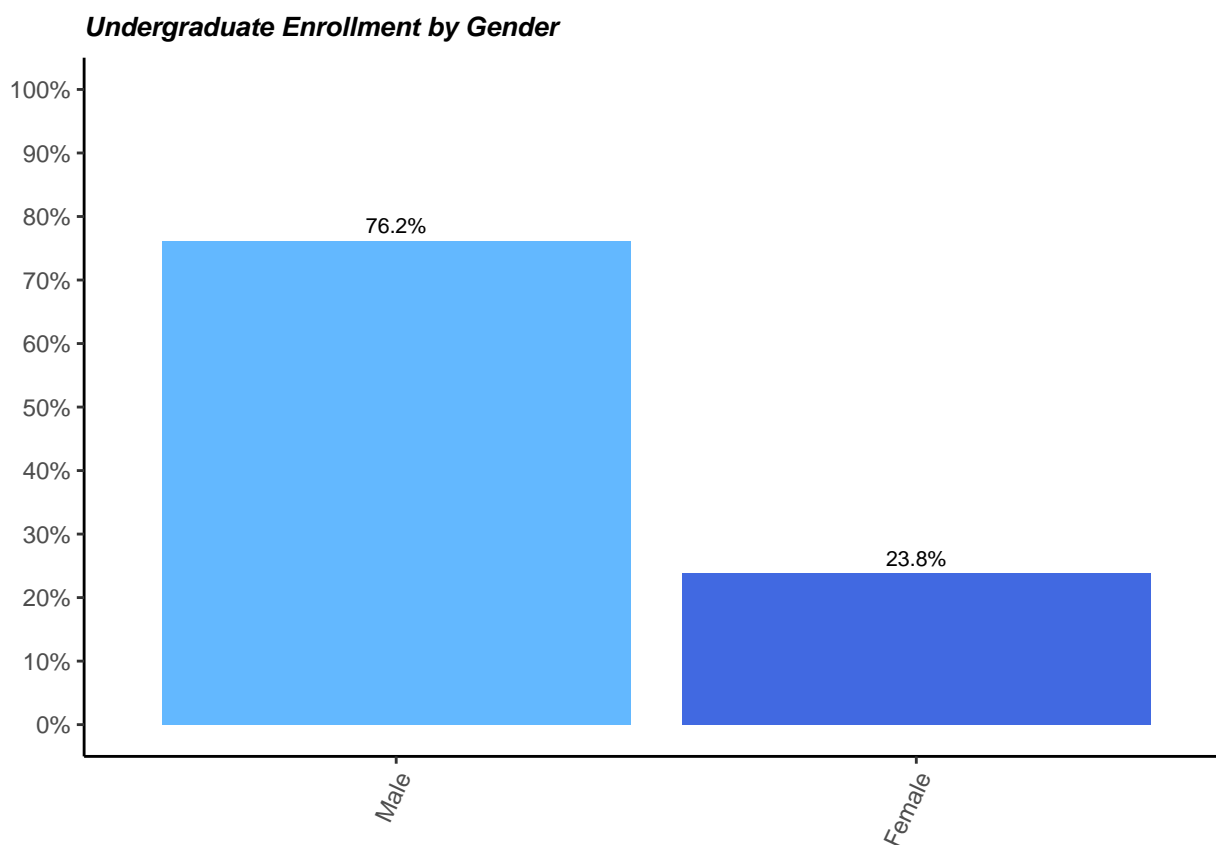
Table 31: Undergraduate Enrollment by Engineering Discipline:(Full time and Part time)

Discipline Name	Full Time	Part Time
Aerospace	23,552	1,427
Architectural	2,670	130
Biological and Agricultural	5,446	231
Biomedical	33,629	1,302
Chemical	39,943	2,596
Civil	40,035	3,889
Civil/Environmental	16,702	1,757
Computer	16,832	1,964
Computer Sci. (inside Eng.)	92,331	13,066
Electrical	29,311	5,044
Electrical/Computer	54,925	6,769
Electrical/Electronics Eng. Tech	369	0
Engineering (General)	21,233	958
Engineering Management	1,554	81
Engr. Science and Engr. Physics	2,762	184
Envr. Eng	3,940	271
Industrial/Manufacturing Eng. Tech	449	0
Industrial/Manufacturing/Systems	21,212	2,669
Mechanical	131,917	14,264
Metallurgical and Matrls.	7,248	448
Mining	695	83
Nuclear	1,693	97
Other	67,250	5,988
Petroleum	2,944	389

2.2.5 Undergraduate Enrollment by Gender

Table 32: Undergraduate Enrollment by Gender

Male	Female
76.2%	23.8%

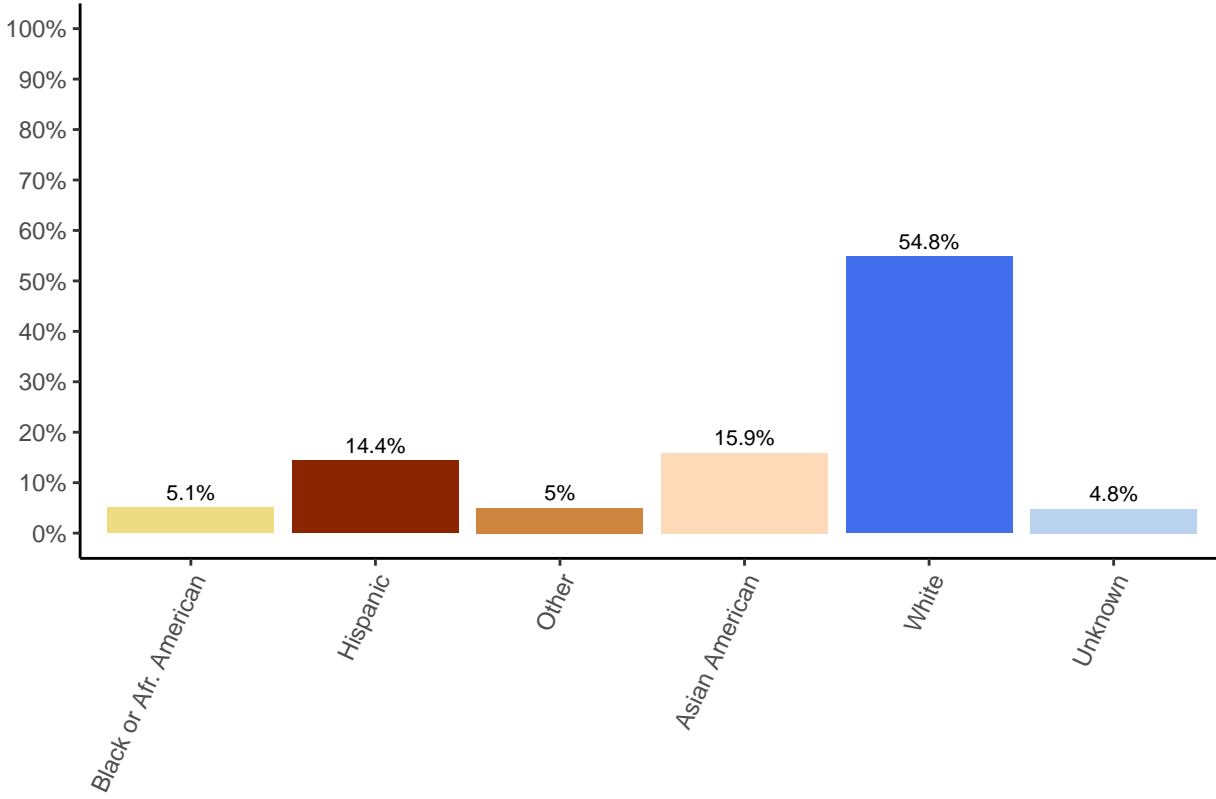


2.2.6 Undergraduate Enrollment by Race and Ethnicity

Table 33: Undergraduate Enrollment by Race and Ethnicity*

Ethnicity	Percentage
Black or Afr. American	5.1%
Hispanic	14.4%
Other	5%
Asian American	15.9%
White	54.8%
Unknown	4.8%

Undergraduate Enrollment by Race and Ethnicity

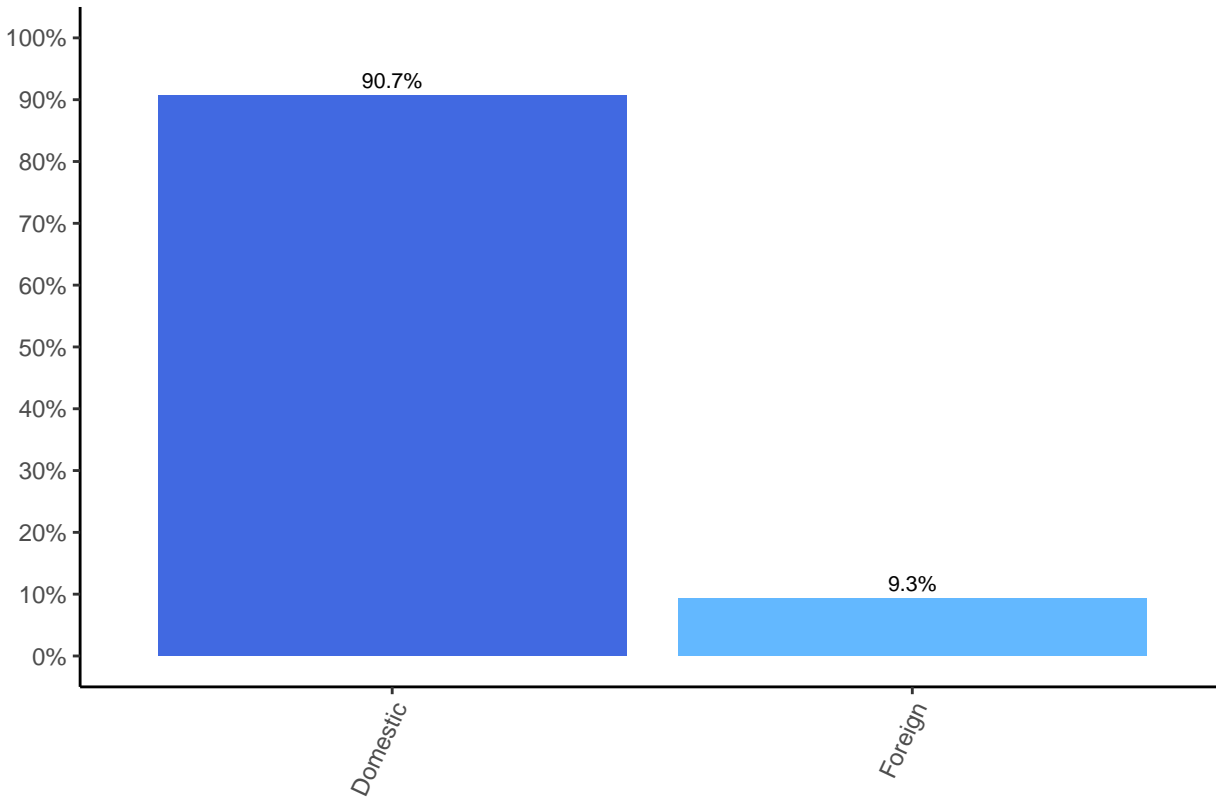


2.2.7 Undergraduate Enrollment by Residency

Table 34: Undergraduate Enrollment by Residency

Foreign	Domestic
9.3%	90.7%

Undergraduate Enrollment by Residency



3 ENGINEERING MASTERS

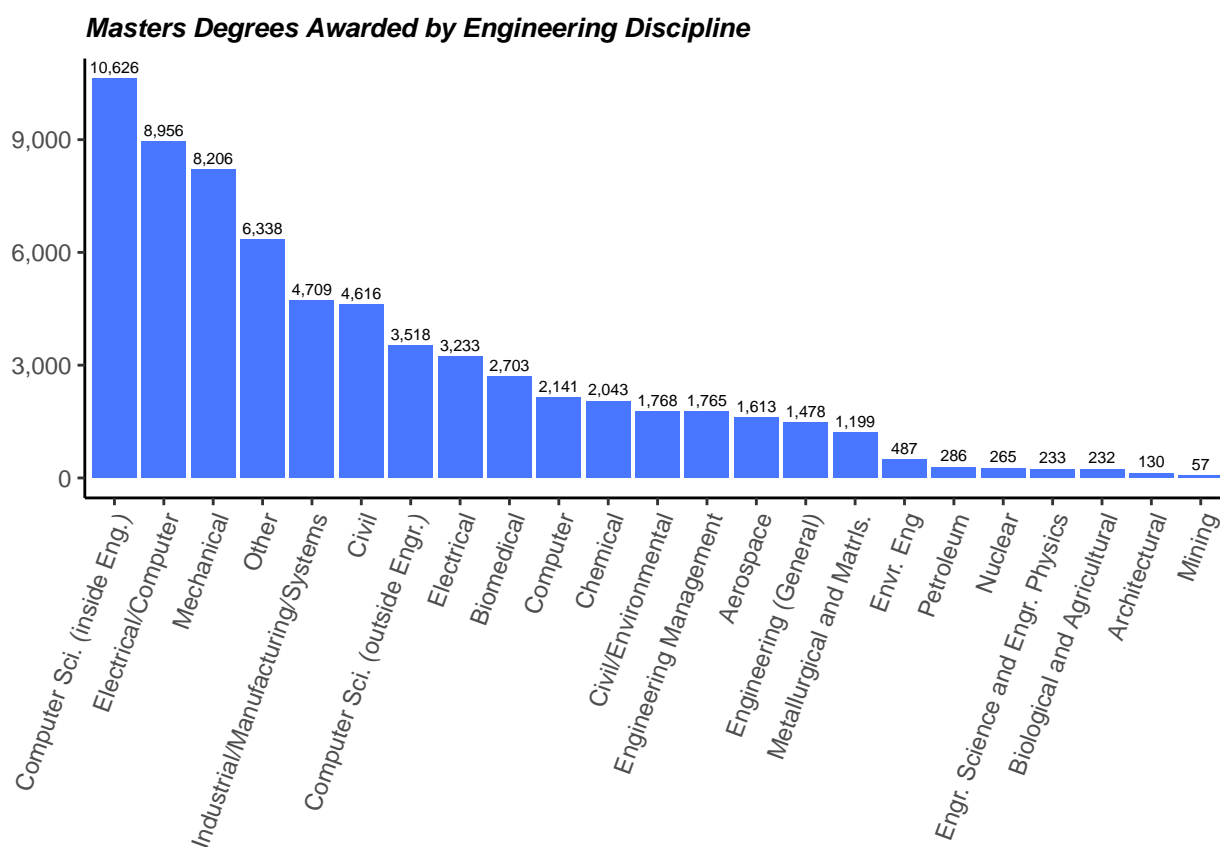
3.1 ENGINEERING MASTER'S DEGREE

3.1.1 Masters Degrees Awarded by Engineering Discipline

Table 35: Masters Degrees by discipline: 63,084

Discipline Name	Degrees Awarded
Computer Sci. (inside Eng.)	10,626
Electrical/Computer	8,956
Mechanical	8,206
Other	6,338
Industrial/Manufacturing/Systems	4,709
Civil	4,616
Computer Sci. (outside Engr.)	3,518
Electrical	3,233
Biomedical	2,703
Computer	2,141
Chemical	2,043
Civil/Environmental	1,768
Engineering Management	1,765
Aerospace	1,613
Engineering (General)	1,478
Metallurgical and Matrls.	1,199
Envr. Eng	487
Petroleum	286
Nuclear	265
Engr. Science and Engr. Physics	233
Biological and Agricultural	232
Architectural	130
Mining	57

* Total does not include computer science (outside engineering).



3.1.2 Total Master's Degrees Awarded to Underrepresented Minorities by Engineering Discipline

Table 36: Master's Degrees Awarded to Underrepresented Minorities by Engineering Discipline: 8,484

Discipline Name	Degrees Awarded
Mechanical	1,160
Other	982
Civil	956
Computer Sci. (inside Eng.)	930
Electrical/Computer	800
Industrial/Manufacturing/Systems	672
Biomedical	468
Engineering Management	424
Electrical	418
Engineering (General)	288
Civil/Environmental	278
Aerospace	274
Chemical	266
Computer Sci. (outside Engr.)	248
Metallurgical and Matrls.	170
Computer	126
Envr. Eng	100
Petroleum	52
Nuclear	42
Architectural	26
Biological and Agricultural	24
Engr. Science and Engr. Physics	24
Mining	4

* Total does not include computer science (outside engineering).

3.1.3 Percentage of Master's Degrees Awarded to Underrepresented Minorities by Discipline

Table 37: Percentage of Master's Degrees Awarded to Underrepresented Minorities by Discipline 6.6 % of Total

Discipline Name	Percent Women
Engineering Management	12%
Civil	10.4%
Envr. Eng	10.3%
Architectural	10%
Engineering (General)	9.7%
Petroleum	9.1%
Biomedical	8.7%
Aerospace	8.5%
Civil/Environmental	7.9%
Nuclear	7.9%
Other	7.7%
Industrial/Manufacturing/Systems	7.1%
Mechanical	7.1%
Metallurgical and Matrls.	7.1%
Chemical	6.5%
Electrical	6.5%
Biological and Agricultural	5.2%
Engr. Science and Engr. Physics	5.2%
Electrical/Computer	4.5%
Computer Sci. (inside Eng.)	4.4%
Computer Sci. (outside Engr.)	3.5%
Mining	3.5%
Computer	2.9%

3.1.4 Percentage of Master's Degrees Awarded to Women by Discipline

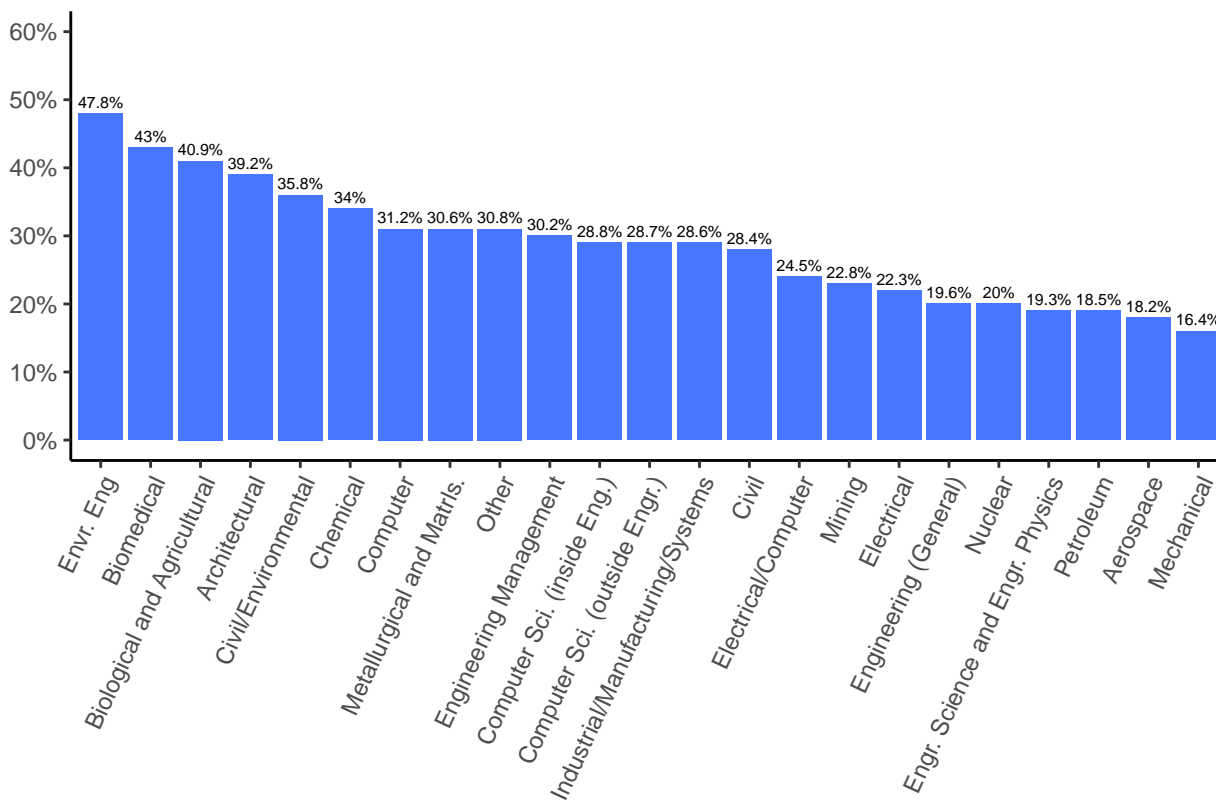
Table 38: Percentage of Masters Degrees Awarded to Women by Discipline 27.2 % of Total

Discipline Name	Percent Women
Envr. Eng	47.8%
Biomedical	43%
Biological and Agricultural	40.9%
Architectural	39.2%
Civil/Environmental	35.8%
Chemical	34%
Computer	31.2%
Other	30.8%
Metallurgical and Matrls.	30.6%

Table 38: Percentage of Masters Degrees Awarded to Women by Discipline 27.2 % of Total (continued)

Discipline Name	Percent Women
Engineering Management	30.2%
Computer Sci. (inside Eng.)	28.8%
Computer Sci. (outside Engr.)	28.7%
Industrial/Manufacturing/Systems	28.6%
Civil	28.4%
Electrical/Computer	24.5%
Mining	22.8%
Electrical	22.3%
Nuclear	20%
Engineering (General)	19.6%
Engr. Science and Engr. Physics	19.3%
Petroleum	18.5%
Aerospace	18.2%
Mechanical	16.4%

Percentage of Masters Degrees Awarded to Women by Discipline

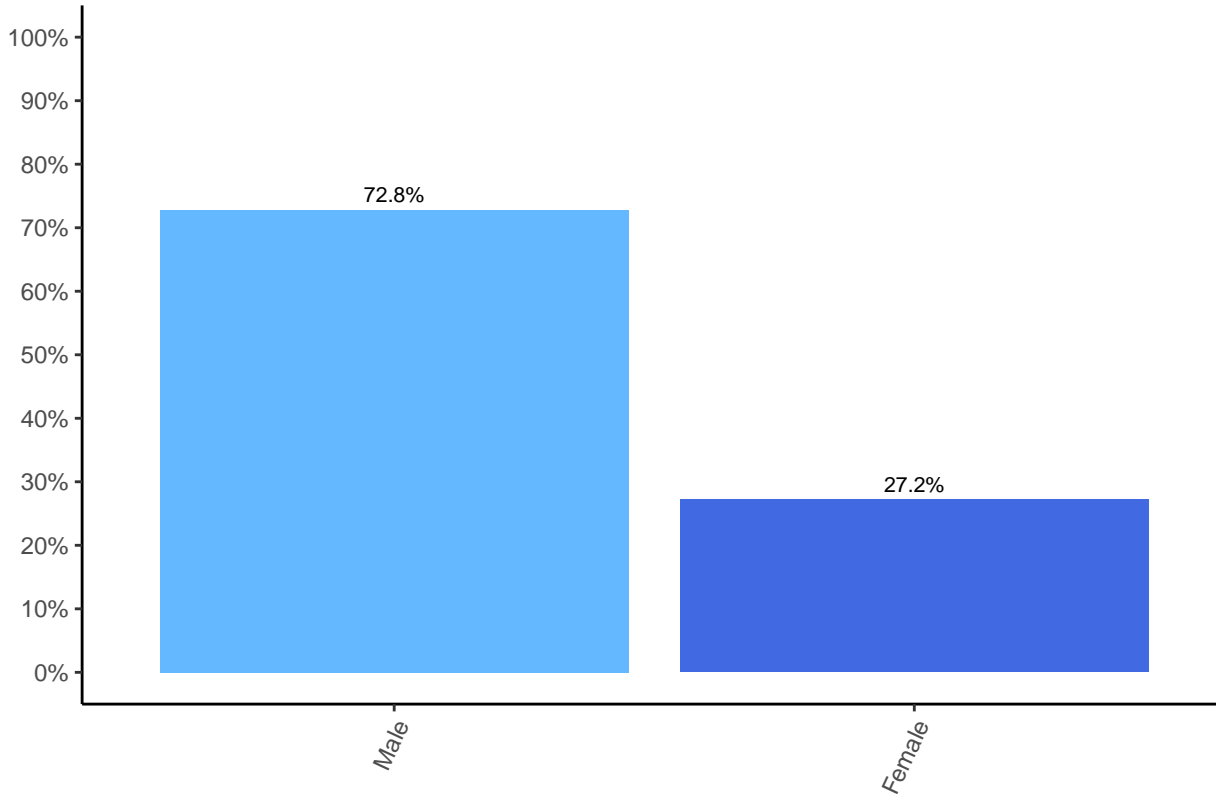


3.1.5 Master's Degrees Awarded by Gender

Table 39: Master's Degrees Awarded by Gender

Gender	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Female	23.0%	22.6%	22.6%	23.1%	23.9%	24.2%	25.4%	25.7%	26.7%	27.2%
Male	77.0%	77.4%	81.6%	76.9%	76.1%	75.8%	74.6%	74.3%	73.3%	72.8%

Master's Degrees Awarded by Gender



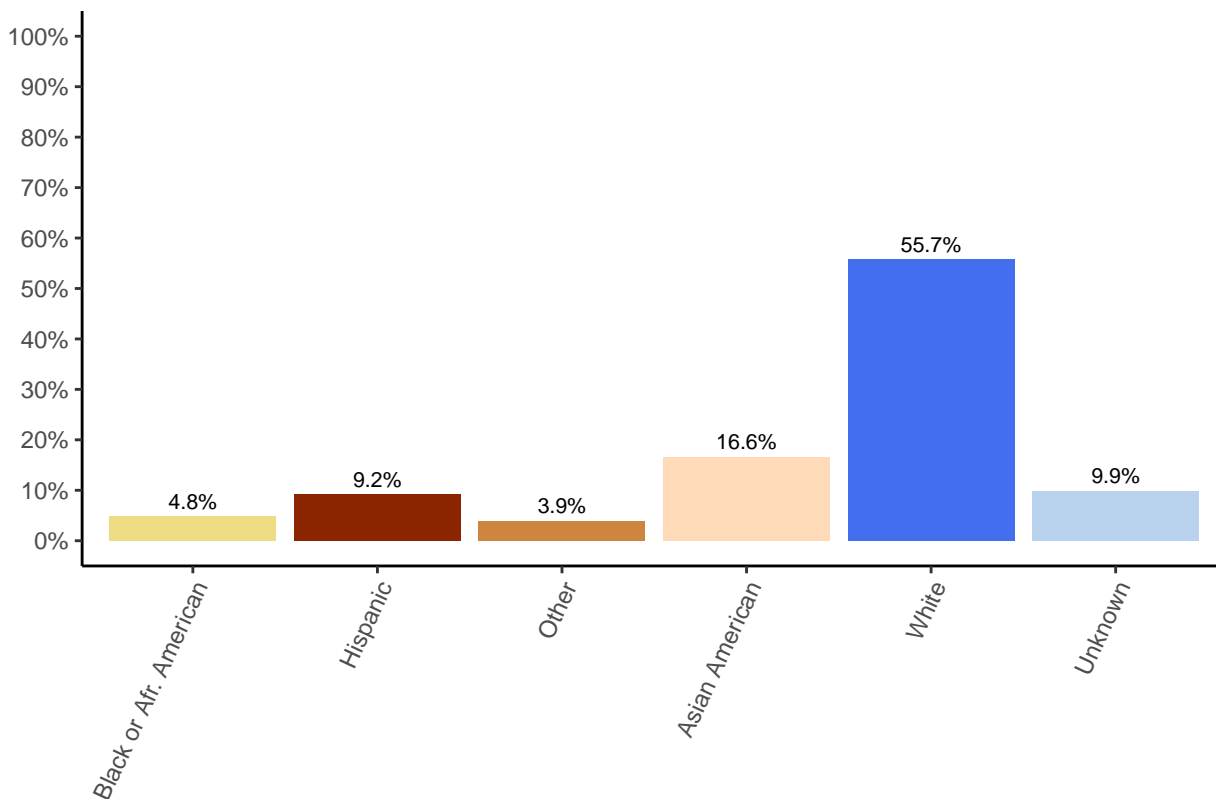
3.1.6 Master's Degrees Awarded by Race and Ethnicity

Table 40: Master's Degrees Awarded by Ethnicity

Ethnicity	2011	2012	2013	2014	2015	2016	2017	2018	2019
Black or Afr. American	5.1%	4.9%	4.7%	4.7%	4.4%	4.7%	4.7%	4.8%	4.8%
Hispanic	6.0%	6.3%	7.3%	7.6%	7.7%	8.3%	8.5%	8.8%	9.2%
Other	1.4%	1.5%	2.0%	2.2%	2.6%	3.0%	3.1%	3.8%	3.9%
Asian American	14.9%	15.5%	14.5%	15.0%	14.5%	15.1%	15.1%	15.8%	16.6%
White	60.9%	58.2%	59.7%	59.5%	60.2%	59.5%	60.1%	58.2%	55.7%
Unknown	11.7%	13.6%	11.8%	11.0%	10.6%	9.4%	8.4%	8.6%	9.9%

*Data on ethnicity does not include foreign nationals. American Indian/Alaska Native (0.2%), Native Hawaiian/Other Pacific Islander(0.1%) and Multiracial (3.6%) are combined under Other.

Master's Degrees Awarded by Race and Ethnicity

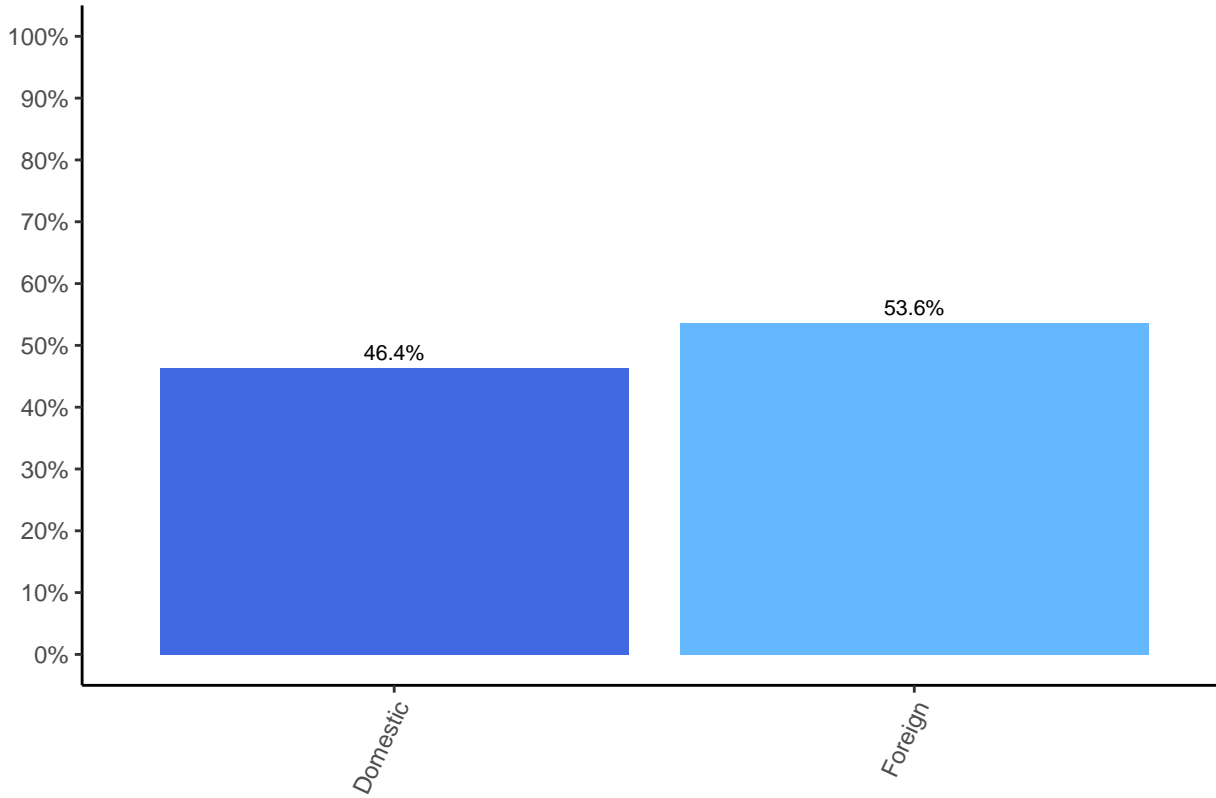


3.1.7 Masters Degrees Awarded by Residency

Table 41: Masters Degrees Awarded by Residency

Nationality	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Foreign	46.1%	44.4%	43.3%	45.3%	47.5%	52.6%	58.1%	59.2%	57.1%	53.6%
Domestic	53.9%	55.6%	56.7%	54.7%	52.5%	47.4%	41.9%	40.8%	42.9%	46.4%

Masters Degrees Awarded by Residency



3.1.8 Master’s Degrees Awarded by Race, Ethnicity, and Gender

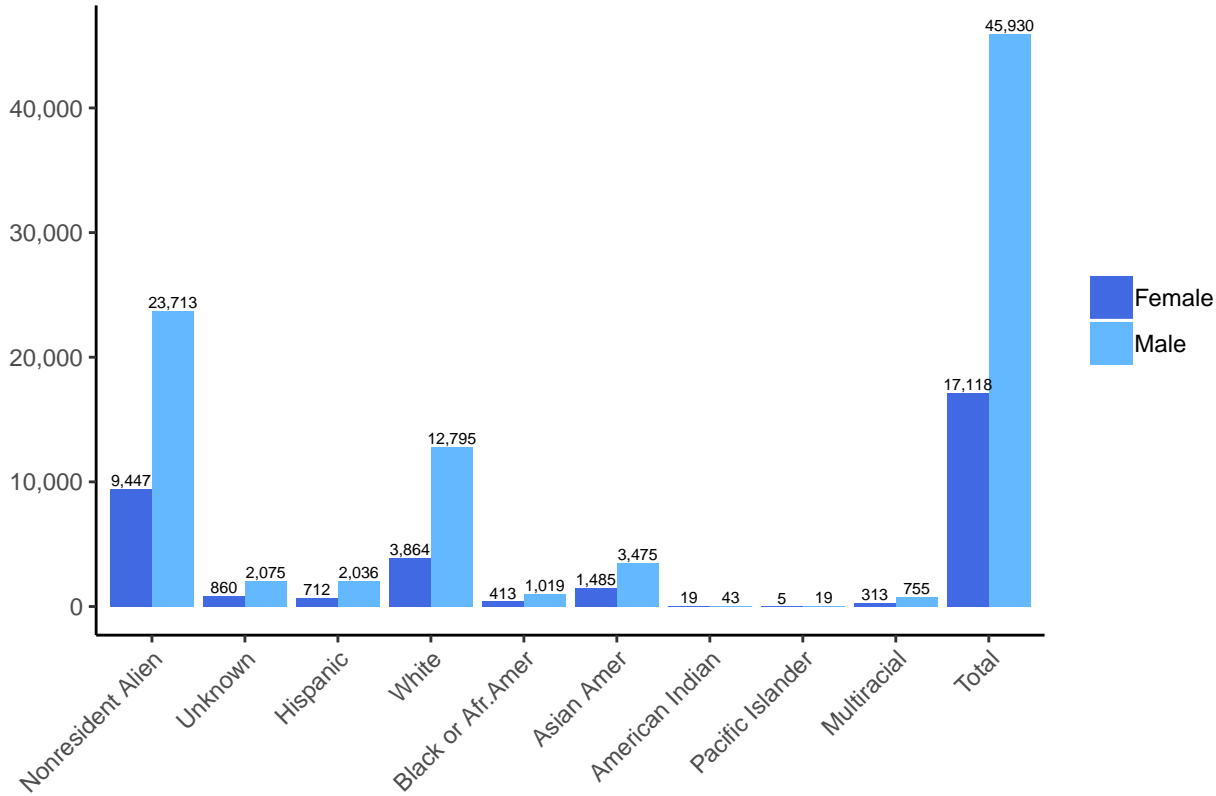
Table 42: Master’s Degrees Awarded by Race, Ethnicity, and Gender 63,084*

Ethnicity	Degrees Awarded
Nonresident Alien Male	23,713
Nonresident Alien Female	9,447
Unknown Male	2,075
Unknown Female	860
Hispanic Male	2,036
Hispanic Female	712
White Male	12,795
White Female	3,864
Black or Afr. American Male	1,019
Black or Afr. American Female	413
Asian American Male	3,475
Asian American Female	1,485
American Indian Male	43
American Indian Female	19
Native Hawaiian/Other Pacific Islander Male	19
Native Hawaiian/Other Pacific Islander Female	5
Multiracial Male	755
Multiracial Female	313
Total Male	45,930
Total Female	17,118

* Total degree includes 0 total Non binary graduates and 36 total Other Gender graduates.

* Includes 34 male and 22 female graduates from Puerto Rico.

Master's Degrees Awarded by Race, Ethnicity, and Gender



3.1.9 Top 50 Institutions Awarding Engineering Masters Degrees

Table 43: Top 50 Institutions Awarding Engineering Master's Degrees

No	Institutions	Degrees Awarded
1	University of Southern California	2,366
2	Northeastern University	1,917
3	Carnegie Mellon University	1,606
4	Georgia Institute of Technology	1,481
5	The Johns Hopkins University	1,392
6	Columbia University	1,387
7	Arizona State University	1,331
8	University of Michigan	1,311
9	Stanford University	1,166
10	University of Illinois at Urbana-Champaign	1,101
11	San Jose State University	961
12	Stevens Institute of Technology	936
13	New Jersey Institute of Technology	928
14	The University of Texas at Arlington	910
15	Cornell University	903
16	University of California, Berkeley	896
17	University of California, San Diego	892
18	North Carolina State University	867
19	University of Florida	823
20	Massachusetts Institute of Technology	821
21	Texas A&M University	785
22	NYU Tandon School of Engineering	781
23	The University of Texas at Dallas	758
24	North Carolina State University at Raleigh	752
25	Stony Brook University	743
26	University of California, Los Angeles	731
27	Purdue University	730
28	University of Washington in Seattle	724
29	Northwestern University	683
30	University of Pennsylvania	663
31	University of Colorado Boulder	628
32	University of Illinois at Chicago	594
33	Worcester Polytechnic Institute	560
34	George Mason University	539
35	University of Maryland, College Park	523
36	University of California, Irvine	510
37	Virginia Polytechnic Institute and State University	489
38	The Ohio State University	464
38	University of Wisconsin-Madison	464
40	Missouri University of Science and Technology	456
41	University of Minnesota -Twin Cities	455
42	University of South Florida	454
43	The University of Texas at Austin	450
44	Boston University	440
45	California State University, Fullerton	432
46	Rochester Institute of Technology	424
47	Duke University	420
48	Southern Methodist University	417
49	Rutgers, The State University of New Jersey, School of Engineering	412
49	University of Cincinnati	412

Table 43: Top 50 Institutions Awarding Engineering Master's Degree
(continued)

No	Institutions	Degrees Awarded
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* 422 Institutions included

3.1.10 Top 20 Institutions by Total Master's Degrees awarded to Underrepresented Minorities

Table 44: Top 20 Institutions by Total Master's Degrees awarded to Underrepresented Minorities

No	Institutions	Degrees Awarded
1	The University of Texas at El Paso	137
2	Florida International University	131
3	The Johns Hopkins University	130
4	New Jersey Institute of Technology	117
5	Stanford University	98
6	University of Central Florida	89
7	Georgia Institute of Technology	88
8	Arizona State University	84
8	University of Southern California	84
10	University of Florida	69
11	University of Michigan	67
12	Cornell University	63
13	California State University, Fullerton	58
13	Carnegie Mellon University	58
15	Texas A&M University	57
15	University of California, San Diego	57
17	University of Puerto Rico, Mayaguez Campus	56
18	Massachusetts Institute of Technology	55
19	University of Washington in Seattle	52
20	University of Maryland, Baltimore County	49

* 422 Institutions included

3.1.11 Top 50 Institutions by Percentage of Master's Degrees awarded to Underrepresented Minorities

Table 45: Top 50 Institutions by Percentage of Master's Degrees awarded to Underrepresented Minorities

No	Institutions	Percent Underrepresented Minorities
1	University of Puerto Rico, Mayaguez Campus	100%
2	Alabama A & M University	88.9%
3	Norfolk State University	66.7%
3	Tuskegee University	66.7%
5	The University of Texas at El Paso	65.6%
6	The University of Texas Rio Grande Valley	64.9%
7	Southern University and A & M College	60%
8	North Carolina A&T State University	57.7%
9	Jackson State University	53.8%
10	Capitol Technology University	50%
11	Florida International University	47.8%
12	Prairie View A & M University	44.4%
13	University of San Diego	40%
13	University of the District of Columbia	40%
15	Howard University	37.5%
15	Norwich University	37.5%
17	Kennesaw State University	32.5%
18	Loyola Marymount University	29.2%
19	Gonzaga University	28.6%
19	Texas A & M University-Corpus Christi	28.6%
19	Thomas Jefferson University	28.6%
22	Florida Atlantic University	28%
23	St. Mary's University	26.3%
24	The University of Texas at San Antonio	25.2%
25	Lipscomb University	25%
25	Mississippi College	25%
27	Embry-Riddle Aeronautical University-Worldwide	23.7%
28	University of Central Florida	22.8%
29	The University of New Mexico	22.3%
30	The University of Tennessee-Chattanooga	22.2%
31	City College of the City University of New York	21.4%
32	Fairleigh Dickinson University-Metropolitan Campus	20%
32	SUNY Polytechnic Institute	20%
34	University of Miami	18.9%
35	Northern Arizona University	18.5%
36	Princeton University	17.4%
37	Morgan State University	16.7%
37	Pace University	16.7%
37	University of Southern Mississippi	16.7%
40	Tennessee State University	15.8%
41	University of Saint Thomas	15.2%
42	Old Dominion University	15.1%
43	California State University, Los Angeles	14.9%

Table 45: Top 50 Institutions by Percentage of Master's Degrees awarded to Underrepresented Minorities (*continued*)

No	Institutions	Percent Underrepresented Minorities
44	University of Louisiana at Lafayette	14.7%
45	University of California, Riverside	14.4%
46	Colorado State University-Pueblo	14.3%
46	Georgia Southern University	14.3%
46	Oregon Institute of Technology	14.3%
46	The University of Texas at Tyler	14.3%
50	University of Maryland, Baltimore County	14.1%

* 422 Institutions included

3.1.12 Top 20 Institutions Awarding Highest Percentage of Master's Degrees to Women

Table 46: Top 20 Highest Percentage of Master's Degrees to Women

No	Institutions	Percent Women
1	West Texas A & M University	100%
2	Thomas Jefferson University	85.7%
3	Fairleigh Dickinson University-Metropolitan Campus	80%
4	Texas A & M University-Corpus Christi	57.1%
5	University of Washington-Tacoma	56.8%
6	Capitol Technology University	50%
6	Central Connecticut State University	50%
6	Lipscomb University	50%
6	Pennsylvania State University-Penn State Great Valley	50%
6	Tulane University	50%
6	University of Georgia	50%
6	University of South Dakota	50%
13	The University of Memphis	44.4%
14	Southern Denmark School of Engineering	44.1%
15	Monmouth University	43.8%
16	Princeton University	43.5%
17	University of California, Merced	43.3%
18	Tufts University	43.2%
19	Georgia Southern University	42.9%
20	Montana Technological University	42.3%

* 422 included

3.2 ENGINEERING GRADUATE ENROLLMENT

3.2.1 Masters Enrollment by Race, Ethnicity, and Gender

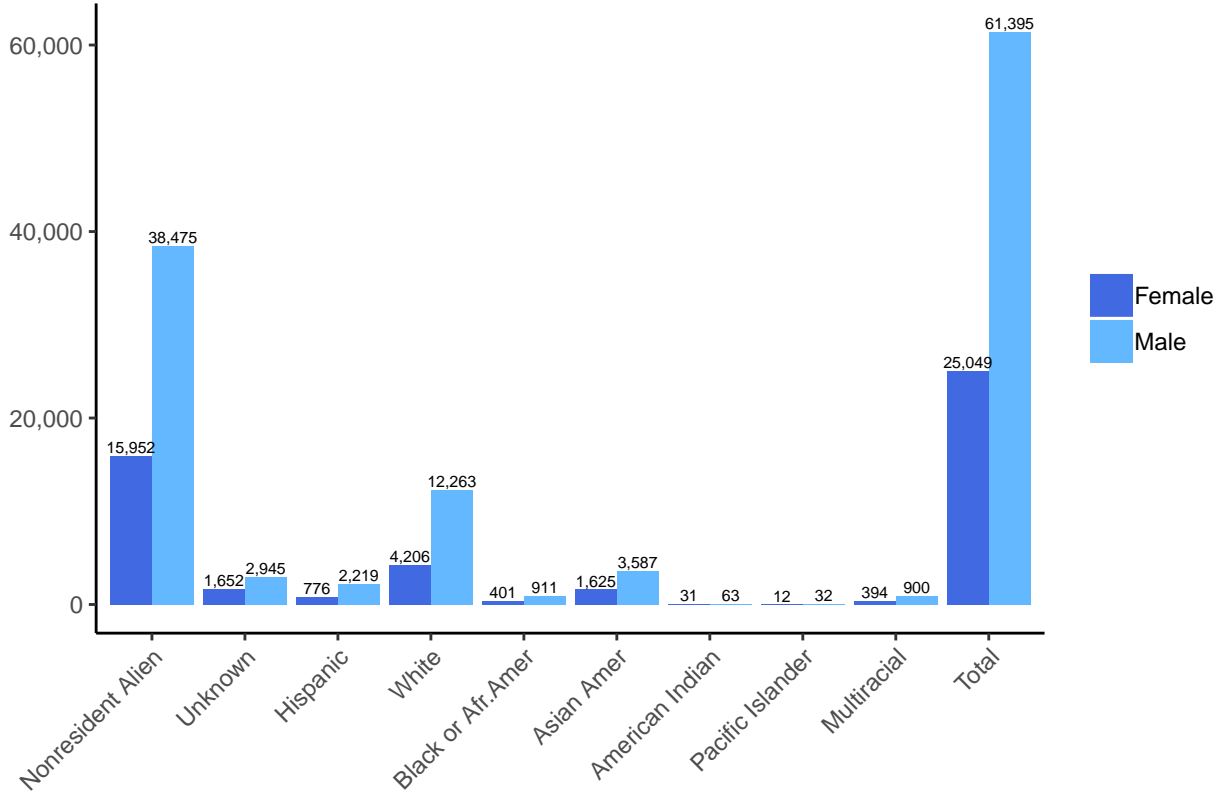
Table 47: Master's Enrollment Awarded by Race, Ethnicity, and Gender 86,444*

Ethnicity	Enrollments
Nonresident Alien Male	38,475
Nonresident Alien Female	15,952
Unknown Male	2,945
Unknown Female	1,652
Hispanic Male	2,219
Hispanic Female	776
White Male	12,263
White Female	4,206
Black or Afr. American Male	911
Black or Afr. American Female	401
Asian American Male	3,587
Asian American Female	1,625
American Indian Male	63
American Indian Female	31
Native Hawaiian/Other Pacific Islander Male	32
Native Hawaiian/Other Pacific Islander Female	12
Multiracial Male	900
Multiracial Female	394
Total Male	61,395
Total Female	25,049

* Total Enrollment includes is for full time students

* Includes 112 male and 44 female.

Masters Enrollment by Race, Ethnicity, and Gender



3.2.2 Top 50 Institutions with Highest Graduate Enrollment

Table 48: Top 50 Institutions with Highest Graduate Enrollment*

No	Institutions	Enrollment
1	Northeastern University	6,681
2	University of Southern California	6,199
3	Georgia Institute of Technology	5,204
4	The Johns Hopkins University	4,882
5	University of Illinois at Urbana-Champaign	4,596
6	Arizona State University	4,353
7	Carnegie Mellon University	4,263
8	Columbia University	4,115
8	Fu Foundation School of Engineering and Applied Science - Columbia University	4,115
10	Purdue University	4,110
11	Texas A&M University	3,690
12	Stanford University	3,637
13	University of Michigan	3,531
14	North Carolina State University	3,358
15	University of Arizona	3,186
16	University of California, San Diego	3,174
17	Massachusetts Institute of Technology	3,140
18	NYU Tandon School of Engineering	2,878
19	University of Washington in Seattle	2,781
20	University of Florida	2,619
21	The University of Texas at Arlington	2,568
22	Cornell University	2,557
23	The University of Texas at Austin	2,549
24	University of California, Berkeley	2,373
25	Virginia Polytechnic Institute and State University	2,206
26	University of Pennsylvania	2,199
27	Northwestern University	2,198
28	The University of Texas at Dallas	2,195
29	University of California, Los Angeles	2,193
30	San Jose State University	2,184
31	The Pennsylvania State University	2,167
32	University of Maryland, College Park	2,102
33	University of Colorado Boulder	2,097
34	New Jersey Institute of Technology	2,005
35	Stevens Institute of Technology	1,961
36	The George Washington University	1,949
37	University of Wisconsin-Madison	1,858
38	The Ohio State University	1,812
39	George Mason University	1,782
40	University of Minnesota -Twin Cities	1,776
41	University of Central Florida	1,754
42	University of California, Irvine	1,696
43	Stony Brook University	1,574
44	University at Buffalo, SUNY	1,567
45	Clemson University	1,534
46	Washington University in St. Louis	1,474

Table 48: Top 50 Institutions with Highest Graduate Enrollment*
(continued)

No	Institutions	Enrollment
47	Duke University	1,462
48	Colorado School of Mines	1,384
49	Boston University	1,344
50	Iowa State University	1,340

* 50 Institutions reported. Includes both part-time and full-time.

3.2.3 Masters Enrollment by Engineering Discipline:(Full time and Part time)

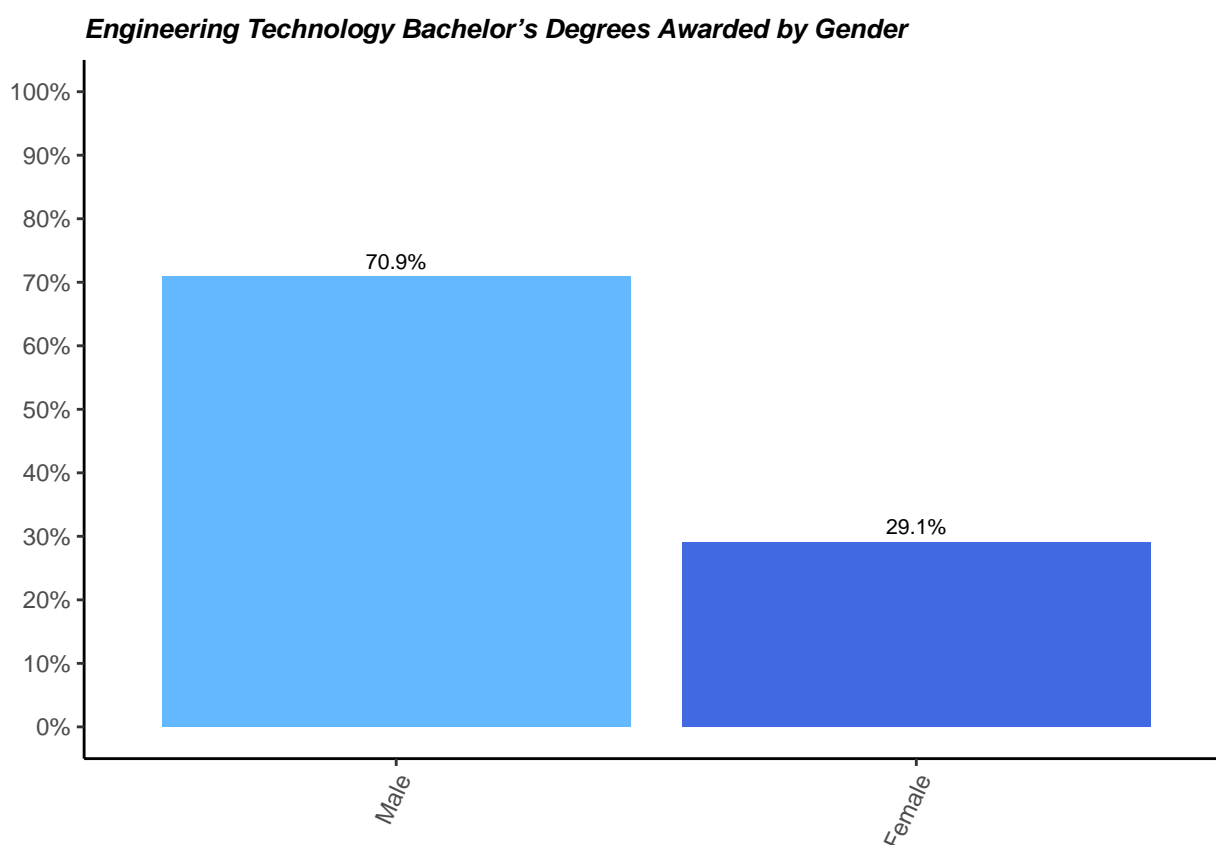
Table 49: Masters Enrollment by Engineering Discipline:(Full time and Part time)

Discipline Name	Full Time	Part Time
Aerospace	2,164	1,415
Architectural	126	26
Biological and Agricultural	449	109
Biomedical	3,555	941
Chemical	2,239	642
Civil	4,932	2,851
Civil/Environmental	2,237	853
Computer	2,023	938
Computer Sci. (inside Eng.)	18,814	7,932
Electrical	3,679	2,054
Electrical/Computer	13,010	4,812
Engineering (General)	785	1,084
Engineering Management	2,551	3,055
Engr. Science and Engr. Physics	155	156
Envr. Eng	586	370
Industrial/Manufacturing/Systems	5,461	4,091
Mechanical	10,239	5,265
Metallurgical and Matrls.	1,563	579
Mining	79	48
Nuclear	305	175
Other	11,154	6,621
Petroleum	338	123

3.2.4 Masters Enrollment by Gender

Table 50: Masters Enrollment by Gender

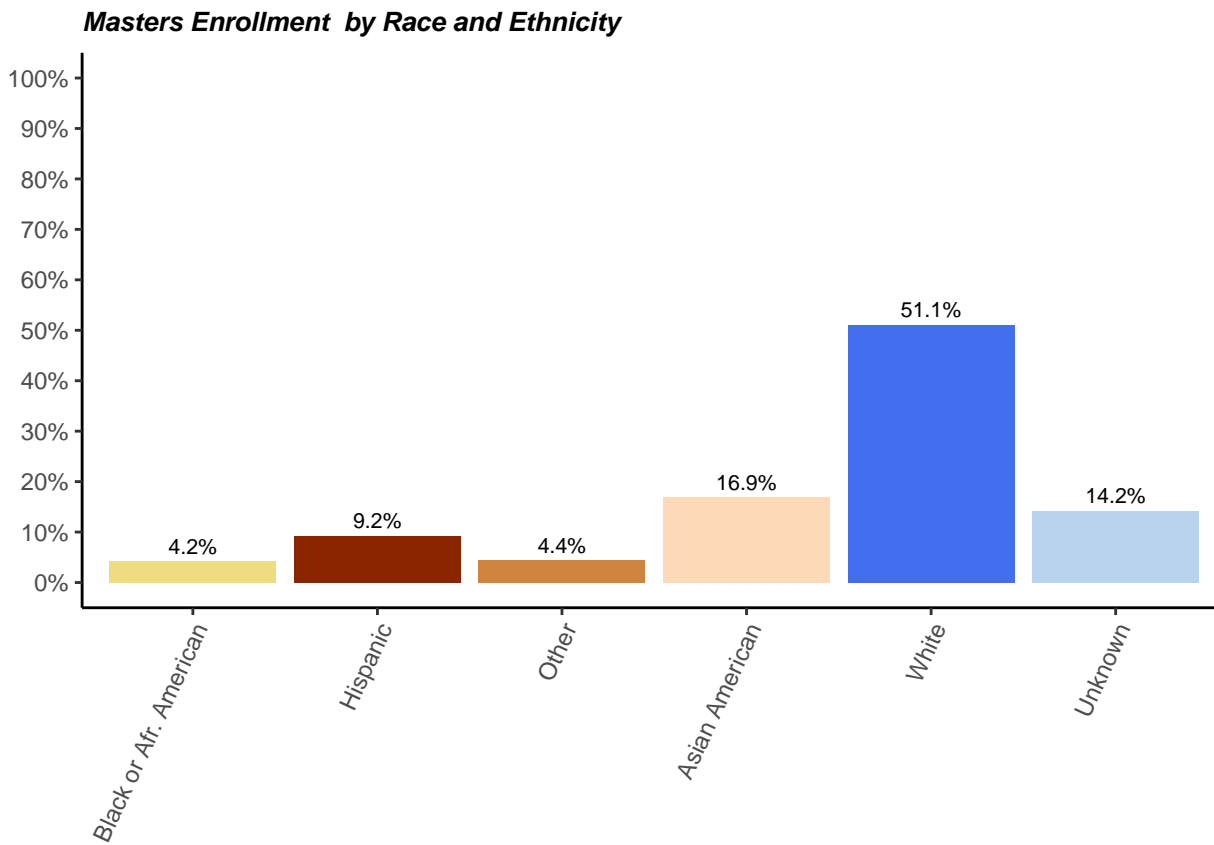
Male	Female
70.9%	29.1%



3.2.5 Masters Enrollment by Race and Ethnicity

Table 51: Masters Enrollment by Race and Ethnicity*

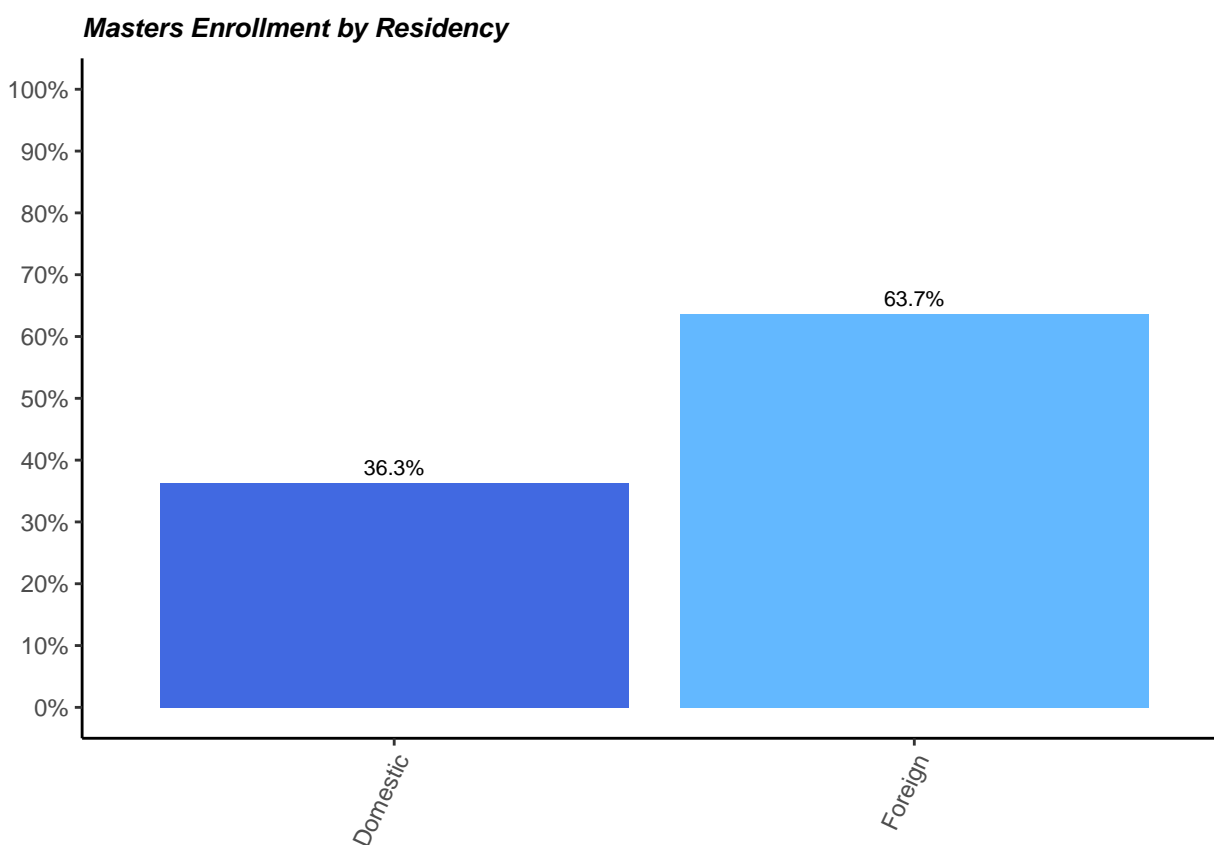
Ethnicity	Percentage
Black or Afr. American	4.2%
Hispanic	9.2%
Other	4.4%
Asian American	16.9%
White	51.1%
Unknown	14.2%



3.2.6 Masters Enrollment by Residency

Table 52: Masters Enrollment by Residency

Foreign	Domestic
63.7%	36.3%



4 ENGINEERING DOCTORAL

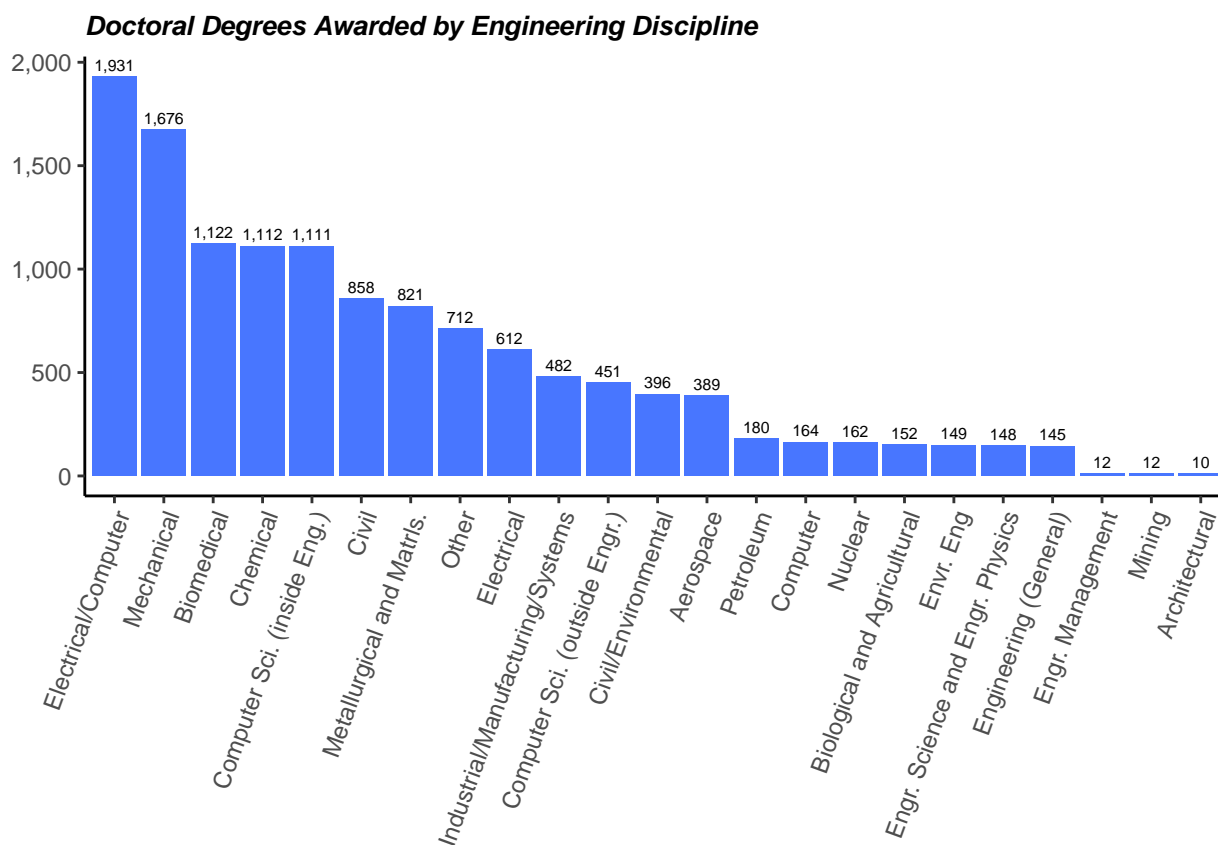
4.1 ENGINEERING DOCTORAL DEGREES

4.1.1 Doctoral Degrees Awarded by Engineering Discipline

Table 53: Doctoral Degrees by discipline: 12,807

Discipline Name	Degrees Awarded
Electrical/Computer	1,931
Mechanical	1,676
Biomedical	1,122
Chemical	1,112
Computer Sci. (inside Eng.)	1,111
Civil	858
Metallurgical and Matrls.	821
Other	712
Electrical	612
Industrial/Manufacturing/Systems	482
Computer Sci. (outside Engr.)	451
Civil/Environmental	396
Aerospace	389
Petroleum	180
Computer	164
Nuclear	162
Biological and Agricultural	152
Envr. Eng	149
Engr. Science and Engr. Physics	148
Engineering (General)	145
Engr. Management	12
Mining	12
Architectural	10

* Total does not include computer science (outside engineering).



4.1.2 Total Doctoral Degrees Awarded to Underrepresented Minorities by Engineering Discipline

Table 54: Doctoral Degrees Awarded to Underrepresented Minorities by Engineering Discipline: 1,072

Discipline Name	Degrees Awarded
Biomedical	186
Chemical	136
Mechanical	122
Electrical/Computer	106
Other	76
Civil	68
Computer Sci. (inside Eng.)	68
Metallurgical and Matrls.	64
Industrial/Manufacturing/Systems	56
Aerospace	38
Civil/Environmental	30
Electrical	30
Envr. Eng	24
Nuclear	20
Petroleum	16
Biological and Agricultural	12
Computer Sci. (outside Engr.)	10
Engineering (General)	8
Computer	6
Engr. Science and Engr. Physics	6
Architectural	0
Engr. Management	0
Mining	0

* Total does not include computer science (outside engineering).

4.1.3 Percentage of Doctoral Degrees Awarded to Underrepresented Minorities by Discipline

Table 55: Percentage of Doctoral Degrees Awarded to Underrepresented Minorities by Discipline 4.2 % of Total

Discipline Name	Percent Women
Biomedical	8.3%
Envr. Eng	8.1%
Nuclear	6.2%
Chemical	6.1%
Industrial/Manufacturing/Systems	5.8%
Other	5.3%
Aerospace	4.9%
Petroleum	4.4%
Civil	4%
Biological and Agricultural	3.9%
Metallurgical and Matrls.	3.9%
Civil/Environmental	3.8%
Mechanical	3.6%
Computer Sci. (inside Eng.)	3.1%
Engineering (General)	2.8%
Electrical/Computer	2.7%
Electrical	2.5%
Engr. Science and Engr. Physics	2%
Computer	1.8%
Computer Sci. (outside Engr.)	1.1%
Architectural	0%
Engr. Management	0%
Mining	0%

4.1.4 Percentage of Doctoral Degrees Awarded to Women by Discipline

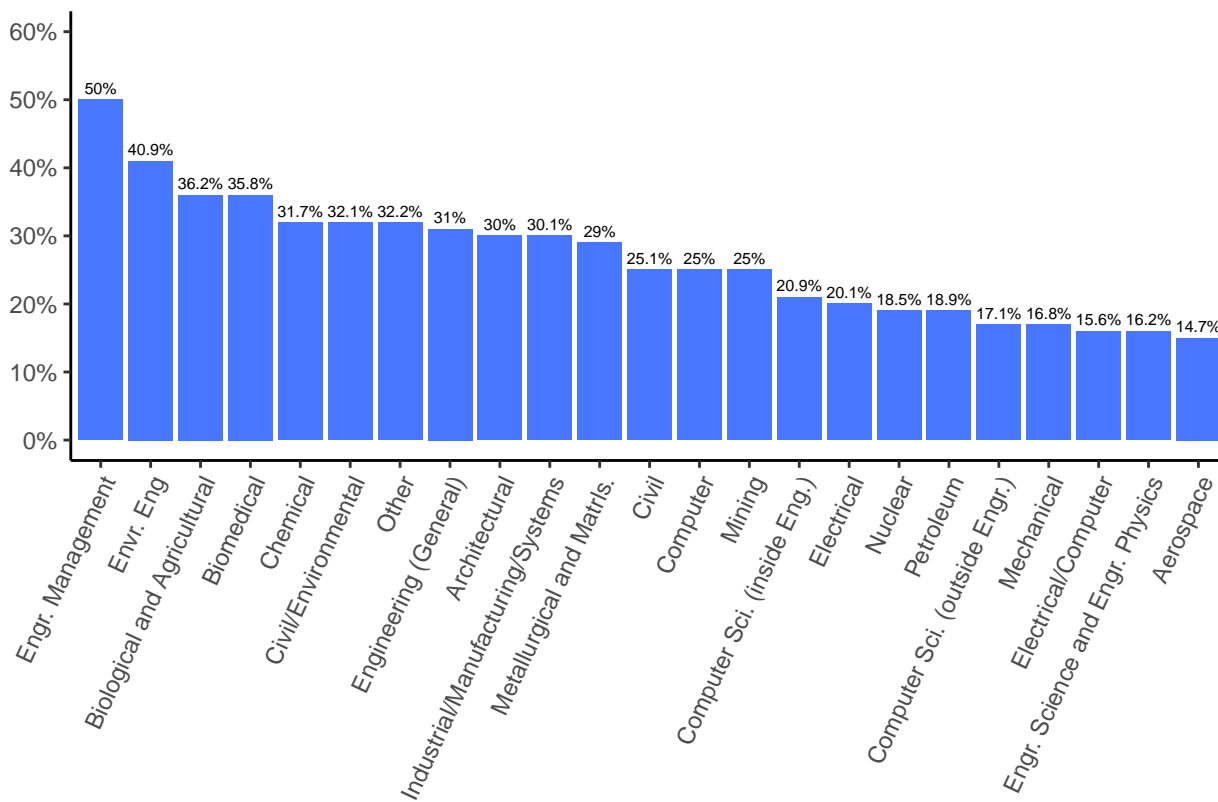
Table 56: Percentage of Doctoral Degrees Awarded to Women by Discipline 24.1 % of Total

Discipline Name	Percent Women
Engr. Management	50%
Envr. Eng	40.9%
Biological and Agricultural	36.2%
Biomedical	35.8%
Other	32.2%
Civil/Environmental	32.1%
Chemical	31.7%
Engineering (General)	31%
Industrial/Manufacturing/Systems	30.1%

Table 56: Percentage of Doctoral Degrees Awarded to Women by Discipline 24.1 % of Total (*continued*)

Discipline Name	Percent Women
Architectural	30%
Metallurgical and Matrls.	29%
Civil	25.1%
Computer	25%
Mining	25%
Computer Sci. (inside Eng.)	20.9%
Electrical	20.1%
Petroleum	18.9%
Nuclear	18.5%
Computer Sci. (outside Engr.)	17.1%
Mechanical	16.8%
Engr. Science and Engr. Physics	16.2%
Electrical/Computer	15.6%
Aerospace	14.7%

Percentage of Doctoral Degrees Awarded to Women by Discipline

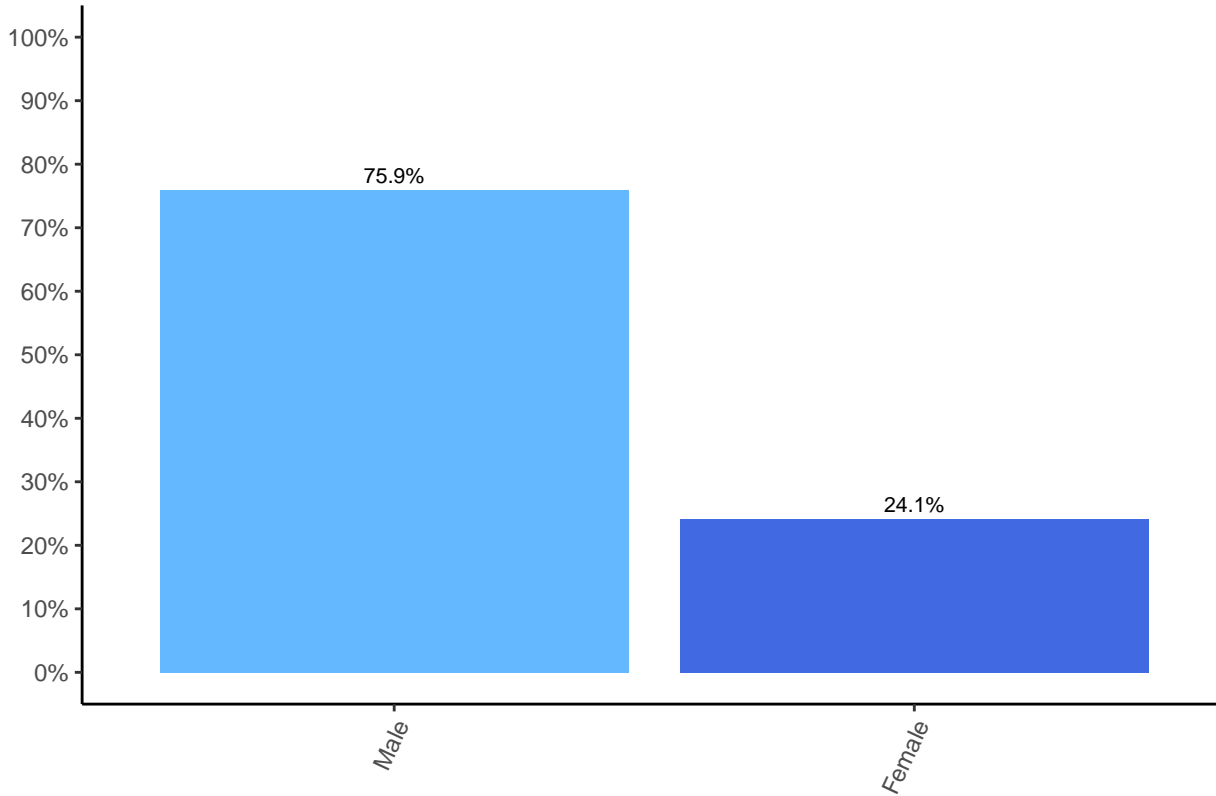


4.1.5 Doctoral Degrees Awarded by Gender

Table 57: Doctoral Degrees Awarded by Gender

Male	Female
75.9%	24.1%

Doctoral Degrees Awarded by Gender

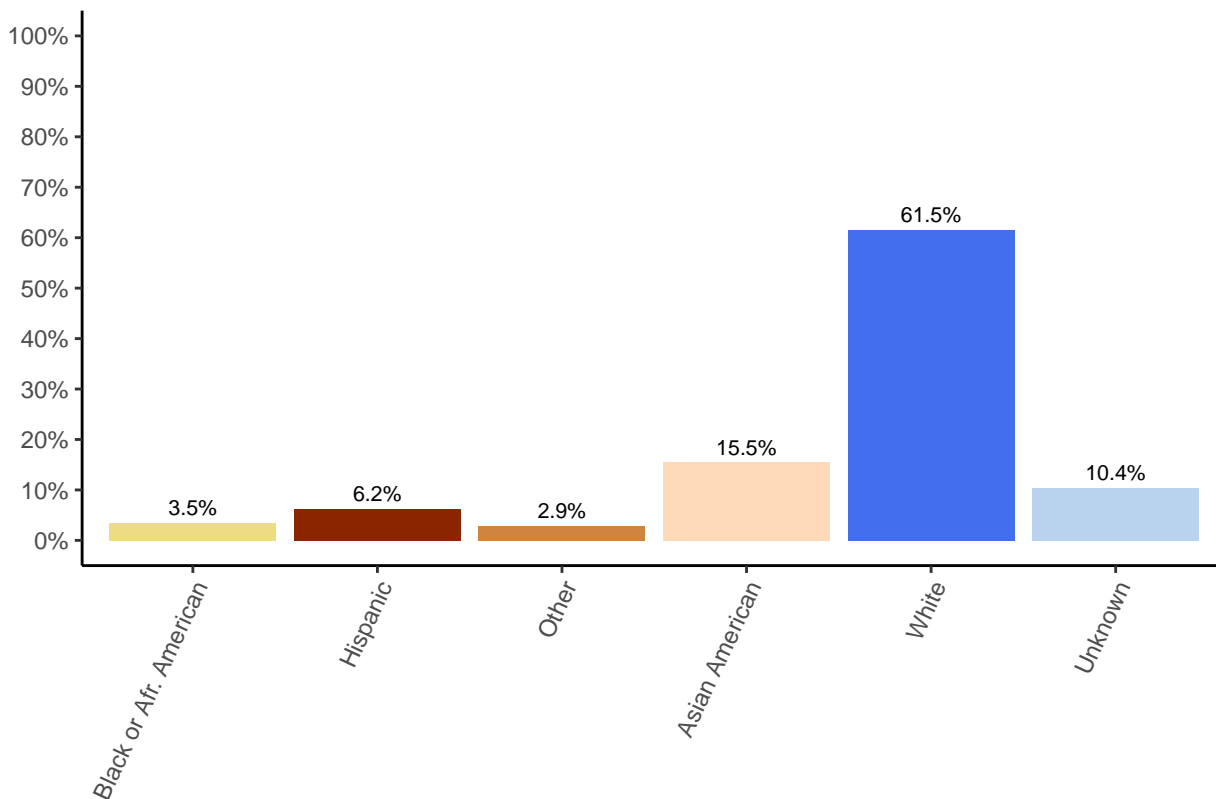


4.1.6 Doctoral Degrees Awarded by Race and Ethnicity

Table 58: Doctoral Degrees Awarded by Ethnicity

Ethnicity	2011	2012	2013	2014	2015	2016	2017	2018	2019
Black or Afr. American	3.5%	4.1%	4.1%	3.6%	3.2%	4.4%	3.8%	4.2%	3.5%
Hispanic	4.2%	4.1%	4.7%	5.1%	6.1%	5.7%	6.3%	6.0%	6.2%
Other	1.6%	1.7%	1.7%	1.6%	2.2%	3.1%	2.9%	2.9%	2.9%
Asian American	15.1%	14.1%	13.5%	10.4%	14.1%	14.9%	14.8%	13.9%	15.5%
White	60.3%	61.1%	61.8%	65.1%	62.9%	62.0%	62.2%	62.0%	61.5%
Unknown	15.3%	14.9%	14.2%	14.2%	11.5%	9.9%	10.0%	11.1%	10.4%

Engineering Technology Bachelor's Degrees Awarded by Race and Ethnicity

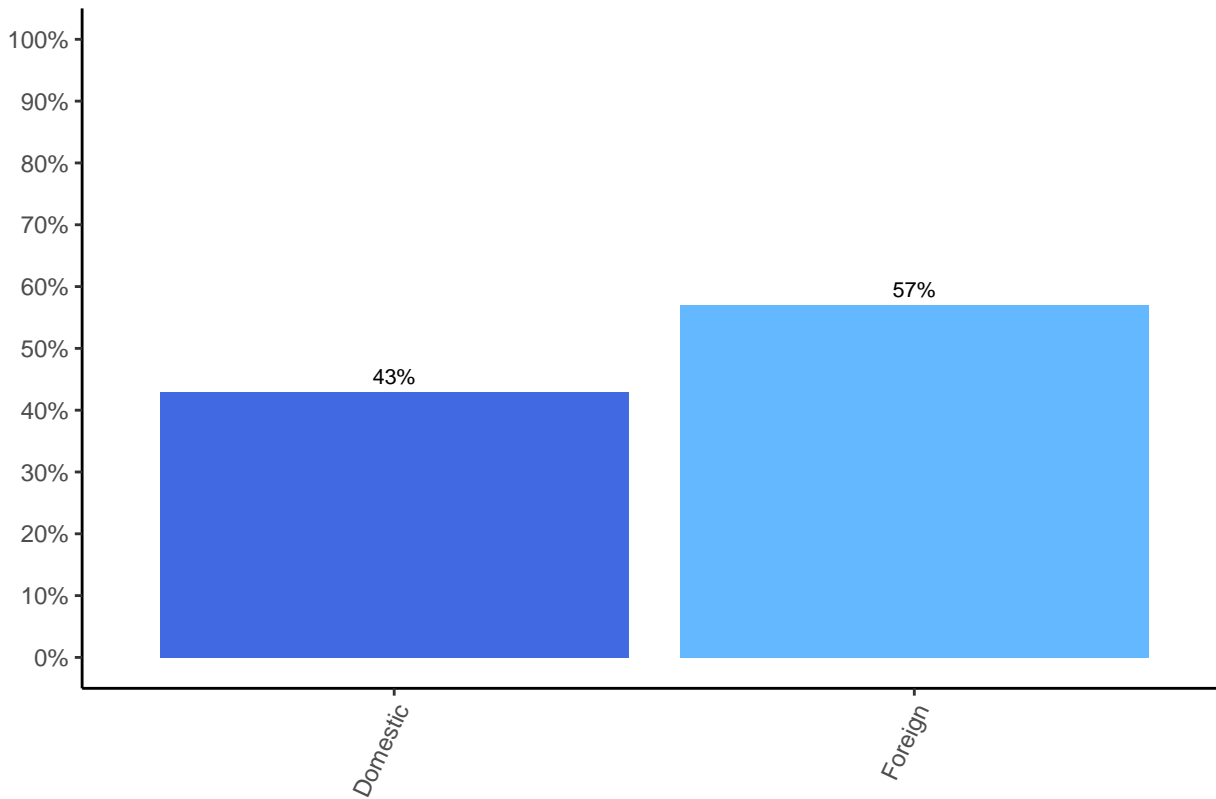


4.1.7 Doctoral Degrees Awarded by Residency

Table 59: Doctoral Degrees Awarded by Residency

Nationality	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Foreign	54.2%	54.2%	53.3%	55.1%	54.8%	54.7%	54.8%	55.7%	56.3%	57.0%
Domestic	45.8%	45.8%	46.7%	44.9%	45.2%	45.3%	45.2%	44.3%	43.7%	43.0%

Doctoral Degrees Awarded by Residency



4.1.8 Doctoral Degrees Awarded by Race, Ethnicity, and Gender

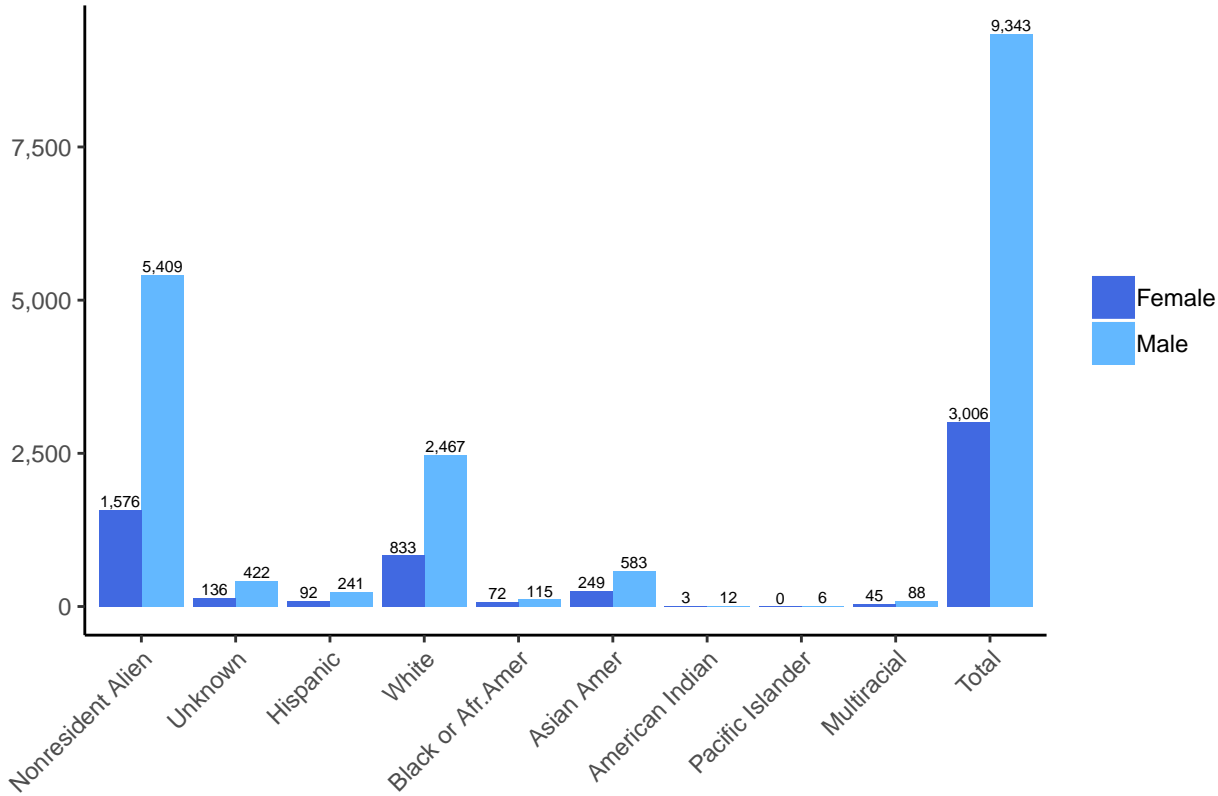
Table 60: Doctoral Degrees Awarded by Race, Ethnicity, and Gender 12,356*

Ethnicity	Degrees
Nonresident Alien Male	5,409
Nonresident Alien Female	1,576
Unknown Male	422
Unknown Female	136
Hispanic Male	241
Hispanic Female	92
White Male	2,467
White Female	833
Black or Afr. American Male	115
Black or Afr. American Female	72
Asian American Male	583
Asian American Female	249
American Indian Male	12
American Indian Female	3
Native Hawaiian/Other Pacific Islander Male	6
Native Hawaiian/Other Pacific Islander Female	0
Multiracial Male	88
Multiracial Female	45
Total Male	9,343
Total Female	3,006

* Total degree includes 0 total Non binary graduates and 8 total Other Gender graduates.

* Includes 11 male and 0 female graduates from Puerto Rico.

Doctoral Degrees Awarded by Race, Ethnicity, and Gender



4.1.9 Top 50 Institutions Awarding Engineering Doctoral Degrees

Table 61: Highest Number of Engineering Doctoral Degrees

No	Institutions	Degrees Awarded
1	Georgia Institute of Technology	379
2	Massachusetts Institute of Technology	370
3	Stanford University	316
4	University of Illinois at Urbana-Champaign	310
5	Purdue University	304
6	Texas A&M University	274
7	University of Michigan	273
8	The University of Texas at Austin	270
9	University of California, Berkeley	229
10	Carnegie Mellon University	212
11	Virginia Polytechnic Institute and State University	200
12	University of Maryland, College Park	195
13	North Carolina State University at Raleigh	193
14	University of California, San Diego	184
14	University of Washington in Seattle	184
16	University of Southern California	182
17	University of Wisconsin-Madison	178
18	The Pennsylvania State University	174
19	Cornell University	169
19	The Ohio State University	169
21	University of Florida	166
22	University of Minnesota -Twin Cities	162
23	University of California, Los Angeles	158
24	Arizona State University	157
25	Northwestern University	150
26	North Carolina State University	147
27	Iowa State University	143
28	University of California, Irvine	135
29	University of Colorado Boulder	125
30	The Johns Hopkins University	121
31	Columbia University	114
32	University of Utah	113
33	University of Tennessee, Knoxville	110
34	Stony Brook University	109
35	University of Central Florida	108
36	Rutgers, The State University of New Jersey, School of Engineering	105
36	University of California, Davis	105
36	William Marsh Rice University	105
39	Colorado School of Mines	101
39	Rensselaer Polytechnic Institute	101
41	Princeton University	97
42	University of Houston	96
43	Northeastern University	95
44	Clemson University	93
44	University of Delaware	93
46	University of Connecticut	92
47	Missouri University of Science and Technology	91
47	University of California, Riverside	91
49	Michigan State University	90
50	Oregon State University	89

* 422 Institutions reported. Includes both Part-time and full-time

4.1.10 Top 20 Institutions by Total Doctoral Degrees awarded to Underrepresented Minorities

Table 62: Top 20 Institutions by Total Doctoral Degrees awarded to Underrepresented Minorities

No	Institutions	Degrees Awarded
1	Massachusetts Institute of Technology	24
2	Georgia Institute of Technology	22
3	Stanford University	20
4	University of California, Riverside	16
4	University of Michigan	16
6	University of Florida	15
7	University of California, Berkeley	14
8	University of Puerto Rico, Mayaguez Campus	11
9	Northwestern University	10
9	University of California, Los Angeles	10
9	University of Maryland, College Park	10
12	Cornell University	9
12	North Carolina State University at Raleigh	9
12	Purdue University	9
12	University of California, San Diego	9
12	University of Central Florida	9
12	University of Washington in Seattle	9
12	University of Wisconsin-Madison	9
19	Texas A&M University	8
19	The Johns Hopkins University	8

* 422 Institutions included

4.1.11 Top 50 Institutions by Percentage of Doctoral Degrees awarded to Underrepresented Minorities

Table 63: Top 50 Institutions by Percentage of Doctoral Degrees awarded to Underrepresented Minorities

No	Institutions	Percent Underrepresented Minorities
1	University of Puerto Rico, Mayaguez Campus	100%
2	Texas A&M University - Kingsville	50%
2	Texas State University	50%
4	Morgan State University	36.4%
5	North Carolina A&T State University	30%
6	University of Miami	25%
7	The University of Texas at El Paso	21.1%
8	University of California, Riverside	17.6%
9	University of North Carolina at Chapel Hill	16.7%
10	University of North Dakota	14.3%
10	University of Southern Mississippi	14.3%
12	University of Maryland, Baltimore County	13.9%
13	The University of Texas at San Antonio	12.1%
14	University of Arkansas	11.4%
15	Howard University	11.1%
16	City College of the City University of New York	10.3%
17	Embry Riddle Aeronautical University-Daytona Beach	9.1%
17	Ohio University	9.1%
17	Vanderbilt University	9.1%
20	University of Florida	9%
21	The University of New Mexico	8.9%
22	University of California-Santa Cruz	8.7%
23	University of Notre Dame	8.6%
23	West Virginia University	8.6%
25	University of Central Florida	8.3%
26	Air Force Institute of Technology	7.7%
26	The Catholic University of America	7.7%
28	University of Missouri	7%
29	Duke University	6.9%
30	The University of Texas at Dallas	6.7%
31	Northwestern University	6.7%
31	Tennessee Technological University	6.7%
31	University of Rhode Island	6.7%
31	William Marsh Rice University	6.7%
35	The Johns Hopkins University	6.6%
36	Florida International University	6.5%
37	Massachusetts Institute of Technology	6.5%
38	University of Delaware	6.5%
38	Utah State University	6.5%
40	Case Western Reserve University	6.4%
41	FAMU-FSU College of Engineering	6.3%
42	Stanford University	6.3%
42	University of California, Los Angeles	6.3%
44	Northeastern University	6.3%
45	University of California, Berkeley	6.1%
46	Boston University	6.1%
47	University of California, Merced	5.9%
47	University of Colorado Denver	5.9%
47	Wichita State University	5.9%
50	University of Michigan	5.9%

Table 63: Top 50 Institutions by Percentage of Doctoral Degrees awarded to Underrepresented Minorities (*continued*)

No	Institutions	Percent Underrepresented Minorities
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* 422 Institutions included

4.1.12 Top 20 Institutions Awarding Highest Percentage of Doctoral Degrees to Women

Table 64: Top 20 Highest Percentage of Doctoral Degrees to Women

No	Institutions	Percent Women
1	San Diego State University	100%
2	University of Nevada, Las Vegas	58.3%
3	Jackson State University	50%
3	SUNY College of Environmental Science and Forestry	50%
3	Texas A&M University - Kingsville	50%
3	Tufts University	50%
3	University of Detroit Mercy	50%
3	Western New England University	50%
9	University of Louisiana at Lafayette	44.4%
10	Tennessee State University	42.9%
10	University of Maine	42.9%
12	Lamar University	41.9%
13	Alfred University, NY State College of Ceramics	40%
13	North Carolina A&T State University	40%
13	University of Miami	40%
13	University of Wyoming	40%
17	Clarkson University	38.1%
18	Embry Riddle Aeronautical University-Daytona Beach	36.4%
18	University of Massachusetts Dartmouth	36.4%
18	Vanderbilt University	36.4%

* 422 included

4.1.13 Top 50 Institutions Awarding Doctoral Degrees to Foreign Nationals

Table 65: Highest Number of Engineering Doctoral Degrees

No	Institutions	Degrees Awarded
1	Purdue University	209
2	Georgia Institute of Technology	208
3	University of Illinois at Urbana-Champaign	202
4	Texas A&M University	197
5	Massachusetts Institute of Technology	185
6	The University of Texas at Austin	169
7	University of Michigan	142
8	Stanford University	137
9	Carnegie Mellon University	134
10	Virginia Polytechnic Institute and State University	130
11	University of Southern California	121
12	The Pennsylvania State University	118
13	University of Maryland, College Park	115
14	Iowa State University	112
15	Arizona State University	111
16	North Carolina State University at Raleigh	108
16	University of California, Los Angeles	108
16	University of California, San Diego	108
19	The Ohio State University	107
20	University of Wisconsin-Madison	102
21	University of Minnesota -Twin Cities	101
22	University of California, Berkeley	90
23	University of Florida	89
24	North Carolina State University	86
25	Stony Brook University	82
25	University of Washington in Seattle	82
27	Northwestern University	79
28	University of Houston	78
29	Cornell University	75
30	Rutgers, The State University of New Jersey, School of Engineering	74
31	Missouri University of Science and Technology	72
31	The University of Texas at Dallas	72
33	Michigan State University	68
34	University of California, Davis	67
34	University of California, Irvine	67
36	University of Connecticut	65
37	The University of Texas at Arlington	64
38	University of Tennessee, Knoxville	63
39	University of Central Florida	62
40	Northeastern University	61
41	Clemson University	60
41	University of Illinois at Chicago	60
43	Rensselaer Polytechnic Institute	57

Table 65: Highest Number of Engineering Doctoral Degrees (*continued*)

No	Institutions	Degrees Awarded
43	The Johns Hopkins University	57
43	William Marsh Rice University	57
46	Oregon State University	54
47	Auburn University	53
47	University of Nebraska, Lincoln	53
49	University of Colorado Boulder	50
49	University of Delaware	50

* 422 Institutions included

4.1.14 Top 50 Institutions Awarding Bachelor's Degrees (excluding computer science)

Table 66: Top 50 Institutions Awarding Bachelor's Degrees (excluding computer science)

No	Institutions	Degrees Awarded
1	Georgia Institute of Technology	2,195
2	The Pennsylvania State University	1,953
3	Purdue University	1,925
4	University of Illinois at Urbana-Champaign	1,907
5	Texas A&M University	1,868
6	Arizona State University	1,725
7	Iowa State University	1,653
8	Virginia Polytechnic Institute and State University	1,648
9	North Carolina State University at Raleigh	1,638
10	The Ohio State University	1,419
11	North Carolina State University	1,320
12	The University of Texas at Austin	1,301
13	University of Florida	1,279
14	California Polytechnic State University, San Luis Obispo	1,195
15	University of Wisconsin-Madison	1,192
16	University of Michigan	1,148
17	Louisiana State University	1,067
18	University of California, Berkeley	1,052
19	Missouri University of Science and Technology	1,037
20	University of Maryland, College Park	1,032
21	University of Central Florida	1,015
22	Colorado School of Mines	1,009
23	University of Washington in Seattle	1,005
24	University at Buffalo, SUNY	1,001
25	San Jose State University	980
26	Clemson University	951
27	Stony Brook University	949
28	Oregon State University	940
29	Texas Tech University	922
30	University of California, San Diego	914
31	The University of Alabama	899
32	Rutgers, The State University of New Jersey, School of Engineering	892
33	University of Colorado Boulder	890
34	Massachusetts Institute of Technology	840
34	West Virginia University	840
36	Michigan State University	839
37	University of Minnesota -Twin Cities	836
38	University of California, Irvine	835
38	University of Maryland, Baltimore County	835
40	Northeastern University	807
41	University of South Florida	789
42	Michigan Technological University	783
43	California State University, Long Beach	770
44	Rensselaer Polytechnic Institute	769
45	Drexel University	754
46	Auburn University	751
47	University of Oklahoma, Gallogly College of Engineering	745
48	George Mason University	743
49	University of Missouri	742
50	San Diego State University	736

* 427 Institutions included

4.1.15 Top 50 Institutions Awarding Master's Degrees (excluding computer science)

Table 67: Top 50 Institutions Awarding Master's Degrees (excluding computer science)

No	Institutions	Degrees Awarded
1	Northeastern University	1,443
2	University of Southern California	1,318
3	Georgia Institute of Technology	1,277
4	University of Michigan	1,168
5	Carnegie Mellon University	1,024
6	The Johns Hopkins University	1,009

Table 67: Top 50 Institutions Awarding Master's Degrees (excluding computer science) (*continued*)

No	Institutions	Degrees Awarded
7	Columbia University	1,008
8	San Jose State University	961
9	Arizona State University	951
10	Stanford University	887
11	University of California, Berkeley	873
12	Massachusetts Institute of Technology	821
13	University of Illinois at Urbana-Champaign	813
14	Texas A&M University	770
15	North Carolina State University at Raleigh	752
16	University of Washington in Seattle	724
17	Stevens Institute of Technology	701
18	Purdue University	667
19	University of Florida	663
20	The University of Texas at Arlington	642
21	North Carolina State University	632
22	Cornell University	630
23	Northwestern University	626
24	University of California, Los Angeles	570
25	University of California, San Diego	559
26	University of Colorado Boulder	542
27	New Jersey Institute of Technology	494
28	University of Maryland, College Park	491
29	NYU Tandon School of Engineering	485
30	Worcester Polytechnic Institute	463
31	University of Pennsylvania	460
32	Stony Brook University	444
33	Missouri University of Science and Technology	435
34	Virginia Polytechnic Institute and State University	429
35	University of South Florida	424
36	George Mason University	416
37	The University of Texas at Austin	414
38	University of Cincinnati	412
39	Duke University	385
40	The Ohio State University	384
41	University of Illinois at Chicago	383
42	Illinois Institute of Technology	377
43	Santa Clara University	355
44	The Pennsylvania State University	354
45	Boston University	353
46	University of Houston	350
47	Drexel University	344
48	Colorado School of Mines	330
48	University of Wisconsin-Madison	330
50	Clemson University	328

* 422 Institutions included

4.1.16 Top 50 Institutions Awarding Doctoral Degrees (excluding computer science)

Table 68: Top 50 Institutions Awarding Doctoral Degrees (excluding computer science)

No	Institutions	Degrees Awarded
1	Massachusetts Institute of Technology	370
2	Georgia Institute of Technology	352
3	Stanford University	285
4	Purdue University	278
5	Texas A&M University	268
5	University of Illinois at Urbana-Champaign	268
7	The University of Texas at Austin	250
8	University of Michigan	241
9	North Carolina State University at Raleigh	193
10	University of California, Berkeley	190
11	University of Washington in Seattle	184
12	Virginia Polytechnic Institute and State University	179
13	The Pennsylvania State University	174
14	University of Maryland, College Park	160
15	University of California, San Diego	159
16	University of Wisconsin-Madison	157
17	University of Florida	154
18	Cornell University	151
19	Northwestern University	150
20	The Ohio State University	149
21	University of California, Los Angeles	134
22	Iowa State University	133
22	University of Minnesota -Twin Cities	133
24	Arizona State University	132
24	University of Southern California	132
26	Carnegie Mellon University	129
27	North Carolina State University	125
28	University of Colorado Boulder	106

Table 68: Top 50 Institutions Awarding Doctoral Degrees (excluding computer science) (*continued*)

No	Institutions	Degrees Awarded
29	The Johns Hopkins University	103
29	University of Tennessee, Knoxville	103
31	University of California, Irvine	102
32	University of Utah	101
33	Colorado School of Mines	99
34	Columbia University	94
35	William Marsh Rice University	92
36	Stony Brook University	90
37	Clemson University	88
37	Missouri University of Science and Technology	88
37	Rutgers, The State University of New Jersey, School of Engineering	88
40	Rensselaer Polytechnic Institute	87
40	University of Central Florida	87
42	University of Houston	84
43	Northeastern University	82
44	University of California, Davis	81
44	University of Virginia	81
46	University of Delaware	80
47	Michigan State University	78
48	Oregon State University	77
48	The University of Texas at Arlington	77
48	University of Connecticut	77

* 422 Institutions included

4.1.17 Institutions with the Highest Percentage of Doctoral Degrees to Foreign Nationals (min 25 awarded)

Table 69: Highest Percentage of Doctoral Degrees to Foreign Nationals

No	Institutions	Percentage
1	Arizona State University-Polytechnic	100%
1	Jackson State University	100%
1	New Mexico Institute of Mining and Technology	100%
1	Prairie View A & M University	100%
1	SUNY College of Environmental Science and Forestry	100%
1	University of Detroit Mercy	100%
1	University of Michigan-Dearborn	100%
8	Illinois Institute of Technology	93.3%
9	Western Michigan University	89.7%
10	Howard University	88.9%
11	University of Arkansas at Little Rock	88.2%
12	NYU Tandon School of Engineering	85.7%
12	University of North Dakota	85.7%
14	University of Missouri	83.7%
15	Wichita State University	82.4%
16	University of Houston	81.2%
17	The University of Texas at Dallas	80.9%
18	Lamar University	80.6%
18	University of North Texas	80.6%
20	University of Louisville	80%
20	University of Wyoming	80%
22	University of North Carolina at Charlotte	79.5%
23	Missouri University of Science and Technology	79.1%
24	Iowa State University	78.3%
25	University of Nebraska, Lincoln	77.9%
26	University of Wisconsin, Milwaukee	77.4%
27	Ohio University	77.3%
28	Oklahoma State University	76.9%
28	University of Denver	76.9%
30	Clarkson University	76.2%
31	Florida International University	76.1%
32	Auburn University	75.7%
33	Michigan State University	75.6%
34	University of Central Oklahoma	75.5%
35	Stony Brook University	75.2%
36	University of Nevada, Las Vegas	75%
37	University of Cincinnati	74%
38	University of Illinois at Chicago	73.2%
39	Lehigh University	72.7%
39	The University of Toledo	72.7%
41	The University of Tulsa	72%
42	Texas A&M University	71.9%
42	The University of Texas at Arlington	71.9%
44	Florida Institute of Technology	71.7%
45	Southern Illinois University Carbondale	71.4%

Table 69: Highest Percentage of Doctoral Degrees to Foreign Nationals (*continued*)

No	Institutions	Percentage
45	Tennessee State University	71.4%
45	University of Hawaii at Manoa	71.4%
45	University of Nevada, Reno	71.4%
49	Stevens Institute of Technology	71.1%
50	Arizona State University	70.7%

* 422 included

4.1.18 Institutions with the Lowest Percentage of Doctoral Degrees to Foreign Nationals (min 25 awarded)

Table 70: Institutions with the Lowest Percentage of Doctoral Degrees to Foreign Nationals

No	Institutions	Percentage
1	Marquette University	29.4%
2	University of Alaska Fairbanks, College of Engineering and Mines	33.3%
2	University of Louisiana at Lafayette	33.3%
4	Duke University	36.8%
5	Villanova University	37.5%
6	University of California, Santa Barbara	38.4%
7	Drexel University	38.9%
8	University of California, Berkeley	39.3%
9	University of Colorado Boulder	40%
10	Colorado State University	41%
11	University of Colorado Denver	41.2%
12	Colorado School of Mines	41.6%
12	University of Utah	41.6%
14	North Dakota State University	41.7%
14	University of Dayton	41.7%
16	Vanderbilt University	42.4%
17	University of California, Riverside	42.9%
17	University of Maine	42.9%
19	Stanford University	43.4%
20	Cornell University	44.4%
21	The University of New Mexico	44.6%
21	University of Washington in Seattle	44.6%
23	Tufts University	44.7%
24	University of Miami	45%
25	University of Massachusetts Dartmouth	45.5%

* 422 included

4.2 ENGINEERING DOCTORAL ENROLLMENT

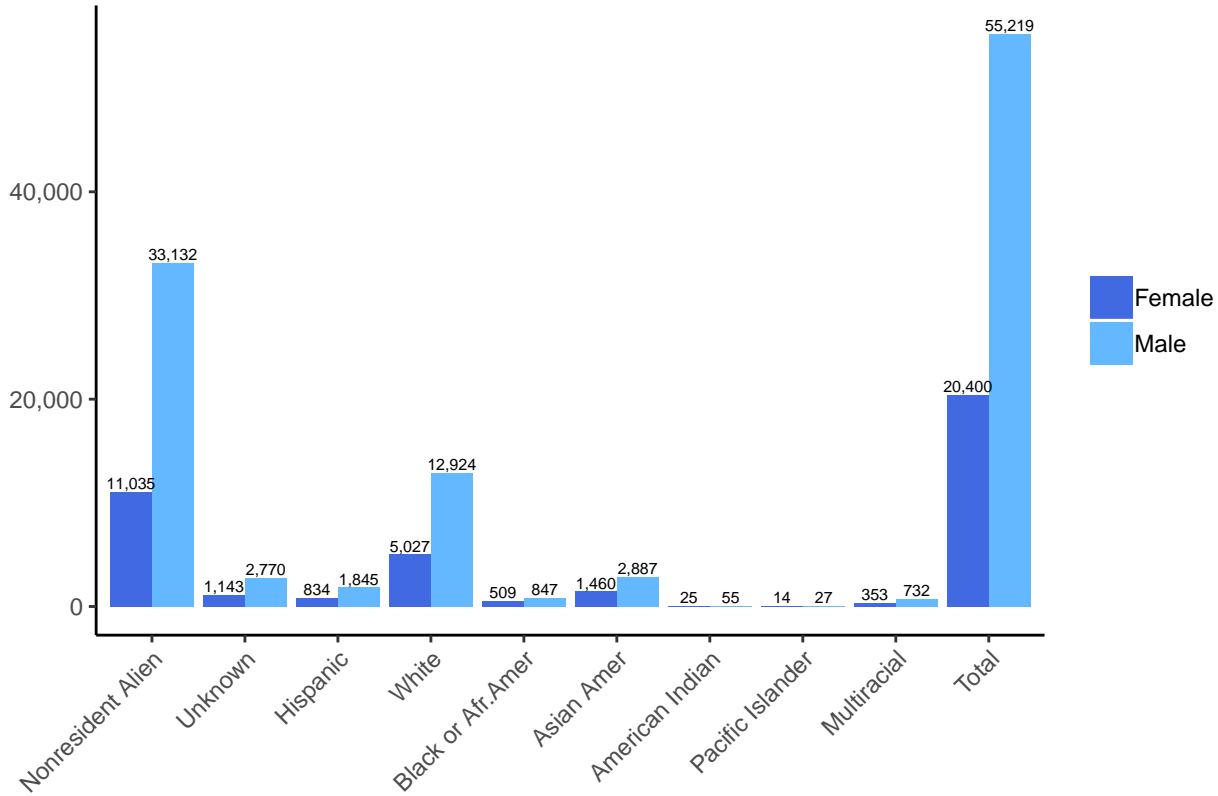
4.2.1 Doctoral Enrollment by Race, Ethnicity, and Gender

Table 71: Doctoral Enrollment by Race, Ethnicity, and Gender 75,619*

Ethnicity	Enrollments
Nonresident Alien Male	33,132
Nonresident Alien Female	11,035
Unknown Male	2,770
Unknown Female	1,143
Hispanic Male	1,845
Hispanic Female	834
White Male	12,924
White Female	5,027
Black or Afr. American Male	847
Black or Afr. American Female	509
Asian American Male	2,887
Asian American Female	1,460
American Indian Male	55
American Indian Female	25
Native Hawaiian/Other Pacific Islander Male	27
Native Hawaiian/Other Pacific Islander Female	14
Multiracial Male	732
Multiracial Female	353
Total Male	55,219
Total Female	20,400

* Includes 56 male and 32 female enrolled students from Institutions in Puerto Rico.

Doctoral Enrollment by Race, Ethnicity, and Gender



4.2.2 Doctoral Enrollment by Engineering Discipline:(Full time and Part time)

Table 72: Doctoral Enrollment by Engineering Discipline:(Full time and Part time)

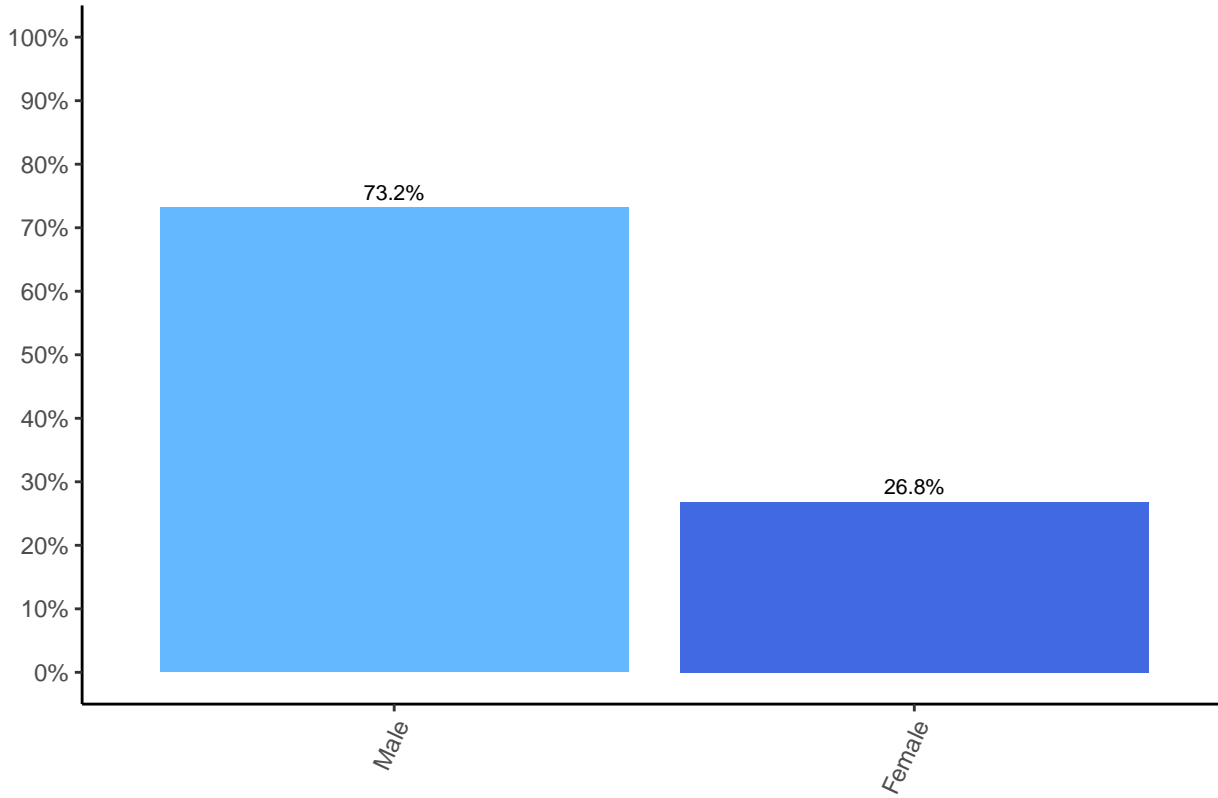
Discipline Name	Full Time	Part Time
Aerospace	2,692	230
Architectural	74	1
Biological and Agricultural	672	76
Biomedical	7,250	468
Chemical	6,502	247
Civil	4,228	476
Civil/Environmental	1,964	281
Computer	937	147
Computer Sci. (inside Eng.)	8,937	970
Electrical	3,363	398
Electrical/Computer	12,160	1,284
Engineering (General)	842	99
Engineering Management	157	199
Engr. Science and Engr. Physics	769	57
Envr. Eng	712	67
Industrial/Manufacturing/Systems	3,008	608
Mechanical	10,005	926
Metallurgical and Matrls.	4,517	217
Mining	99	29
Nuclear	865	66
Other	5,386	849
Petroleum	480	62

4.2.3 Doctoral Enrollment by Gender

Table 73: Doctoral Enrollment by Gender

Male	Female
73.2%	26.8%

Doctoral Enrollment by Gender

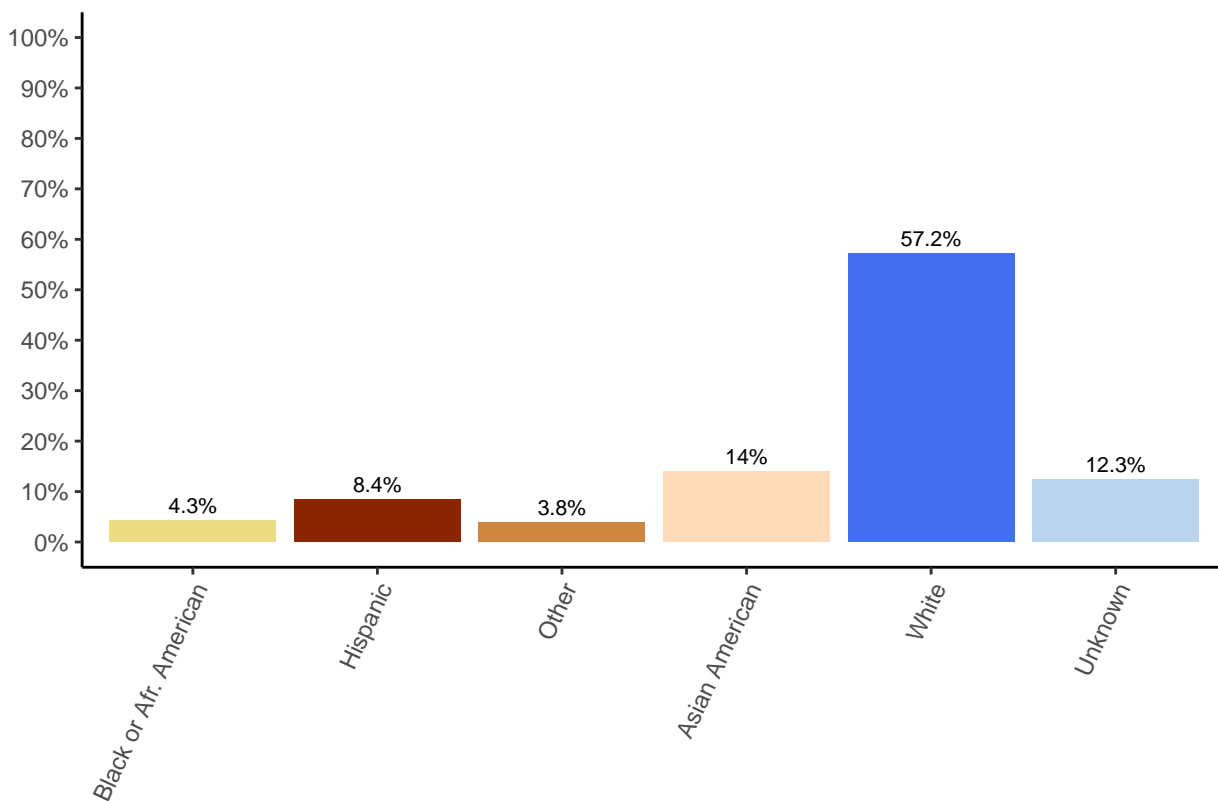


4.2.4 Doctoral Enrollment by Race and Ethnicity

Table 74: Doctoral Enrollment by Race and Ethnicity*

Ethnicity	Percentage
Black or Afr. American	4.3%
Hispanic	8.4%
Other	3.8%
Asian American	14%
White	57.2%
Unknown	12.3%

Doctoral Enrollment by Race and Ethnicity

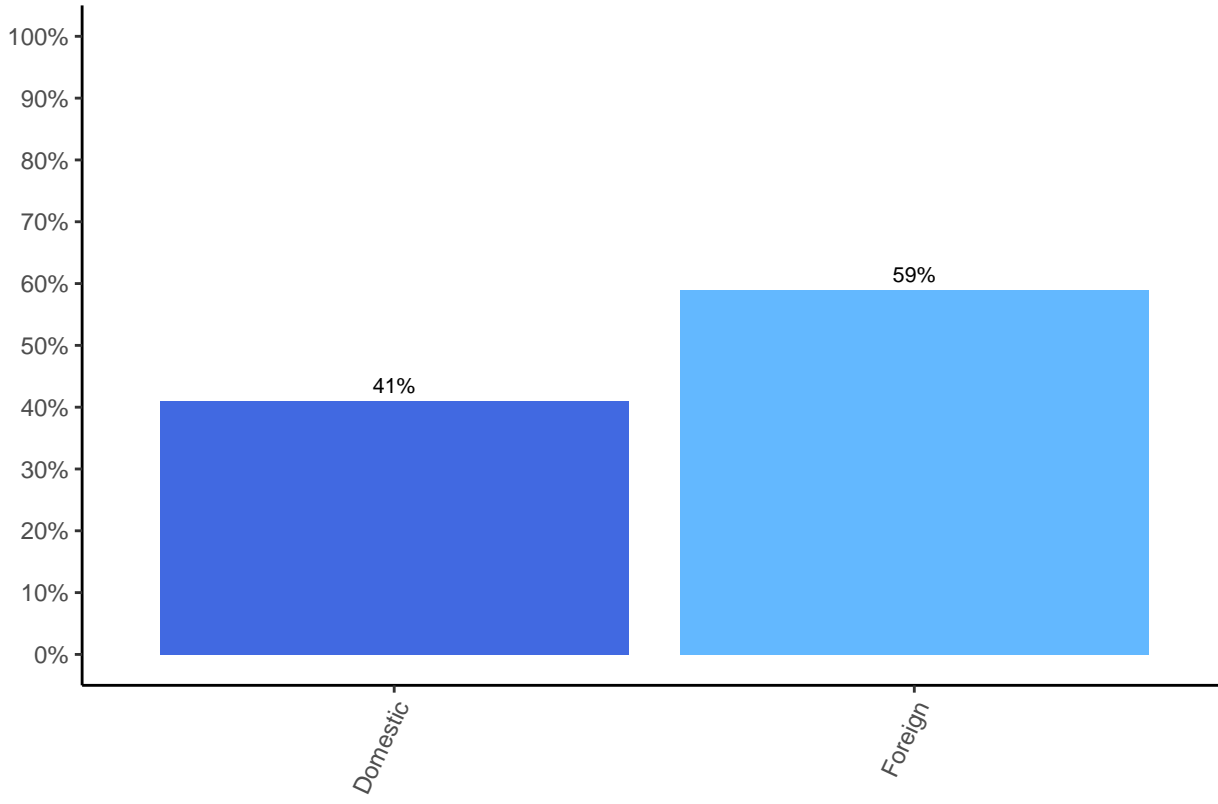


4.2.5 Doctoral Enrollment by Residency

Table 75: Doctoral Enrollment by Residency

Foreign	Domestic
59%	41%

Doctoral Enrollment by Residency



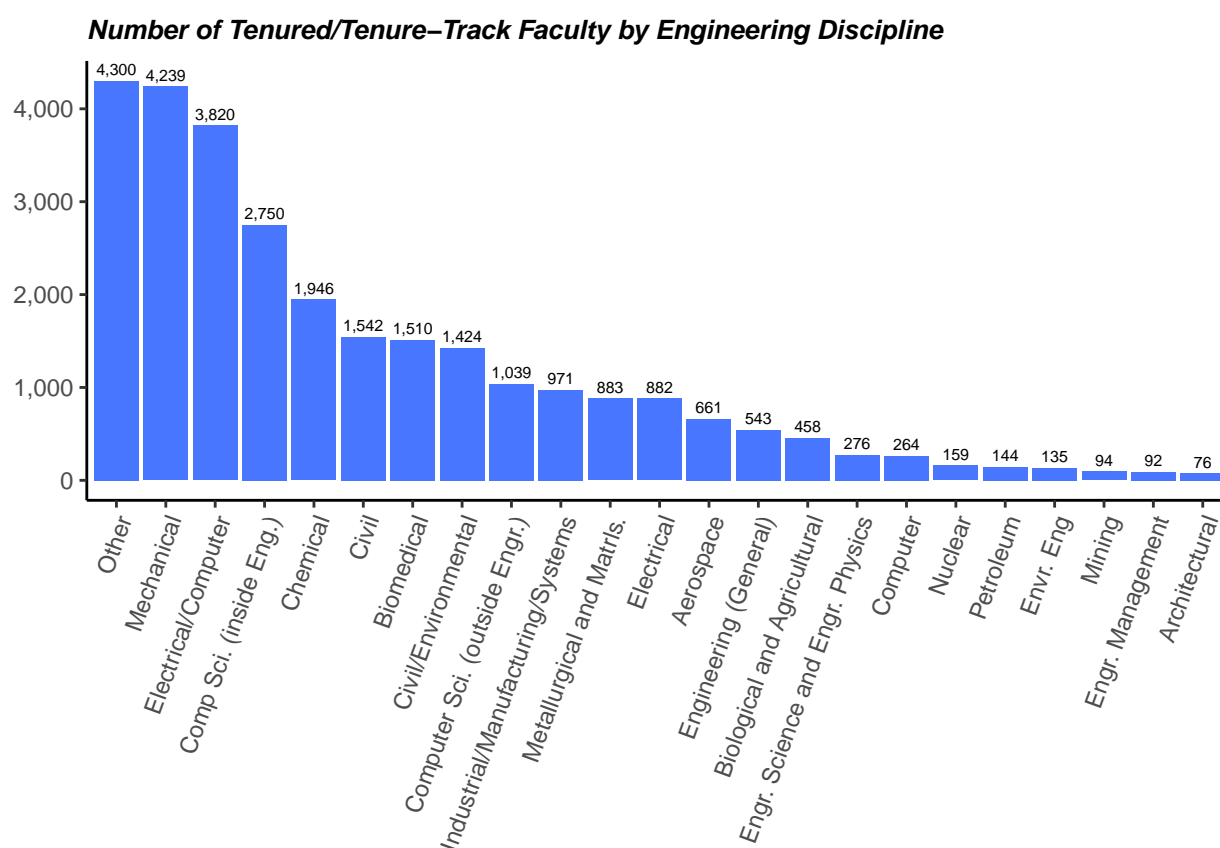
5 ENGINEERING FACULTY , FALL 2019

5.1 Number of Tenured/Tenure-Track Faculty by Engineering Discipline

Table 76: Number of Tenured/Tenure-Track Faculty by Engineering Discipline: 27,170

Discipline Name	Number of Faculty
Other	4,300
Mechanical	4,239
Electrical/Computer	3,820
Comp Sci. (inside Eng.)	2,750
Chemical	1,946
Civil	1,542
Biomedical	1,510
Civil/Environmental	1,424
Computer Sci. (outside Engr.)	1,039
Industrial/Manufacturing/Systems	971
Metallurgical and Matrls.	883
Electrical	882
Aerospace	661
Engineering (General)	543
Biological and Agricultural	458
Engr. Science and Engr. Physics	276
Computer	264
Nuclear	159
Petroleum	144
Envr. Eng	135
Mining	94
Engr. Management	92
Architectural	76

* Total does not include computer science (outside engineering).



5.2 Percentage of Female Tenured/Tenure-Track Faculty by Discipline

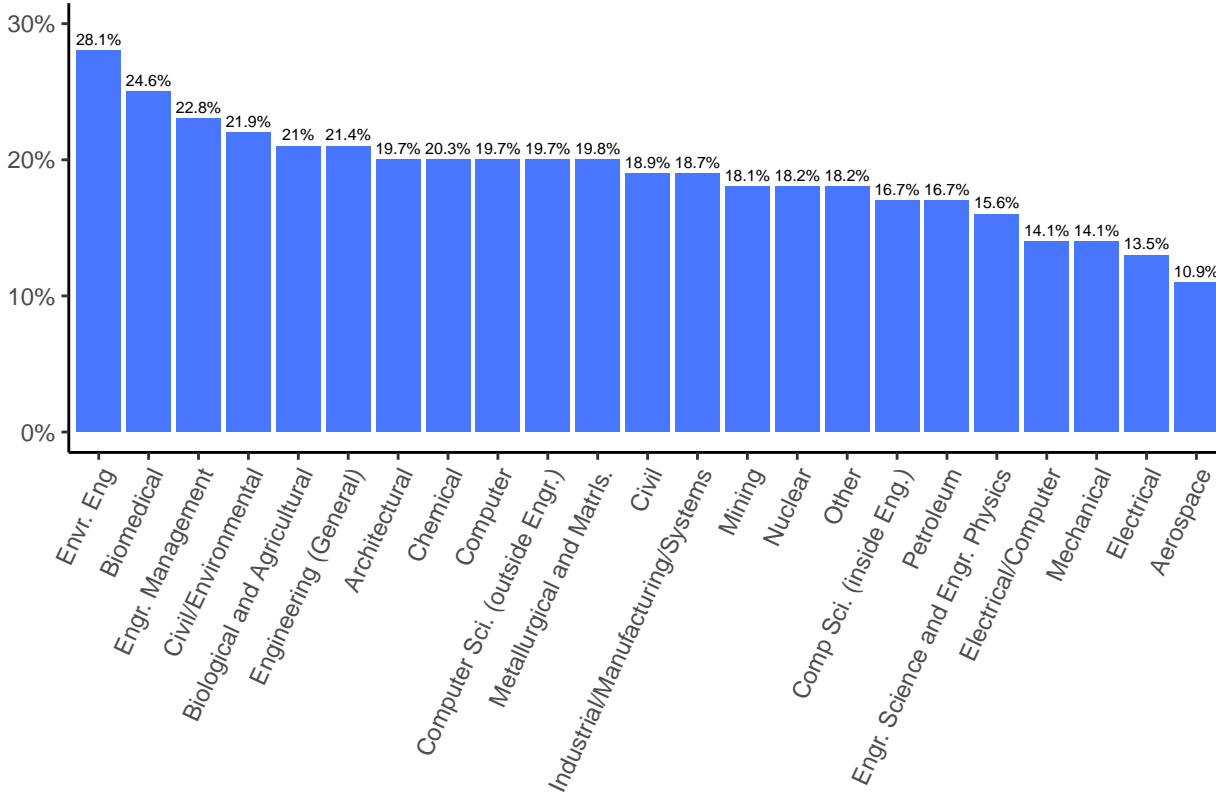
Table 77: Percentage of Female Tenured/Tenure-Track Faculty by Discipline: 17.6 % of Total

Discipline Name	Percent Women
Envr. Eng	28.1%
Biomedical	24.6%
Engr. Management	22.8%
Civil/Environmental	21.9%
Engineering (General)	21.4%
Biological and Agricultural	21%
Chemical	20.3%
Metallurgical and Matrls.	19.8%
Architectural	19.7%
Computer	19.7%
Computer Sci. (outside Engr.)	19.7%

Table 77: Percentage of Female Tenured/Tenure-Track Faculty by Discipline: 17.6 % of Total (*continued*)

Discipline Name	Percent Women
Civil	18.9%
Industrial/Manufacturing/Systems	18.7%
Nuclear	18.2%
Other	18.2%
Mining	18.1%
Comp Sci. (inside Eng.)	16.7%
Petroleum	16.7%
Engr. Science and Engr. Physics	15.6%
Electrical/Computer	14.1%
Mechanical	14.1%
Electrical	13.5%
Aerospace	10.9%

Percentage of Female Tenured/Tenure-Track Faculty by Discipline



5.3 Top 50 Institutions by Number of Tenured/Tenure-Track Faculty

Table 78: Top 50 Institutions by Number of Tenured/Tenure-Track Faculty

No	Institutions	Number of Faculty
1	Georgia Institute of Technology	570
2	University of Illinois at Urbana-Champaign	464
3	Texas A&M University	434
4	University of Michigan	424
5	Virginia Polytechnic Institute and State University	393
6	Purdue University	389
7	Massachusetts Institute of Technology	387
8	The Pennsylvania State University	379
9	North Carolina State University	362
10	Arizona State University	321
11	The University of Texas at Austin	313
12	University of Florida	299
13	The Ohio State University	298
14	Carnegie Mellon University	295
15	Cornell University	274
15	University of Washington in Seattle	274
17	University of Wisconsin-Madison	261
18	University of California, Berkeley	256
19	University of Maryland, College Park	255
20	Iowa State University	254
21	University of Minnesota -Twin Cities	244
22	University of California, San Diego	236
23	Clemson University	234
24	University of California, Irvine	223
25	University of Utah	221
26	University of California, Davis	211
27	Northeastern University	210
28	Michigan State University	208
28	The Johns Hopkins University	208
30	Colorado School of Mines	207
31	Northwestern University	205

Table 78: Top 50 Institutions by Number of Tenured/Tenure-Track Faculty (*continued*)

No	Institutions	Number of Faculty
32	University of Nebraska, Lincoln	199
33	University at Buffalo, SUNY	196
34	University of Massachusetts Amherst	194
35	University of Southern California	190
36	University of Tennessee, Knoxville	185
37	University of Colorado Boulder	184
38	University of California, Los Angeles	183
39	Columbia University	178
40	Auburn University	172
40	University of Virginia	172
42	University of Central Florida	169
43	University of Central Oklahoma	168
44	University of Kentucky	166
44	University of Puerto Rico, Mayaguez Campus	166
46	Stony Brook University	164
47	Missouri University of Science and Technology	162
47	University of Houston	162
49	Clarkson University	159
50	New Jersey Institute of Technology	154

* 297 Institutions included

5.4 Top 20 Institutions by Number of Underrepresented Minorities Tenured/Tenure-Track Faculty

Table 79: Top 20 Institutions by Number of Underrepresented Minorities Tenured/Tenure-Track Faculty

No	Institutions	Number of Faculty
1	University of Puerto Rico, Mayaguez Campus	145
2	Texas A&M University	41
3	Georgia Institute of Technology	35
4	University of Tennessee-Chattanooga	34
5	Massachusetts Institute of Technology	30
6	Purdue University	28
6	The University of Texas at El Paso	28
8	Virginia Polytechnic Institute and State University	27
9	University of Florida	26
9	University of Illinois at Urbana-Champaign	26
11	Howard University	22
12	University of Michigan	21
13	University of California, Berkeley	20
13	University of California, San Diego	20
15	Arizona State University	18
15	The University of Texas at Austin	18
15	University of California, Irvine	18
18	FAMU-FSU College of Engineering	17
18	North Carolina A&T State University	17
18	The Ohio State University	17

* 297 Institutions included

5.5 Top 20 Institutions by Percentage of Underrepresented Minorities Tenured/Tenure-Track Faculty

Table 80: Top 20 Institutions by Percentage of Underrepresented Minorities Tenured/Tenure-Track Faculty

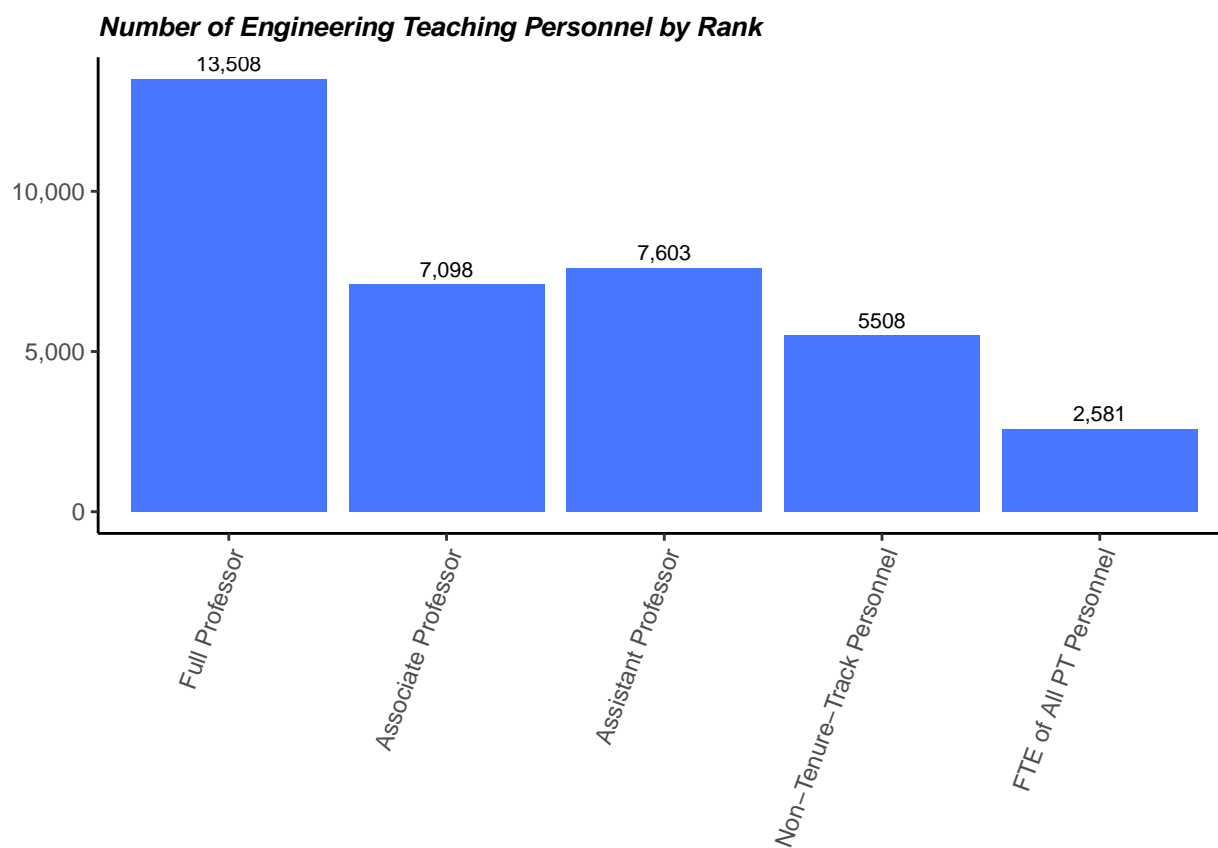
No	Institutions	Percent Underrepresented Minorities
1	University of Puerto Rico, Mayaguez Campus	87.3%
2	Virginia State University	60%
3	Howard University	53.7%
4	Morgan State University	40.7%
5	The University of Texas at El Paso	35%
6	Abilene Christian University	32.4%
7	Jackson State University	31.2%
8	St. Mary's University	28.6%
9	Tuskegee University	25.8%
10	James Madison University	25%
11	North Carolina A&T State University	23.6%
12	University of Tennessee-Chattanooga	23.1%
13	Texas State University	22.2%
14	John Brown University	20%
14	Winona State University	20%
16	The University of Texas Rio Grande Valley	19%
17	University of California, Merced	16.4%
18	The Catholic University of America	15.4%
19	Old Dominion University	15.3%
20	FAMU-FSU College of Engineering	14.9%

* 297 Institutions included

5.6 Number of Engineering Teaching Personnel by Rank

Table 81: Number of Engineering Teaching Personnel by Rank 36,298

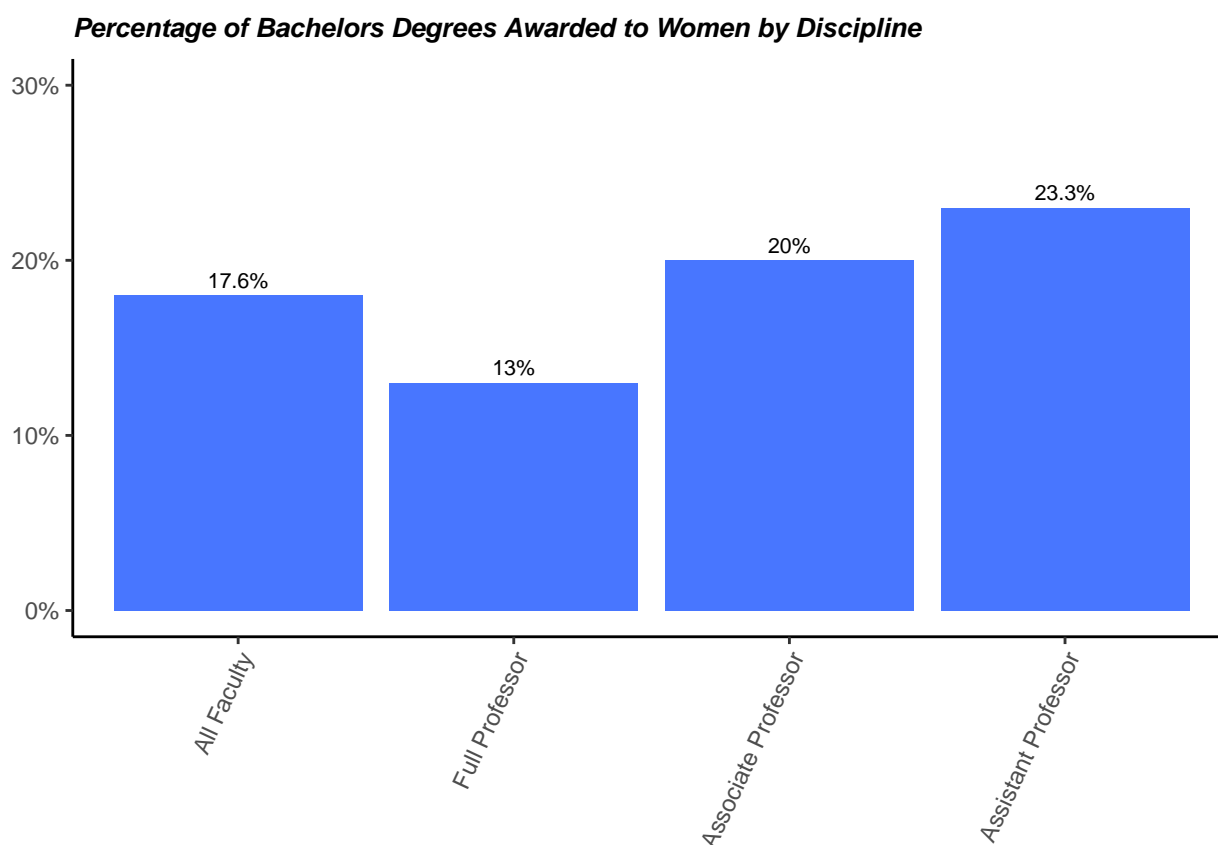
Rank	Number of Faculty
Full Professor	13,508
Associate Professor	7,098
Assistant Professor	7,603
Non-Tenure-Track Personnel	5,508
FTE of All PT Personnel	2,581



5.7 Percentage of Female Tenured/Tenure-Track Faculty by Rank

Table 82: Percentage of Female Tenured/Tenure-Track Faculty by Rank

Rank	Percent
All Faculty	17.6%
Full Professor	13%
Associate Professor	20%
Assistant Professor	23.3%



5.8 Top 50 Institutions with Highest Percentage of Female Tenured Tenure Track Faculty

Table 83: Top 50 Institutions with Highest Percentage of Female Tenured Tenure Track Faculty

No	Institutions	Percent Women
1	Humboldt State University	62.5%
1	Smith College	62.5%
3	Saint Ambrose University	60%
4	Sweet Briar College	50%
5	Seattle University	41.4%
6	University of Hartford	40%
7	University of Bridgeport	38.9%
8	Olin College of Engineering	38.1%
9	Santa Clara University	34.8%
10	Middle Tennessee State University	33.3%
10	Swarthmore College	33.3%
12	San Jose State University	32.6%
13	Mercer University	32.4%
14	Loyola Marymount University	32.1%
15	University of Saint Thomas	31.4%
16	California State University, Long Beach	30.3%
17	Lafayette College	29.7%
18	Roger Williams University	29.4%
18	University of Washington-Tacoma	29.4%
20	University of Portland	29.2%
21	Gonzaga University	28.6%
21	Texas Christian University	28.6%
23	California Baptist University	27.8%
23	California State Polytechnic University, Pomona	27.8%
25	University of Massachusetts Dartmouth	27.5%
26	Fairfield University	27.3%
26	Union College	27.3%
28	Montana State University	27.2%
29	New York Institute of Technology	27%
30	Gannon University	26.9%
30	Trine University	26.9%
32	Bucknell University	26.9%
33	University of Washington in Seattle	26.3%
34	Rowan University	26.2%
35	Harvey Mudd College	26.1%
36	University of Massachusetts Lowell	25.9%
37	Oregon Institute of Technology	25.6%
37	University of Arkansas at Little Rock	25.6%
39	Tufts University	25.6%
40	University of Wisconsin, Platteville	25.5%
41	The George Washington University	25.3%
42	Baker College	25%
42	James Madison University	25%
42	Stevens Institute of Technology	25%
42	University of Detroit Mercy	25%
42	University of Maryland, Baltimore County	25%
42	University of the District of Columbia	25%
42	Valparaiso University	25%
49	University of Puerto Rico, Mayaguez Campus	24.7%
50	Clarkson University	24.5%

* 297 Institutions included

5.9 Top 20 Institutions with Highest Number of Female Tenured/Tenure-Track Faculty

Table 84: Top 20 Institutions with Highest Number of Female Tenured/Tenure-Track Faculty

No	Institutions	Number of Faculty
1	Georgia Institute of Technology	118
2	University of Illinois at Urbana-Champaign	88
3	University of Michigan	87
4	Massachusetts Institute of Technology	77
5	Virginia Polytechnic Institute and State University	76
6	University of Washington in Seattle	72
7	Purdue University	71
8	Arizona State University	70
9	The Pennsylvania State University	68
10	Carnegie Mellon University	67
11	Texas A&M University	66
12	The Ohio State University	64
13	University of Florida	59
14	Cornell University	58
14	North Carolina State University	58
16	The University of Texas at Austin	57
17	University of California, Berkeley	51
18	University of California, Irvine	50
19	Colorado School of Mines	47
20	Northeastern University	45

* 297 Institutions included

5.10 Percentage of Women and Minority Faculty Members

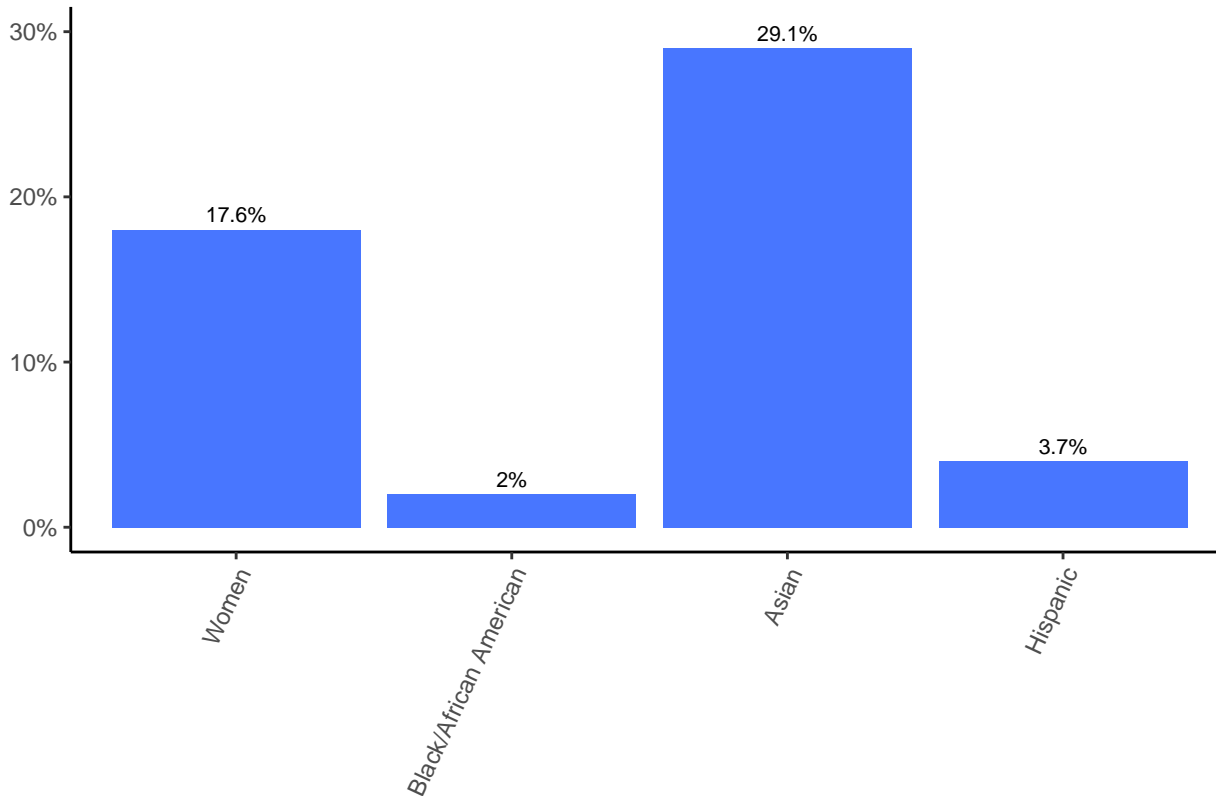
Table 85: Percentage of Women and Minority Faculty Members

Ethnicity	2011	2012	2013	2014	2015	2016	2017	2018	2019
Women	13.8%	14.0%	14.5%	15.2%	15.7%	16.3%	17.0%	17.6%	17.6%
Black or Afr. American	2.5%	2.7%	2.6%	2.5%	2.5%	2.3%	3.1%	2.4%	2.0%
Asian	24.1%	24.6%	25.2%	25.6%	26.9%	27.6%	26.0%	28.3%	29.1%
Hispanic	3.7%	3.9%	3.6%	3.9%	3.9%	3.7%	5.1%	3.8%	3.7%

Note:

*Includes faculty data from University of Puerto Rico, Mayaguez.

Percentage of Women and Minority Faculty Members 2010–2019*



5.11 Number of Full Professors by Race/Ethnicity

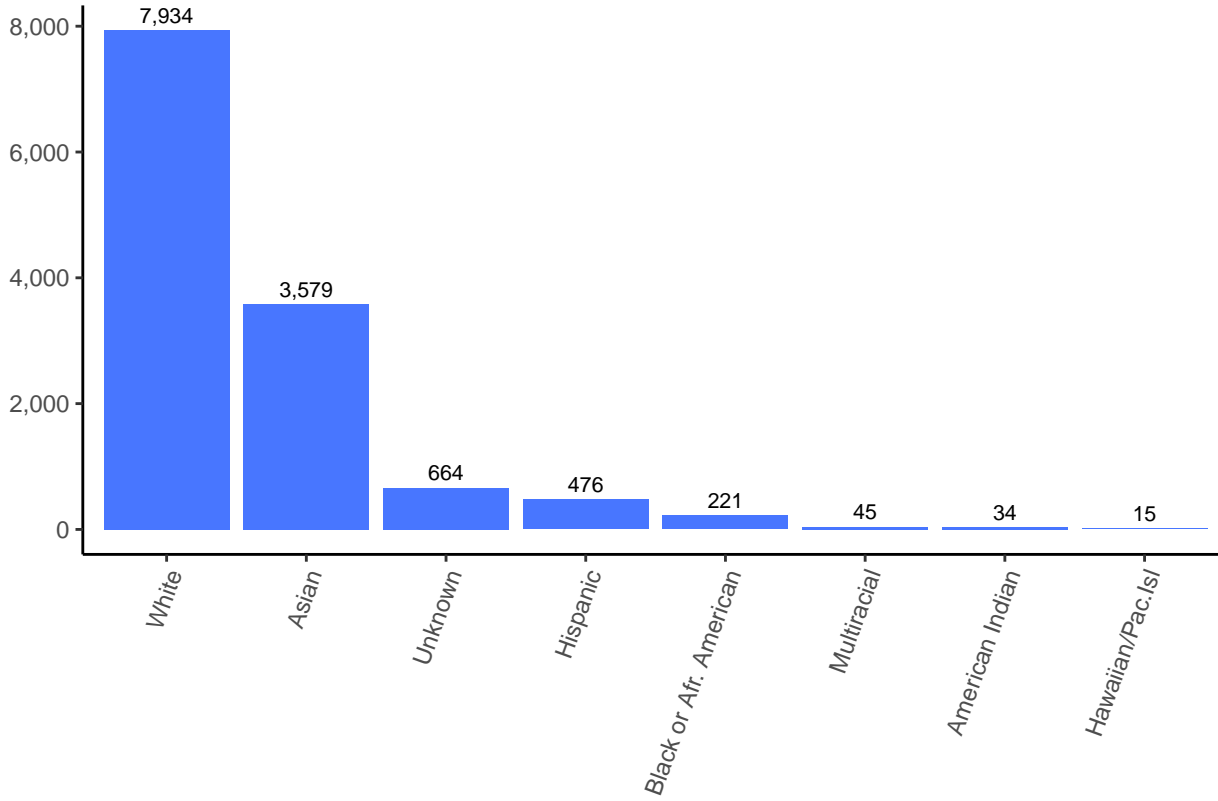
Table 86: Number of Full Professors by Race/Ethnicity: 12,968

Ethnicity	Number of Faculty
White	7,934
Asian	3,579
Unknown	664
Hispanic	476
Black or Afr. American	221
Multiracial	45
American Indian	34
Hawaiian/Pac.Isl	15

* Includes 114 Faculty from Institutions in Puerto Rico.

* Computer Science(Outside Engineering) has been removed

Number of Full Professors by Race/Ethnicity (teaching)



5.12 Number of Assistant Professors by Race/Ethnicity

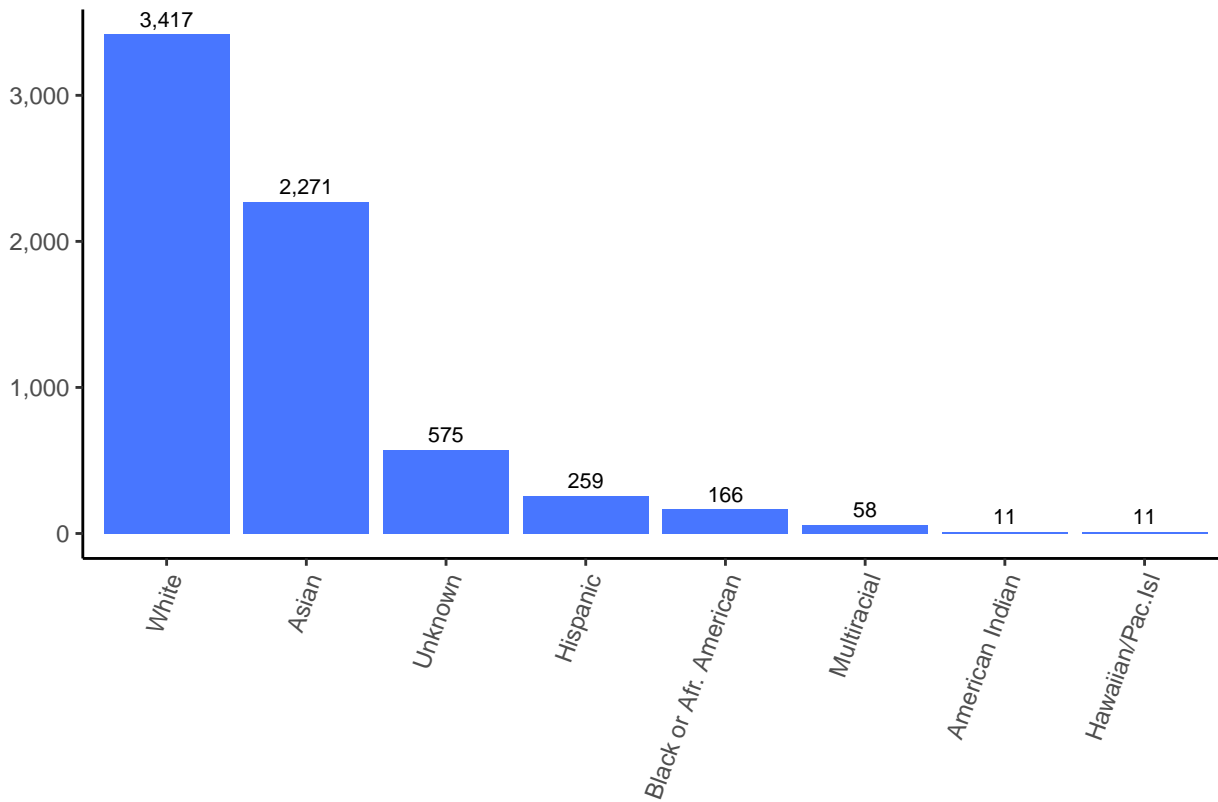
Table 87: Number of Assistant Professors by Race/Ethnicity: 6,768

Ethnicity	Number of Faculty
White	3,417
Asian	2,271
Unknown	575
Hispanic	259
Black or Afr. American	166
Multiracial	58
American Indian	11
Hawaiian/Pac.Isl	11

* Includes 20 Faculty from Institutions in Puerto Rico.

* Computer Science(Outside Engineering) has been removed

Number of Assistant Professors by Race/Ethnicity (teaching)



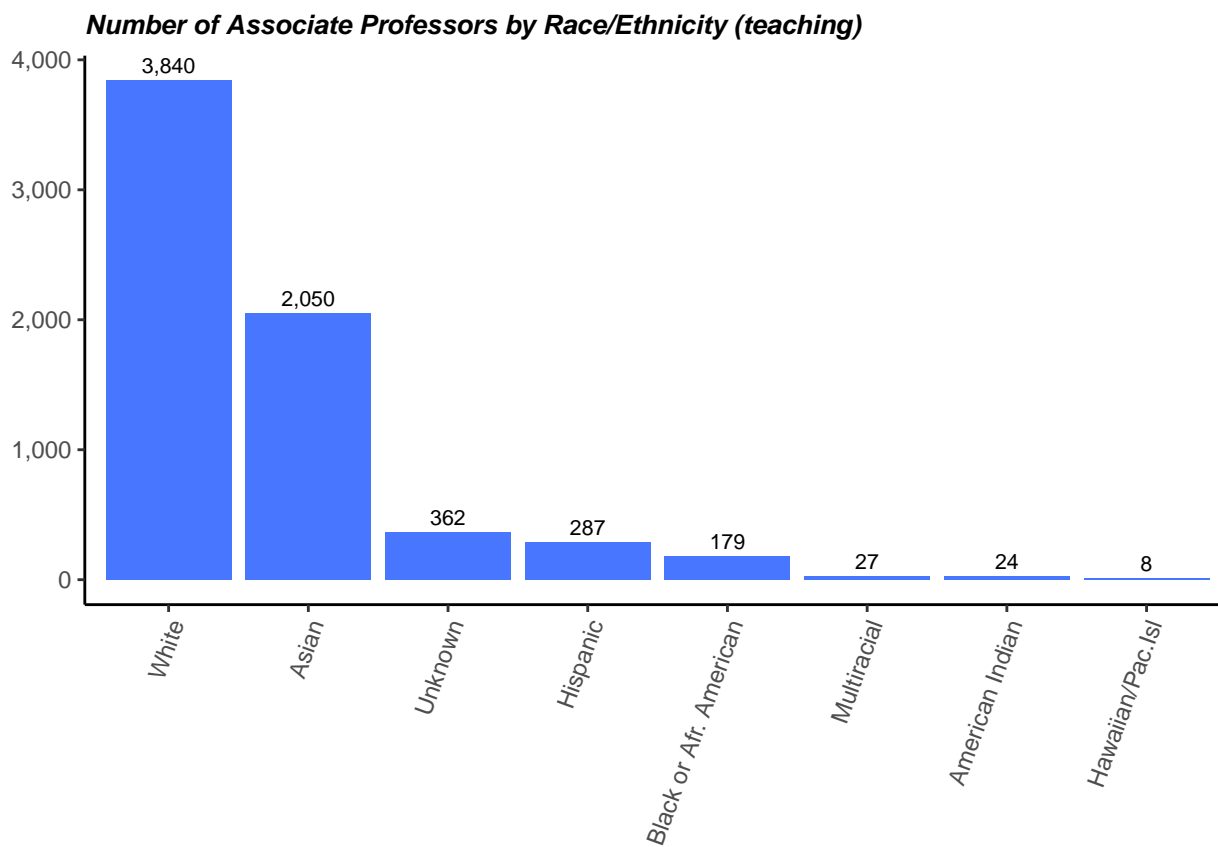
5.13 Number of Associate Professors by Race/Ethnicity

Table 88: Number of Associate Professors by Race/Ethnicity: 6,777

Ethnicity	Number of Faculty
White	3,840
Asian	2,050
Unknown	362
Hispanic	287
Black or Afr. American	179
Multiracial	27
American Indian	24
Hawaiian/Pac.Isl	8

* Includes 32 Faculty from Institutions in Puerto Rico.

* Computer Science(Outside Engineering) has been removed

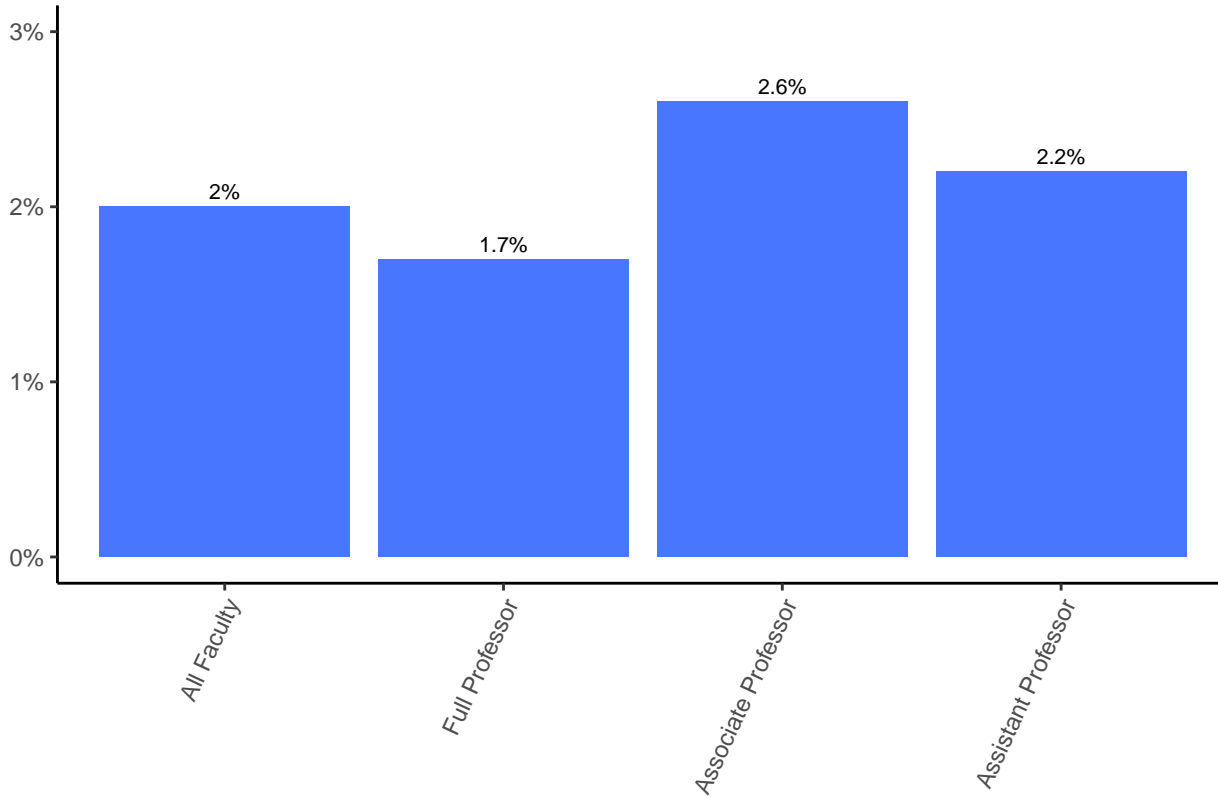


5.14 Percentage of Black/African American Tenured/Tenure-Track Faculty by Rank

Table 89: Percentage of Black/African American Tenured/Tenure-Track Faculty by Rank

Rank	Percent
All Faculty	2%
Full Professor	1.7%
Associate Professor	2.6%
Assistant Professor	2.2%

Percentage of African American Tenured/Tenure-Track Faculty by Rank

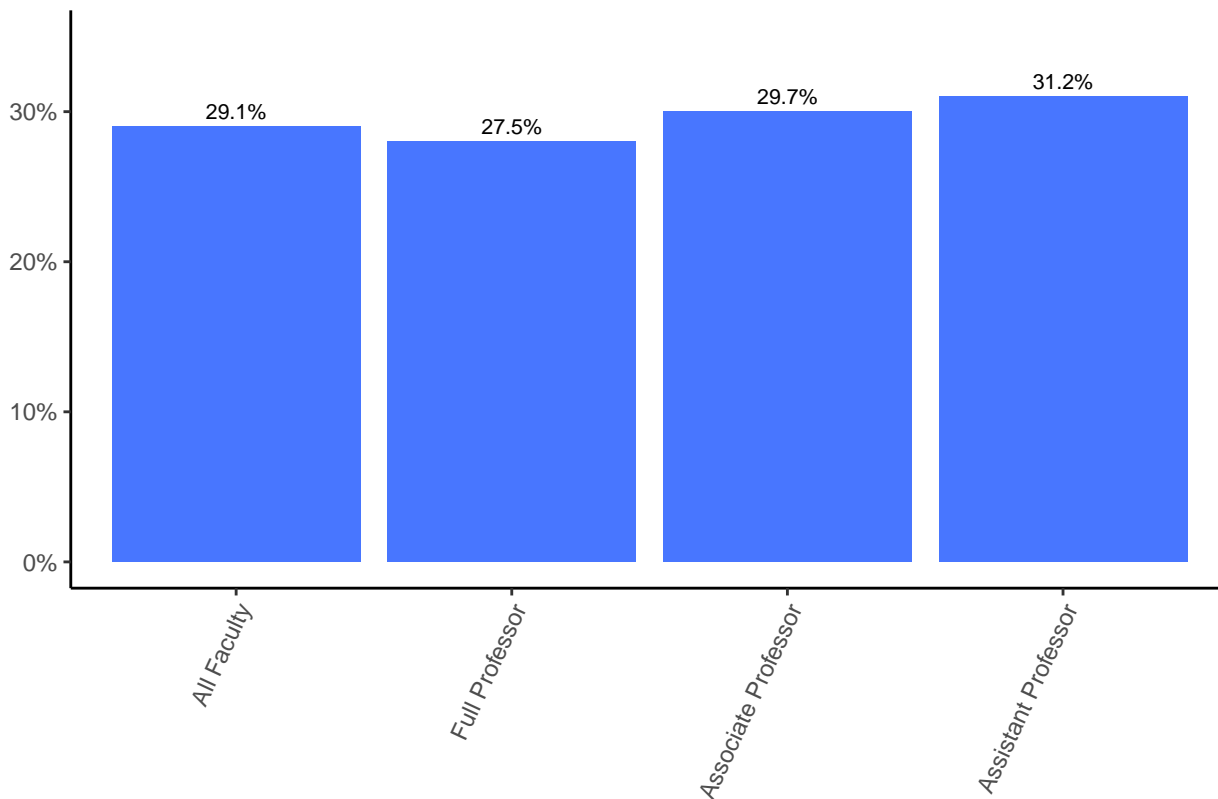


5.15 Percentage of Asian Tenured/Tenure-Track Faculty by Rank

Table 90: Percentage of Asian Tenured/Tenure-Track Faculty by Rank

Rank	Percent
All Faculty	29.1%
Full Professor	27.5%
Associate Professor	29.7%
Assistant Professor	31.2%

Percentage of Asian Tenured/Tenure-Track Faculty by Rank

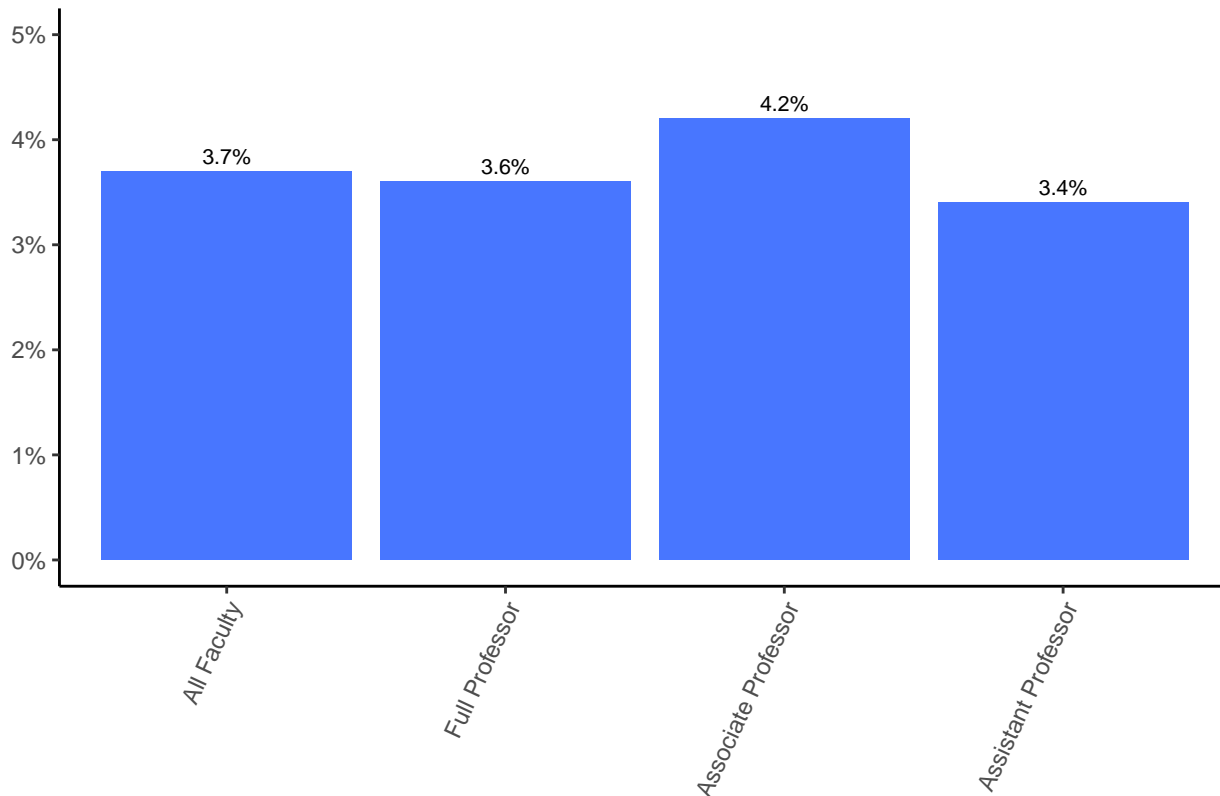


5.16 Percentage of Hispanic Tenured/Tenure-Track Faculty by Rank

Table 91: Percentage of Hispanic Tenured/Tenure-Track Faculty by Rank

Rank	Percent
All Faculty	3.7%
Full Professor	3.6%
Associate Professor	4.2%
Assistant Professor	3.4%

Percentage of Hispanic Tenured/Tenure-Track Faculty by Rank



5.17 African American Tenured/ Tenure Track Faculty by Institutions

Table 92: African American Tenured/ Tenure Track Faculty by Institutions

No	Institutions	Number of Faculty
1	University of Tennessee-Chattanooga	30
2	Howard University	20
3	Georgia Institute of Technology	17
4	North Carolina A&T State University	16
5	FAMU-FSU College of Engineering	14
6	Abilene Christian University	11
6	Morgan State University	11
6	University of Michigan	11
9	Massachusetts Institute of Technology	10
9	University of Florida	10
9	Virginia Polytechnic Institute and State University	10
12	Cornell University	8
12	Tuskegee University	8
12	University of Illinois at Urbana-Champaign	8
15	Clemson University	7
15	University of Maryland, College Park	7
17	Iowa State University	6
17	Missouri University of Science and Technology	6
17	Old Dominion University	6
17	Purdue University	6

* 297 Institutions included

5.18 Asian Tenured/ Tenure Track Faculty by Institutions

Table 93: Asian Tenured/ Tenure Track Faculty by Institutions

No	Institutions	Number of Faculty
1	Georgia Institute of Technology	180
2	Texas A&M University	144
3	Purdue University	139
4	University of Illinois at Urbana-Champaign	123
5	Arizona State University	116
6	The Ohio State University	107
7	Iowa State University	105
8	University of Michigan	102
9	North Carolina State University	95
10	Virginia Polytechnic Institute and State University	94
11	University at Buffalo, SUNY	92
12	University of California, Los Angeles	91
13	University of California, San Diego	90
14	University of Florida	85
15	Michigan State University	83
16	The Pennsylvania State University	81
17	The University of Texas at Austin	78
18	University of Central Florida	74
18	University of Minnesota -Twin Cities	74
20	The University of Texas at Arlington	72

* 297 Institutions included

5.19 Hispanic Tenured/ Tenure Track Faculty by Institutions

Table 94: Hispanic Tenured/ Tenure Track Faculty by Institutions

No	Institutions	Number of Faculty
1	University of Puerto Rico, Mayaguez Campus	142
2	Texas A&M University	34
3	The University of Texas at El Paso	24
4	Purdue University	21
5	Massachusetts Institute of Technology	20
6	Georgia Institute of Technology	18
6	University of Illinois at Urbana-Champaign	18
8	University of California, San Diego	17
9	University of Florida	16
9	Virginia Polytechnic Institute and State University	16
11	Arizona State University	15
12	The University of Texas at Austin	14
12	University of California, Berkeley	14
14	The Ohio State University	13
14	University of California-Santa Cruz	13
16	University of California, Irvine	12
17	The Pennsylvania State University	11
17	The University of Texas at San Antonio	11
19	Auburn University	10
19	Colorado School of Mines	10

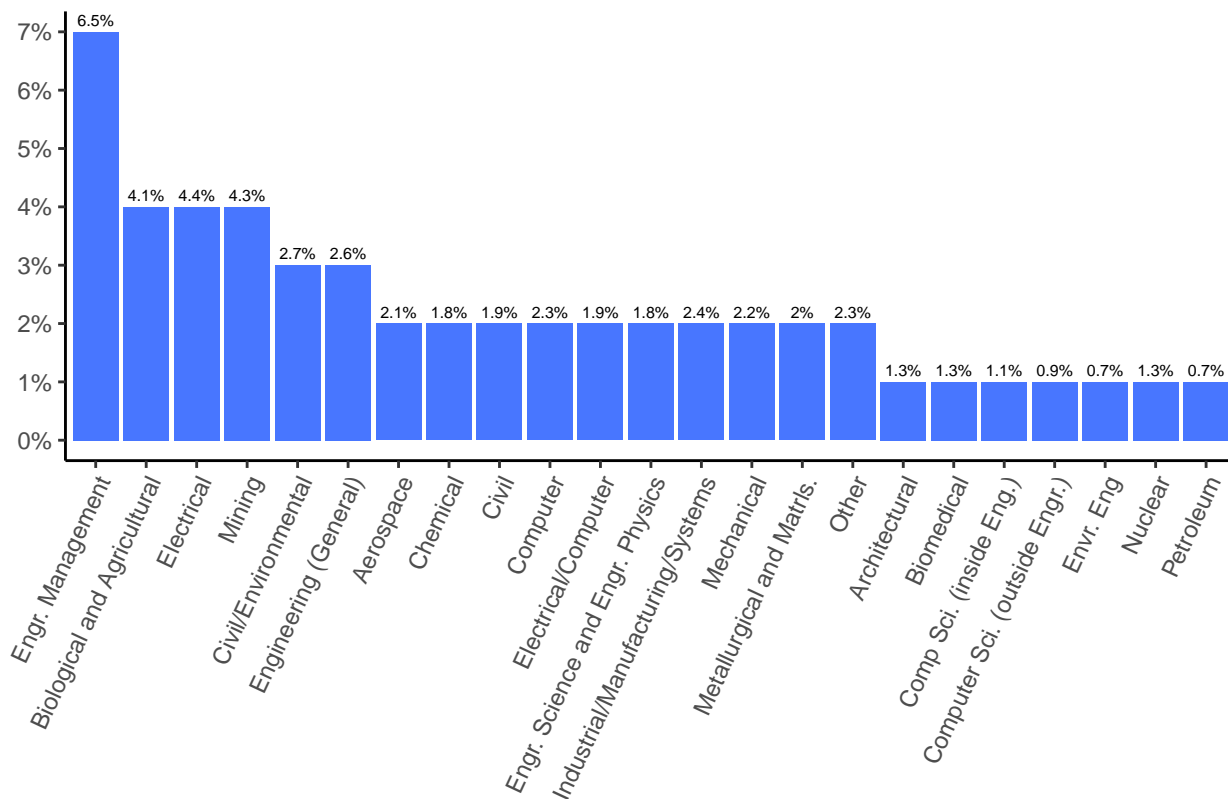
* 297 Institutions included

5.20 Percentage of African American Tenured/Tenure-Track Faculty by Discipline

Table 95: Percentage of African American Tenured/Tenure-Track Faculty by Discipline: 2 % of Total

Discipline Name	Percentage
Engr. Management	6.5%
Electrical	4.4%
Mining	4.3%
Biological and Agricultural	4.1%
Civil/Environmental	2.7%
Engineering (General)	2.6%
Industrial/Manufacturing/Systems	2.4%
Computer	2.3%
Other	2.3%
Mechanical	2.2%
Aerospace	2.1%
Metallurgical and Matrls.	2%
Civil	1.9%
Electrical/Computer	1.9%
Chemical	1.8%
Engr. Science and Engr. Physics	1.8%
Architectural	1.3%
Biomedical	1.3%
Nuclear	1.3%
Comp Sci. (inside Eng.)	1.1%
Computer Sci. (outside Engr.)	0.9%
Envr. Eng	0.7%
Petroleum	0.7%

Percentage of African American Tenured/Tenure-Track Faculty by Discipline

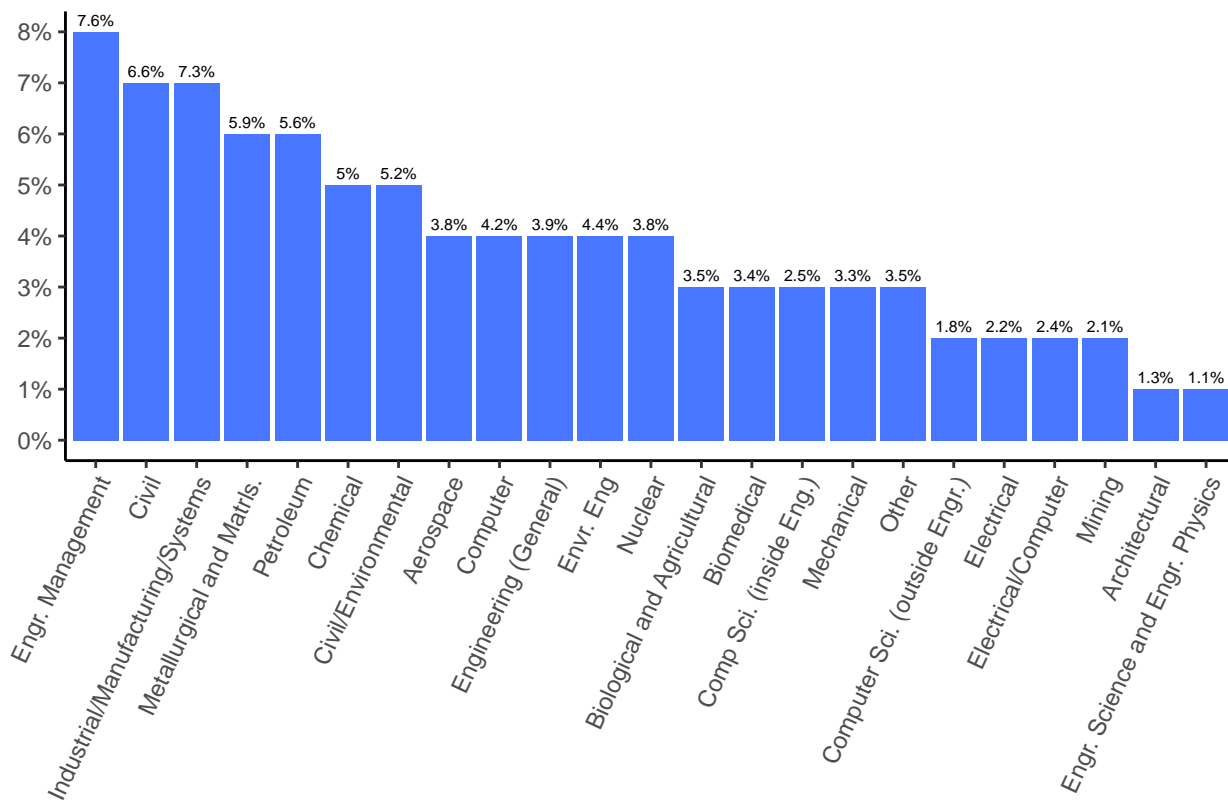


5.21 Percentage of Hispanic Tenured/Tenure-Track Faculty by Discipline

Table 96: Percentage of Hispanic Tenured/Tenure-Track Faculty by Discipline: 3.7 % of Total

Discipline Name	Percentage
Engr. Management	7.6%
Industrial/Manufacturing/Systems	7.3%
Civil	6.6%
Metallurgical and Matrls.	5.9%
Petroleum	5.6%
Civil/Environmental	5.2%
Chemical	5%
Envr. Eng	4.4%
Computer	4.2%
Engineering (General)	3.9%
Aerospace	3.8%
Nuclear	3.8%
Biological and Agricultural	3.5%
Other	3.5%
Biomedical	3.4%
Mechanical	3.3%
Comp Sci. (inside Eng.)	2.5%
Electrical/Computer	2.4%
Electrical	2.2%
Mining	2.1%
Computer Sci. (outside Engr.)	1.8%
Architectural	1.3%
Engr. Science and Engr. Physics	1.1%

Percentage of African American Tenured/Tenure-Track Faculty by Discipline

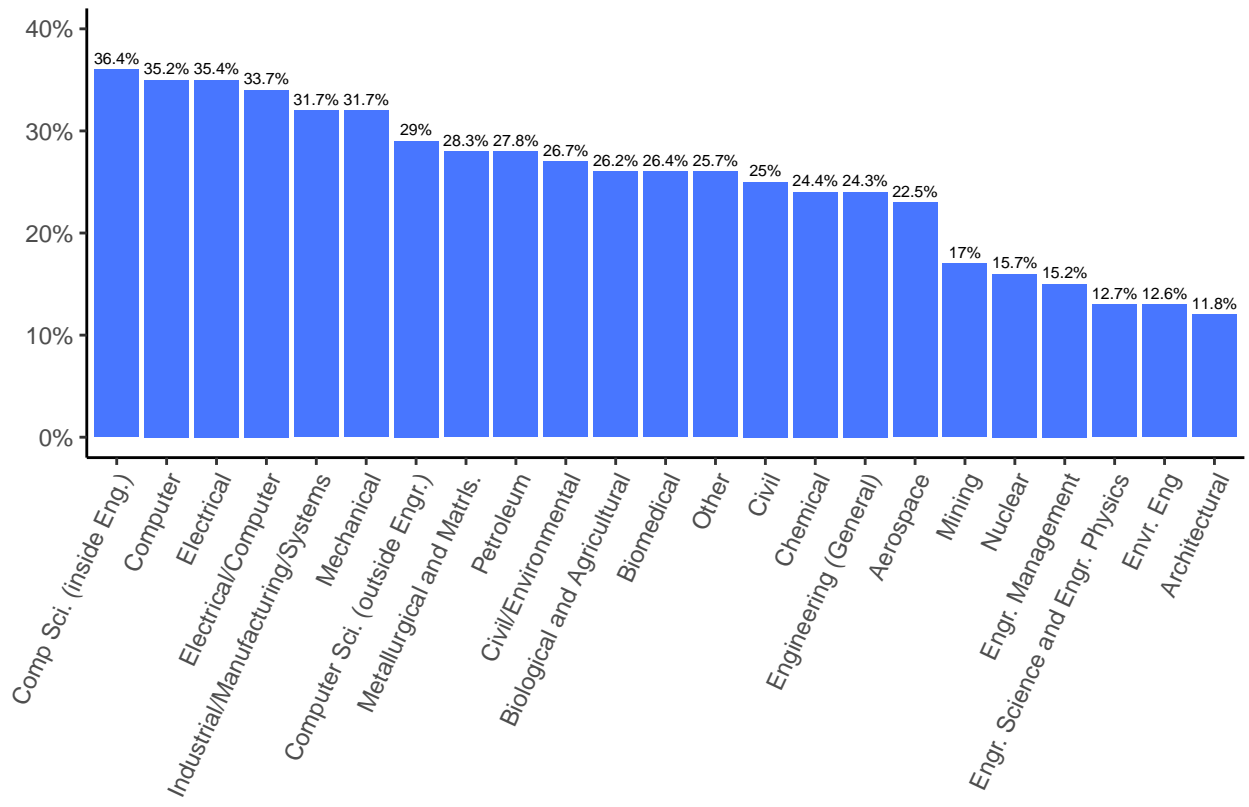


5.22 Percentage of Asian Tenured/Tenure-Track Faculty by Discipline

Table 97: Percentage of Asian Tenured/Tenure-Track Faculty by Discipline: 29.1 % of Total

Discipline Name	Percentage
Comp Sci. (inside Eng.)	36.4%
Electrical	35.4%
Computer	35.2%
Electrical/Computer	33.7%
Industrial/Manufacturing/Systems	31.7%
Mechanical	31.7%
Computer Sci. (outside Engr.)	29%
Metallurgical and Matrls.	28.3%
Petroleum	27.8%
Civil/Environmental	26.7%
Biomedical	26.4%
Biological and Agricultural	26.2%
Other	25.7%
Civil	25%
Chemical	24.4%
Engineering (General)	24.3%
Aerospace	22.5%
Mining	17%
Nuclear	15.7%
Engr. Management	15.2%
Engr. Science and Engr. Physics	12.7%
Envr. Eng	12.6%
Architectural	11.8%

Percentage of African American Tenured/Tenure-Track Faculty by Discipline



6 ENGINEERING RESEARCH EXPENDITURES, FISCAL 2019

6.1 Research Expenditure By Institutions

Table 98: Research Expenditure By Institutions

No	Institution	Expenditure(IN MILLIONS)
1	Texas A&M University	\$498.3
2	Massachusetts Institute of Technology	\$455.2
3	North Carolina State University	\$393.4
4	University of Michigan	\$307.1
5	Purdue University	\$301.8
6	Georgia Institute of Technology	\$269.5
7	Carnegie Mellon University	\$238.1
8	University of California, Berkeley	\$232.3
9	University of Illinois at Urbana-Champaign	\$228.5
10	Stanford University	\$224
11	The University of Texas at Austin	\$217.9
12	Arizona State University	\$214.5
13	University of California, San Diego	\$212.5
14	The Johns Hopkins University	\$193.5
15	University of Maryland, College Park	\$187.2
16	Virginia Polytechnic Institute and State University	\$179.9
17	University of Washington in Seattle	\$173.1
18	University of Dayton	\$160.5
19	University of Colorado Boulder	\$149
20	Cornell University	\$148.6
21	The Ohio State University	\$145.4
22	Northwestern University	\$131.9
23	University of Wisconsin-Madison	\$130.7
24	Duke University	\$127.3
25	University of Rochester	\$125.3
26	The Pennsylvania State University	\$120.1
27	Northeastern University	\$113.9
28	University of Pennsylvania	\$110.8
29	Iowa State University	\$110.7
30	University of California, Irvine	\$100.6
31	University of California, Santa Barbara	\$100
32	Boston University	\$99.9
33	Wichita State University	\$99.7
34	University of Minnesota -Twin Cities	\$96.8
35	University of California, Los Angeles	\$95.3
36	Oregon State University	\$94.1
37	University of Utah	\$93.2
38	University of Southern California	\$93.1
39	University of Pittsburgh	\$93
40	University of California, Davis	\$90.3
41	University of Notre Dame	\$87.2
42	University of Nebraska, Lincoln	\$86.8
43	Princeton University	\$81.2
44	Colorado State University	\$80.1
45	University of Virginia	\$79
46	University of Florida	\$78.2
47	University of Tennessee, Knoxville	\$77.7
48	University at Buffalo, SUNY	\$76.9
49	University of Delaware	\$71.9
50	University of Central Florida	\$69.5

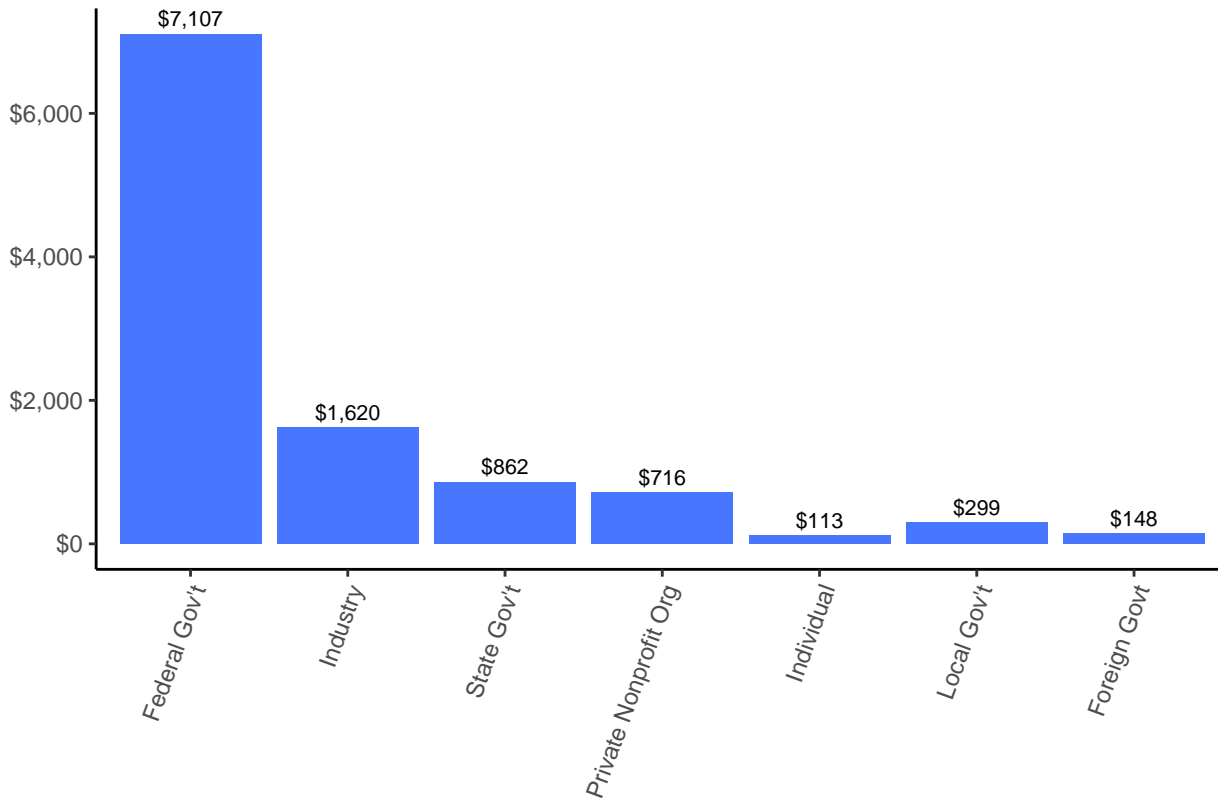
* 265 Institutions included

6.2 Research Expenditures By Source in Millions of Dollars

Table 99: Research Expenditures By Source in Millions of Dollars: \$10,936

Expenditure	Amount
Federal Gov't	\$7,107
Industry	\$1,620
State Gov't	\$862
Private Nonprofit Org	\$716
Individual	\$113
Local Gov't	\$299
Foreign Govt	\$148

Research Expenditures By Source in Millions of Dollars:



6.3 Computer Science Research Expenditures Located Outside of Engineering By Institutions

Table 100: Computer Science Research Expenditures Located Outside of Engineering By Institutions

No	Institution	Expenditure(IN MILLIONS)
1	Carnegie Mellon University	\$125.5
2	Georgia Institute of Technology	\$36
3	University of Maryland, College Park	\$31.8
4	University of California, Irvine	\$23.8
5	University of Massachusetts Amherst	\$20
6	University of Wisconsin-Madison	\$17
7	Northeastern University	\$16.7
8	Purdue University	\$16.2
9	The University of Alabama in Huntsville	\$15.2
10	Rutgers, The State University of New Jersey, School of Engineering	\$11.9
11	Brown University	\$7.8
12	Rensselaer Polytechnic Institute	\$7.1
13	University of Massachusetts Lowell	\$6.9
14	Worcester Polytechnic Institute	\$5.7
15	Duke University	\$5.4
16	The University of Texas at San Antonio	\$5.3
17	The University of Memphis	\$4.4
18	University of Arizona	\$4.2
19	New Jersey Institute of Technology	\$3.9
20	FAMU-FSU College of Engineering	\$3.9

* 42 Institutionss included

7 CANADIAN ENGINEERING

7.1 Engineering Bachelor's Degree by Canadian Institutions

Table 101: Engineering Bachelor's Degree by Canadian Institutions

No	Institutions	Degrees Awarded
1	University of Waterloo	1,320
2	University of Toronto	1,100
3	University of British Columbia	933
4	University of Alberta	855
5	Concordia University, Montreal	788
6	McMaster University	695
7	University of Calgary	562
8	The University of Western Ontario	449

7.2 Engineering Master's Degree by Canadian Institutions

Table 102: Engineering Master's Degree by Canadian Institutions

No	Institutions	Degrees Awarded
1	Concordia University, Montreal	1,141
2	University of Toronto	713
3	University of Waterloo	609
4	The University of Western Ontario	417
5	University of British Columbia	370
6	McMaster University	306
7	University of Calgary	245
8	University of Alberta	240

7.3 Engineering Doctoral Degree by Canadian Institutions

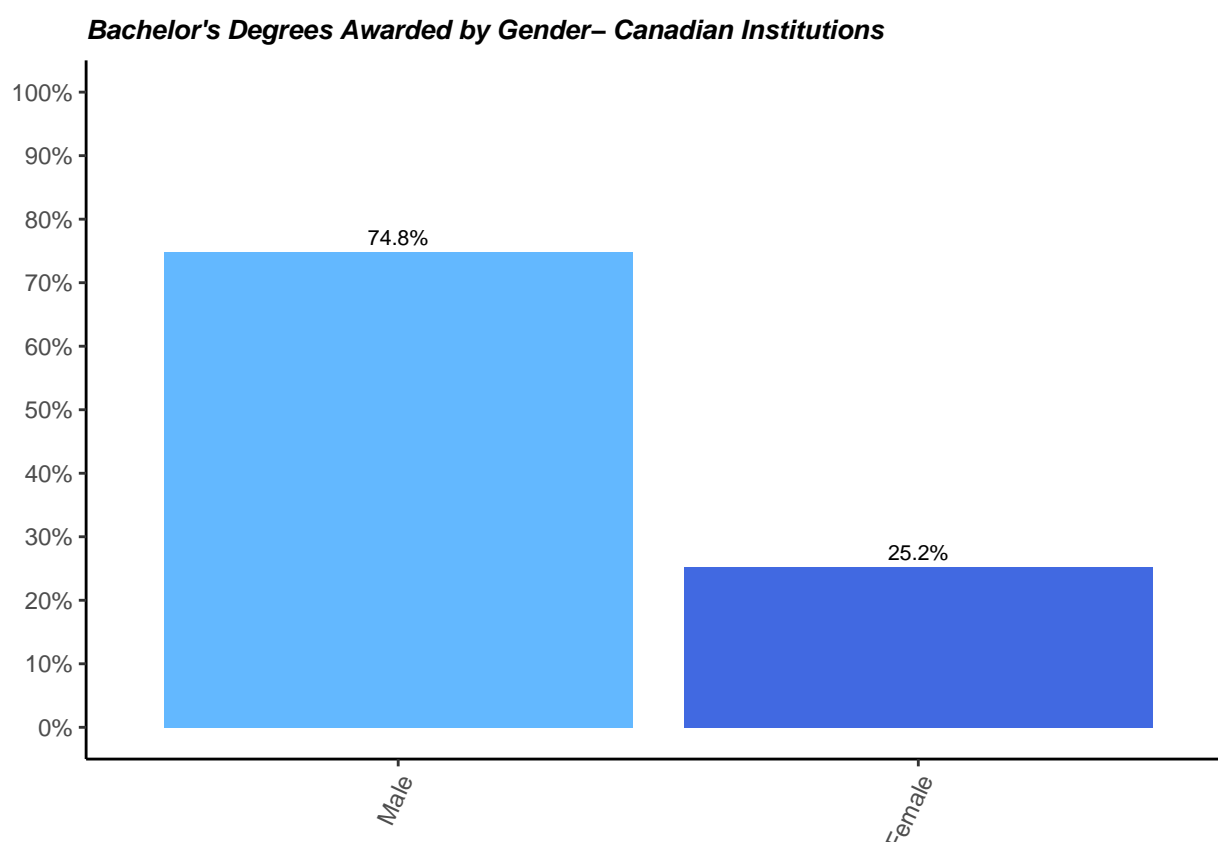
Table 103: Engineering Doctoral Degree by Canadian Institutions

No	Institutions	Degrees Awarded
1	University of Toronto	167
2	The University of Western Ontario	156
3	University of Alberta	143
4	University of Waterloo	132
5	University of Calgary	97
6	Concordia University, Montreal	92
7	University of British Columbia	75
8	McMaster University	61

7.4 Bachelor's Degrees Awarded by Gender- Canadian Institutions

Table 104: Bachelor's Degrees Awarded by Gender- Canadian Institutions

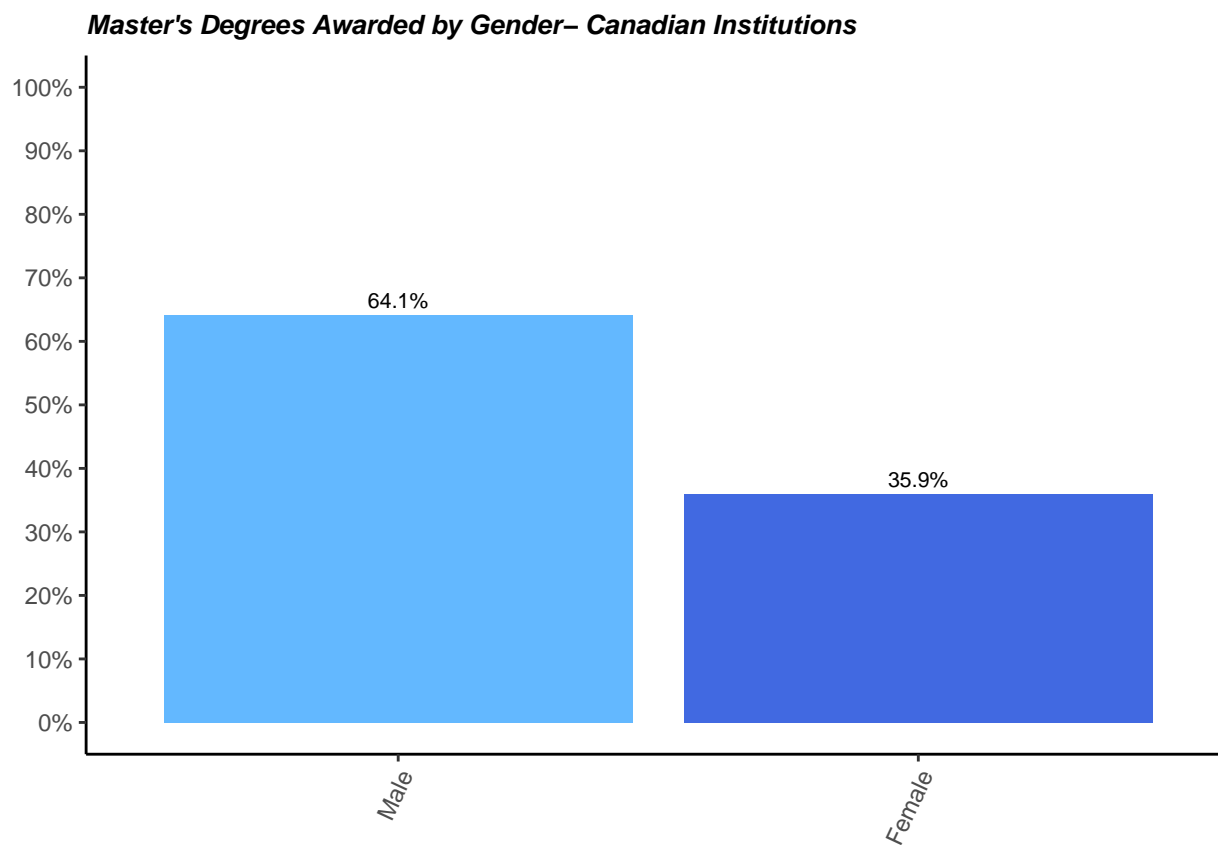
Male	Female
74.8%	25.2%



7.5 Master's Degrees Awarded by Gender- Canadian

Table 105: Master's Degrees Awarded by Gender- Canadian Institutions

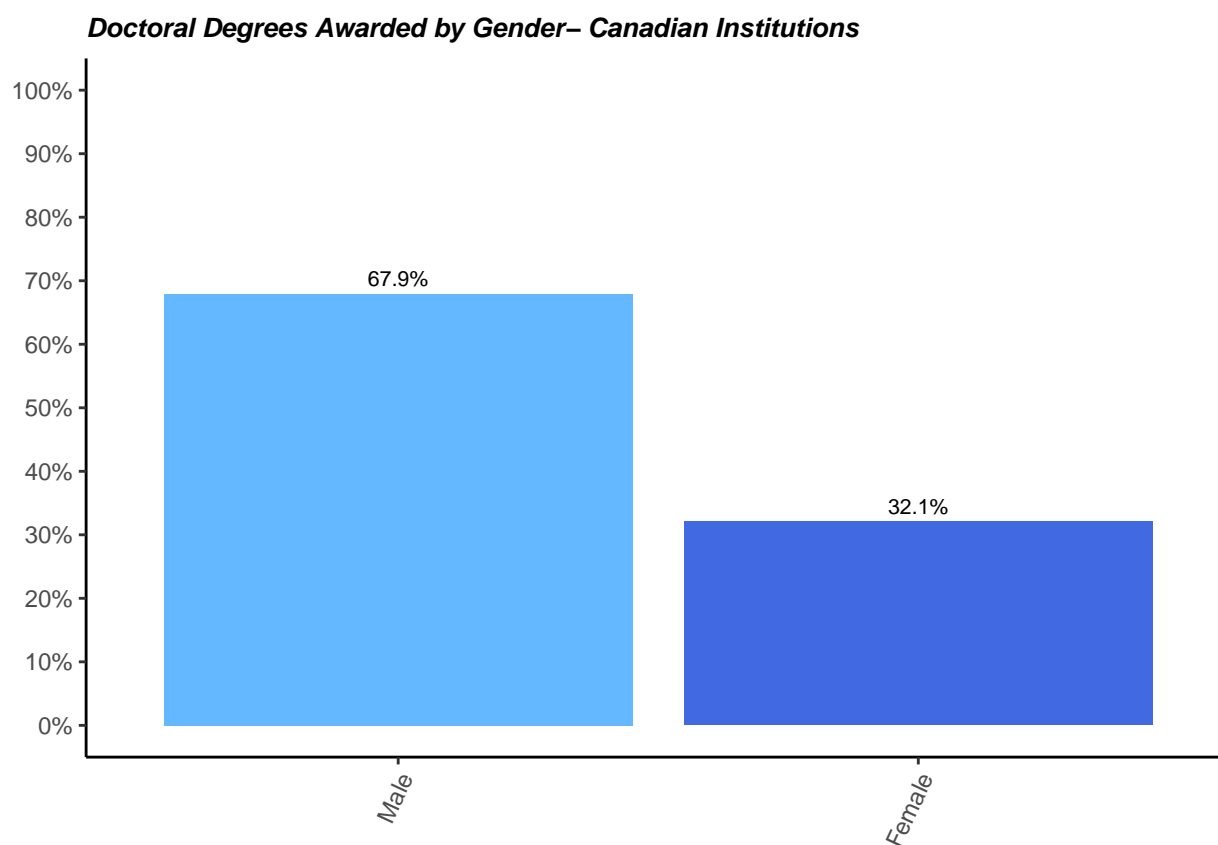
Male	Female
64.1%	35.9%



7.6 Doctoral Degrees Awarded by Gender- Canadian Institutions

Table 106: Doctoral Degrees Awarded by Gender- Canadian Institutions

Male	Female
67.9%	32.1%



7.7 Tenured/Tenure-Track Faculty Members by Institutions

Table 107: Tenured/Tenure-Track Faculty Members by Institutions

No	Institutions	Degrees Awarded
1	University of Waterloo	278
2	University of Toronto	240
3	Concordia University, Montreal	222

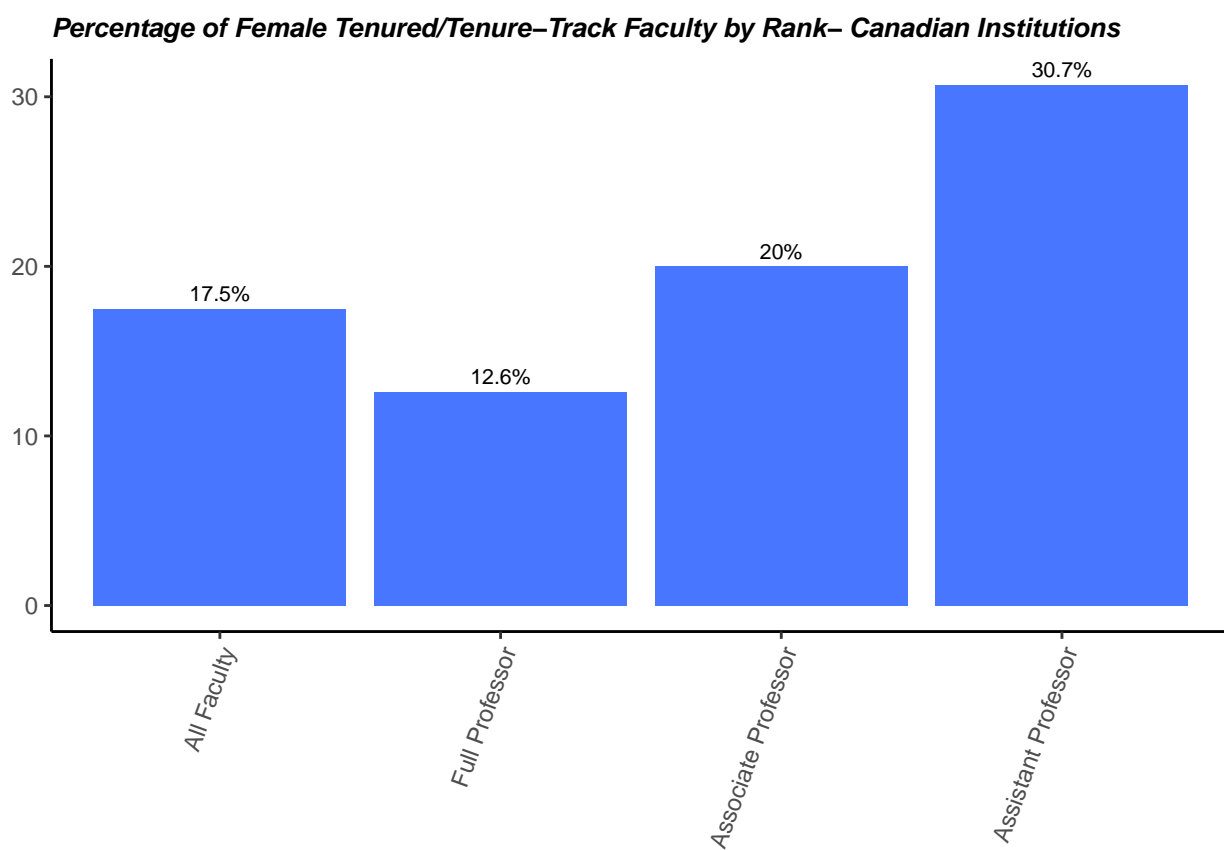
Table 107: Tenured/Tenure-Track Faculty Members by Institutions
(continued)

No	Institutions	Degrees Awarded
4	University of Alberta	207
5	University of British Columbia	177
6	University of Calgary	174
7	McMaster University	146
8	The University of Western Ontario	101

7.8 Percentage of Female Tenured/Tenure-Track Faculty by Rank- Canadian Institutions

Table 108: Doctoral Enrollment by Race and Ethnicity*

Rank	Percent
All Faculty	17.5%
Full Professor	12.6%
Associate Professor	20%
Assistant Professor	30.7%



8 ENGINEERING TECHNOLOGY IN 2019

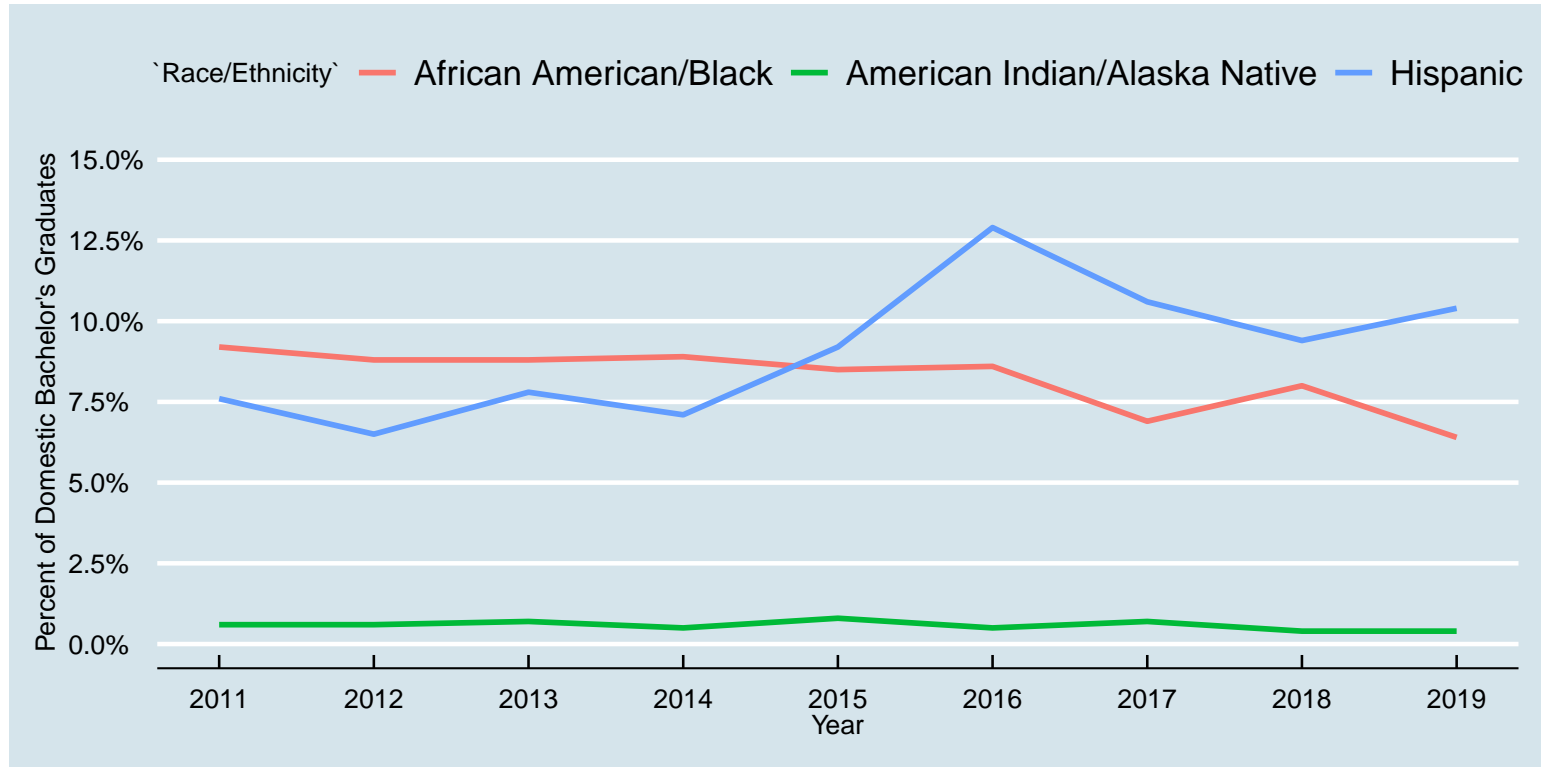
Joseph R. Roy, Ph.D.

There has been a 13.4% increase in Bachelor degrees awarded in Engineering Technology in 2019 and a sizable increase in enrollment, 20%, that could be due the inclusion of more institution's data this year (only 64 were included in 2018 versus 113 institutions in 2019).

8.1 Representation in Engineering Technology of Underrepresented Minorities

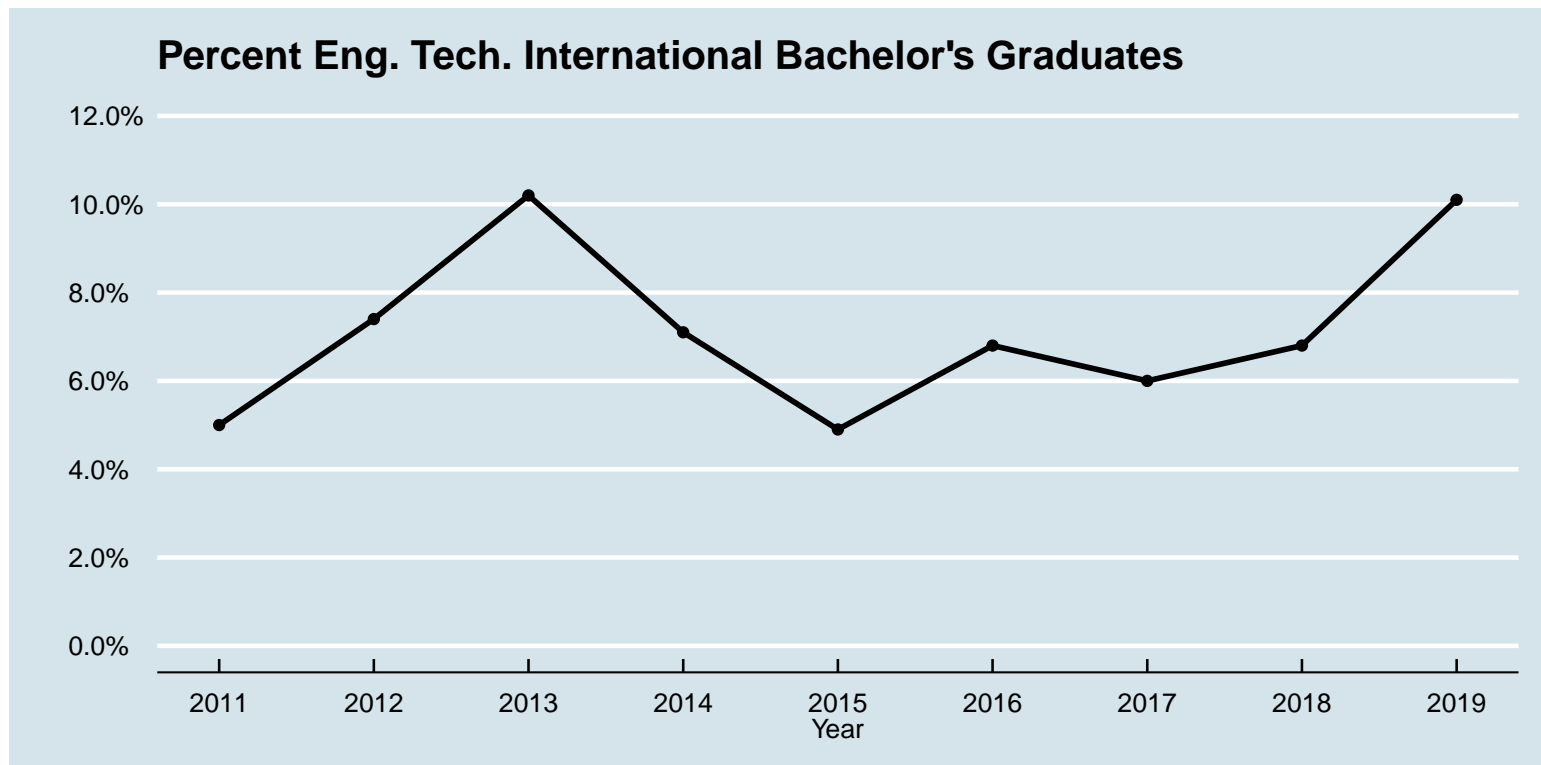
The ASEE Profiles data collection is in alignment with how the federal government collects race/ethnicity characteristics from institutions in order to ensure that institutions can report the data we are asking for. The full definition of each race/ethnicity is included in the methodology section. We use the term *underrepresented minority*(URM) to refer to three groups which have representation in the science and engineering workforce far below their representation in the adult US population. This includes Hispanic, Black/African American and American Indian/Alaskan Native individuals.

The figure below represents the percent of Bachelor's degrees in Engineering Technology awarded to URM graduates over the last 8 years. The percent of Hispanic graduates has increased from 7.6% in 2011 to 10.4% in 2019 with a steady increase in the intervening years. The percent of Black graduates, however, has no clear trend over the same time span with 9.2% in 2011 and 6.4 % in 2019 and no growth upward in the data. There has been a decline in the percent of American Indian/Alaskan Natives from 0.6% in 2011 to 0.4 % in 2019.



8.2 International Students in Engineering Technology

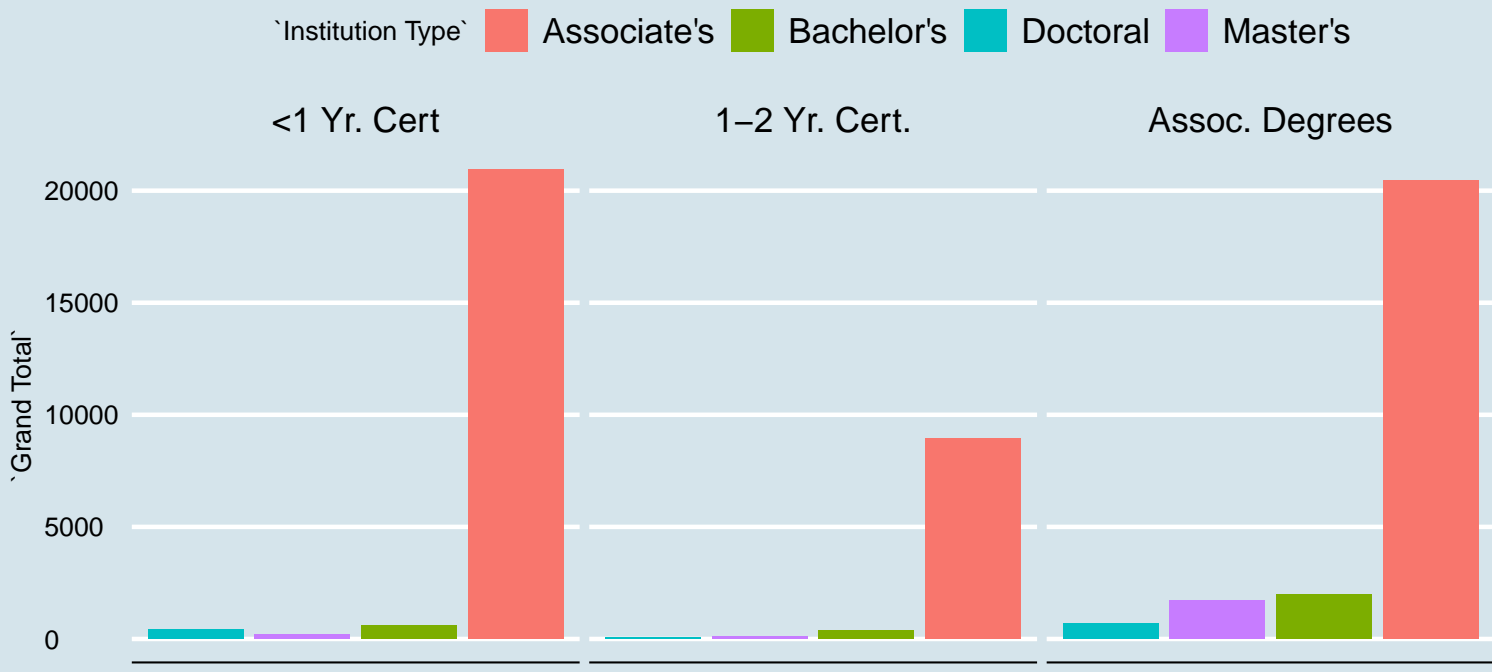
The data below represent the percent of international graduates within engineering technology since 2011. The percent of international students has a slight upward trend from 2015 to 2019, but only returns to the same levels as 2013.



8.3 Engineering Technology Programs at 2-year Institutions

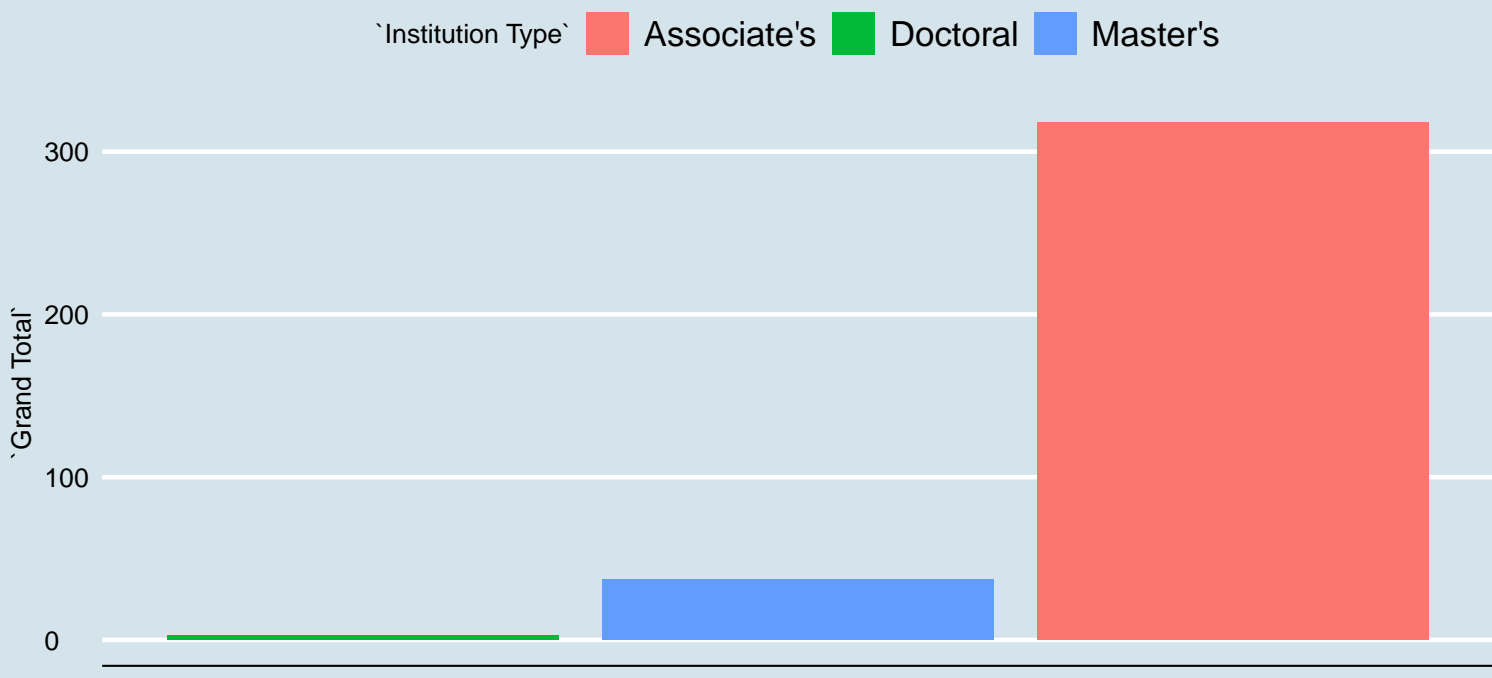
The NSF has funded a two-year project to extend the Profiles data collection to include 2-year institutions. This new data collection will examine not only associate degrees programs, but also certificate programs in engineering technology fields at 2-year institutions. In the figure below, the number of certificates by program length is displayed for engineering technology fields (as pulled from IPEDS data for 2019). As seen below, large majority of certificates awarded in engineering technology are at 2-year institutions.

Certificates/Degrees Awarded in Eng. Tech.



Even though there are not many 2-4 year certificates awarded in 2019, just over 300 awarded in the US, the vast majority of those were from programs at 2-year institutions as well.

2-4 Yr. Certificates in Eng. Tech.



The Profiles of Technical Workforce Programs and Students at Two-Year Colleges will begin building a national survey instrument to further explore characteristics of these programs and field a survey of 2-year institutions in the 2021-22 academic year.

Joseph Roy is Director, Institutional Research & Analytics at the American Society for Engineering Education. He can be reached at j.roy@asee.org

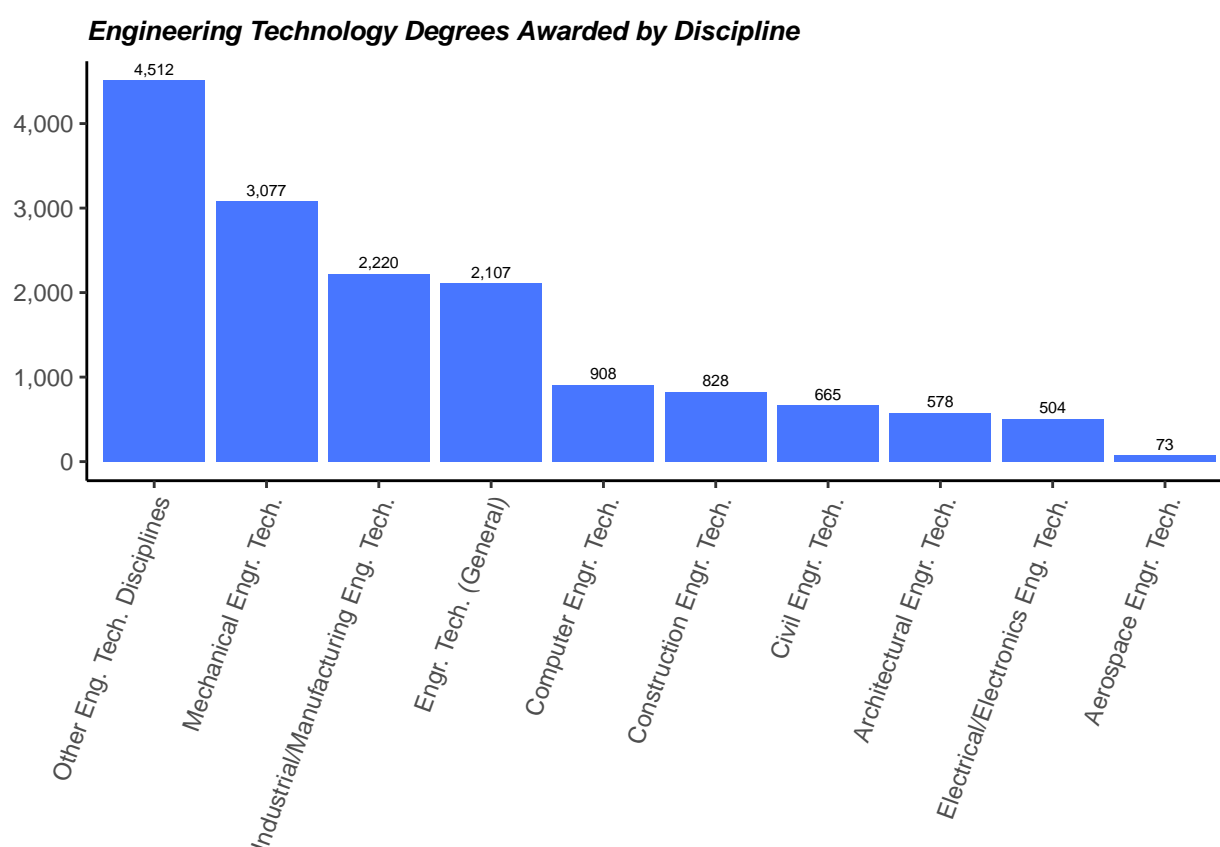
9 ENGINEERING TECHNOLOGY

9.1 ENGINEERING TECHNOLOGY DEGREES

9.1.1 Engineering Technology Degrees Awarded by Discipline

Table 109: Engineering Technology Degrees Awarded by Discipline : 15,472

Discipline Name	Degrees Awarded
Other Eng. Tech. Disciplines	4,512
Mechanical Engr. Tech.	3,077
Industrial/Manufacturing Eng. Tech.	2,220
Engr. Tech. (General)	2,107
Computer Engr. Tech.	908
Construction Engr. Tech.	828
Civil Engr. Tech.	665
Architectural Engr. Tech.	578
Electrical/Electronics Eng. Tech.	504
Aerospace Engr. Tech.	73



9.1.2 Engineering Technology Degrees Awarded to Underrepresented Minorities by Discipline

Table 110: Engineering Technology Degrees Awarded to Underrepresented Minorities by Engineering Discipline: 5,252

Discipline Name	Degrees Awarded
Other Eng. Tech. Disciplines	1,976
Engr. Tech. (General)	854
Mechanical Engr. Tech.	710
Industrial/Manufacturing Eng. Tech.	484
Computer Engr. Tech.	404
Construction Engr. Tech.	284
Civil Engr. Tech.	190
Electrical/Electronics Eng. Tech.	166
Architectural Engr. Tech.	160
Aerospace Engr. Tech.	24

* Total does not include computer science (outside engineering).

9.1.3 Percentage of Engineering Technology Degrees Awarded to Underrepresented Minorities by Discipline

Table 111: Percentage of Engineering Technology Degrees Awarded to Underrepresented Minorities by Discipline 17 % of Total

Discipline Name	Percent Women
Computer Engr. Tech.	22.2%
Other Eng. Tech. Disciplines	21.9%
Engr. Tech. (General)	20.3%
Construction Engr. Tech.	17.1%
Electrical/Electronics Eng. Tech.	16.5%
Aerospace Engr. Tech.	16.4%

Table 111: Percentage of Engineering Technology Degrees Awarded to Underrepresented Minorities by Discipline 17 % of Total (*continued*)

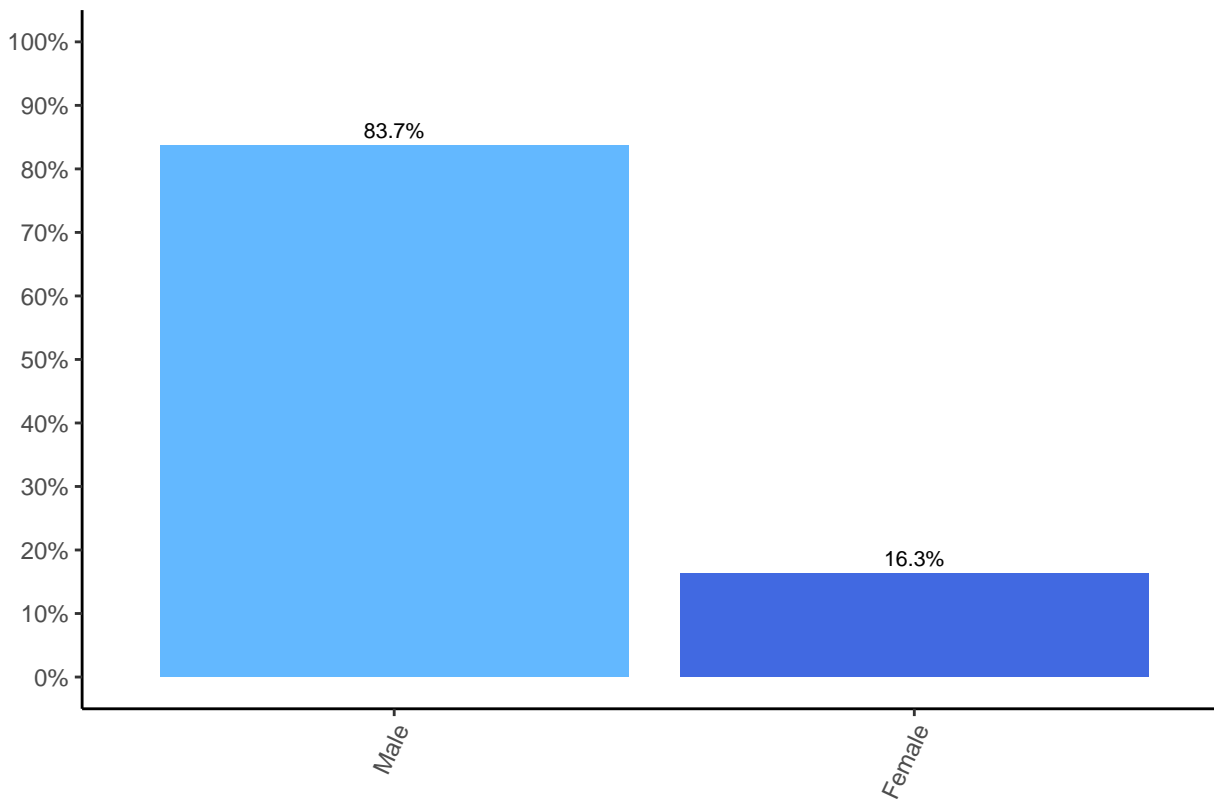
Discipline Name	Percent Women
Civil Engr. Tech.	14.3%
Architectural Engr. Tech.	13.8%
Mechanical Engr. Tech.	11.5%
Industrial/Manufacturing Eng. Tech.	10.9%

9.1.4 Engineering Technology Bachelor's Degrees Awarded by Gender

Table 112: Engineering Technology Bachelor's Degrees Awarded by Gender

Gender	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Female	9.4%	9.5%	9.4%	10.2%	10.6%	12.8%	13.3%	14.5%	14.2%	16.3%
Male	90.6%	90.5%	90.6%	89.8%	89.4%	87.2%	86.7%	85.5%	85.8%	83.7%

Engineering Technology Bachelor's Degrees Awarded by Gender



9.1.5 Engineering Technology Bachelor's Degrees Awarded by Race and Ethnicity

Table 113: Engineering Technology Bachelor's Degrees Awarded by Race and Ethnicity*

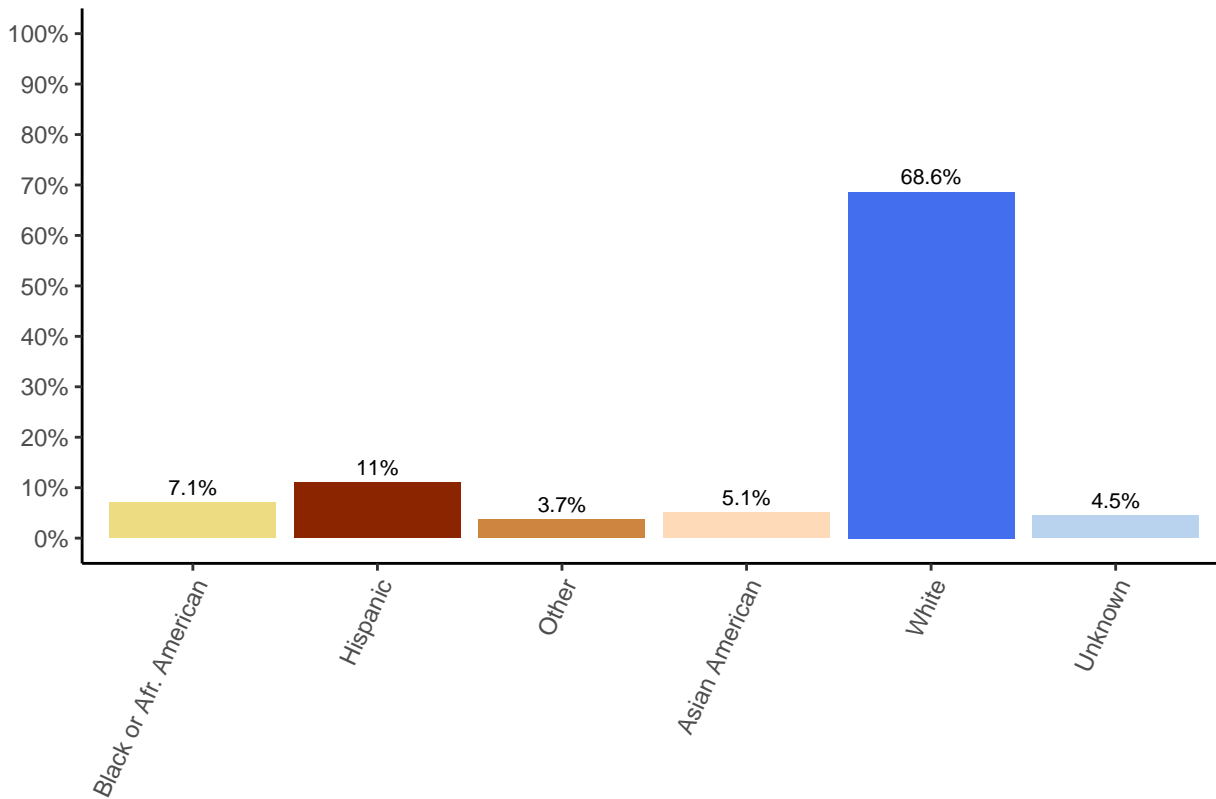
Ethnicity	2011	2012	2013	2014	2015	2016	2017	2018	2019
Black or Afr. American	9.2%	8.8%	8.8%	8.9%	8.5%	8.6%	6.9%	8.0%	7.1%
Hispanic	7.6%	6.5%	7.8%	7.1%	9.2%	12.9%	10.6%	11.4%	11.0%
Other	1.7%	1.5%	1.9%	1.7%	3.0%	4.1%	3.3%	3.5%	3.7%
Asian American	5.3%	5.0%	4.9%	5.1%	5.8%	6.8%	6.4%	14.7%	5.1%
White	70.4%	73.8%	72.4%	72.7%	68.7%	63.8%	68.4%	61.5%	68.6%
Unknown	5.8%	4.5%	4.3%	4.5%	4.8%	3.8%	4.4%	4.2%	4.5%

* American Indian/Alaska Native 0.4% Native Hawaiian/Other Pacific Islander 0.2%

* and Multiracial 3.2% are combined under other

* Data on ethnicity does not include foreign nationals.

Engineering Technology Bachelor's Degrees Awarded by Race and Ethnicity

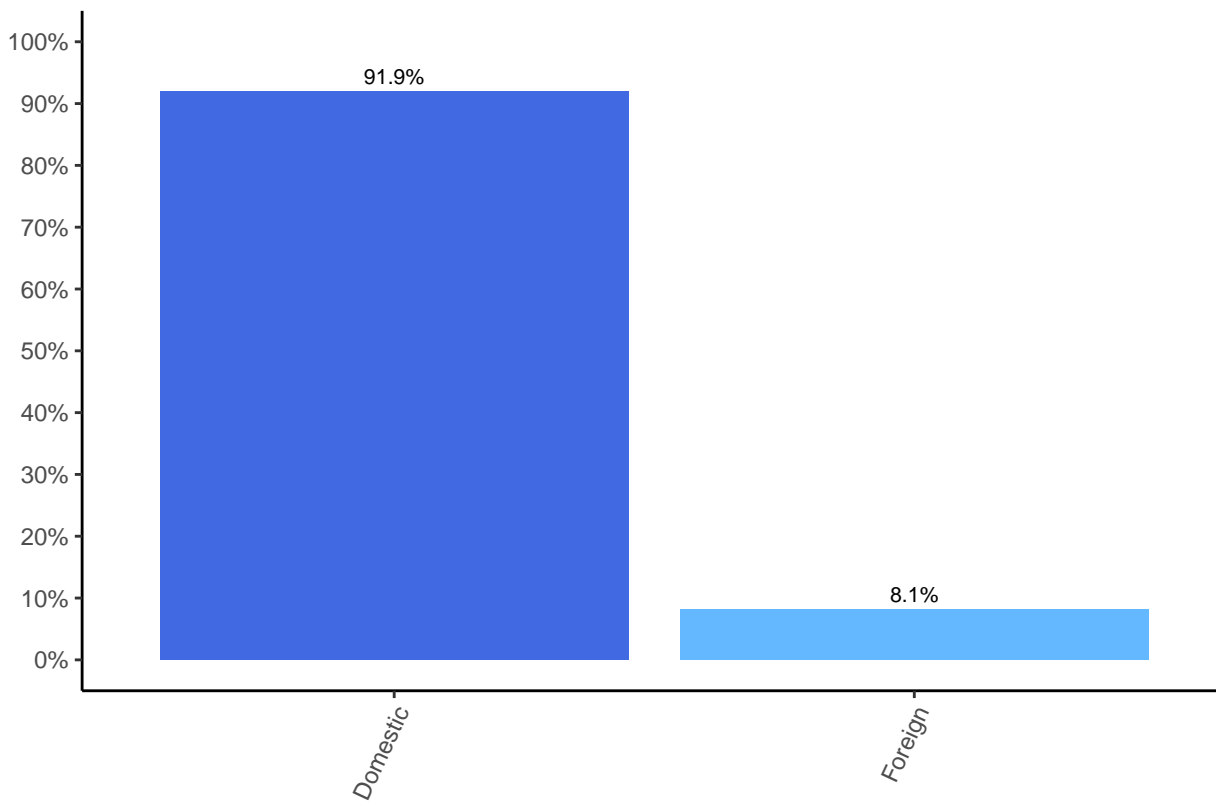


9.1.6 Engineering Technology Bachelor's Degrees Awarded by Residency

Table 114: Engineering Technology Bachelor's Degrees Awarded by Residency

Nationality	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Foreign	5.2%	5.0%	7.4%	10.2%	7.1%	4.9%	6.8%	6.0%	6.8%	8.1%
Domestic	94.8%	95.0%	92.6%	89.8%	92.9%	95.1%	93.2%	94.0%	93.2%	91.9%

Engineering Technology Bachelor's Degrees Awarded by Residency



9.1.7 Top 50 Institutions Awarding Highest Number of ET Degrees

Table 115: Top 50 Institutions Awarding Highest Number of ET Degrees

No	Institutions	Degrees Awarded
1	Purdue University Polytechnic Institute	1,160
2	University of Houston, College of Technology	1,082
3	Excelsior College	726
4	Arizona State University	607
5	Ferris State University	592
6	Texas A&M University	555
7	Farmingdale State College (SUNY)	479
8	Pennsylvania College of Technology	380
9	Old Dominion University	348
10	Indiana University-Purdue University Indianapolis	346
11	Indiana State University	332
12	Purdue University Northwest, Technology	313

Table 115: Top 50 Institutions Awarding Highest Number of ET Degrees (continued)

No	Institutions	Degrees Awarded
13	Pittsburg State University	290
14	Eastern Michigan University	246
15	Rochester Institute of Technology	243
16	New Jersey Institute of Technology	228
17	University of Southern Mississippi	212
18	Weber State University	204
19	University of North Carolina at Charlotte	186
20	Oklahoma State University	178
21	Metropolitan State University of Denver	176
22	University of Wisconsin, Platteville	168
23	Kennesaw State University	159
24	Texas Southern University	156
25	Purdue University Fort Wayne	146
25	Western Kentucky University	146
27	Central Connecticut State University	142
28	East Tennessee State University	136
28	Southeast Missouri State University	136
28	University of Central Missouri	136
31	Central Washington University	134
32	New England Institute of Technology	130
33	Southeastern Louisiana University	126
34	Eastern Washington University	122
35	Fairmont State University	120
36	Middle Tennessee State University	118
37	Northern Kentucky University	116
37	University of Hartford	116
37	University of Louisiana at Lafayette	116
40	Minnesota State University-Mankato	114
41	University of Cincinnati	113
42	Penn State Erie, The Behrend College	109
43	California State University Maritime Academy	108
44	Murray State University	104
45	The Pennsylvania State University	101
45	Western Carolina University	101
47	Youngstown State University	100
48	University of Maine	99
49	Miami University	97
50	Oregon Institute of Technology	91

* 113 Institutions included

9.1.8 Top 50 Institutions by Engineering Technology Degrees awarded to Underrepresented Minorities

Table 116: Top 50 Institutions by Engineering Technology Degrees awarded to Underrepresented Minorities

No	Institutions	Degrees Awarded
1	University of Houston, College of Technology	478
2	Farmingdale State College (SUNY)	147
3	Arizona State University	139
4	Texas A&M University	134
5	Excelsior College	122
6	New Jersey Institute of Technology	95
7	Old Dominion University	78
8	Purdue University Polytechnic Institute	62
8	Savannah State University	62
10	University of Southern Mississippi	58
11	Virginia State University	56
12	Indiana University-Purdue University Indianapolis	45
13	Kennesaw State University	44
14	Indiana State University	42
14	University of Hartford	42
16	Texas Southern University	40
17	Rochester Institute of Technology	37
18	Eastern Michigan University	36
18	Metropolitan State University of Denver	36
20	University of North Carolina at Charlotte	31
21	Ferris State University	30
22	Northwestern State University of Louisiana	28
23	University of North Texas	27
24	New England Institute of Technology	26
24	Pittsburg State University	26
26	Purdue University Northwest, Technology	24
26	University of Central Missouri	24
28	Central Connecticut State University	22
28	Colorado State University-Pueblo	22
28	University of Louisiana at Lafayette	22
31	Oklahoma State University	21
32	Austin Peay State University	20
32	California State University Maritime Academy	20
32	Daytona State College	20

Table 116: Top 50 Institutions by Engineering Technology Degrees awarded to Underrepresented Minorities (*continued*)

No	Institutions	Degrees Awarded
32	Fort Valley State University	20
32	Grambling State University	20
37	Central Washington University	18
37	Pennsylvania College of Technology	18
37	Vaughn College of Aeronautics and Technology	18
37	Weber State University	18
41	Elizabeth City State University	16
41	Southeastern Louisiana University	16
43	Grantham University	14
43	Middle Tennessee State University	14
45	Fairleigh Dickinson University-Metropolitan Campus	12
45	Northern New Mexico College	12
45	SUNY Polytechnic Institute	12
45	Western Kentucky University	12
49	Capitol Technology University	10
49	Louisiana Tech University	10

* 113 Institutions included

9.1.9 Top 50 Institutions by Percentage of Engineering Technology Degrees awarded to Underrepresented Minorities

Table 117: Top 50 Institutions by Percentage of Engineering Technology Degrees awarded to Underrepresented Minorities

No	Institutions	Percent Underrepresented Minorities
1	Fort Valley State University	100%
2	Savannah State University	86.1%
3	Northern New Mexico College	75%
3	Southern Illinois University Carbondale	75%
5	Capitol Technology University	71.4%
6	Elizabeth City State University	66.7%
7	Virginia State University	62.2%
8	Grambling State University	52.6%
9	University of Houston, College of Technology	44.2%
10	New Jersey Institute of Technology	41.7%
11	University of Hartford	36.2%
12	Northwestern State University of Louisiana	35.9%
13	The University of Memphis	32.1%
14	Farmingdale State College (SUNY)	30.7%
15	University of North Texas	30.7%
16	Daytona State College	30.3%
17	Vaughn College of Aeronautics and Technology	30%
18	University of West Alabama	27.8%
19	Kennesaw State University	27.7%
20	Colorado State University-Pueblo	27.5%
21	University of Southern Mississippi	27.4%
22	Austin Peay State University	26.3%
23	Texas Southern University	25.6%
24	Idaho State University	25%
25	Texas A&M University	24.1%
26	Fairleigh Dickinson University-Metropolitan Campus	24%
27	Arizona State University	22.9%
28	Old Dominion University	22.4%
29	Temple University	20.9%
30	Metropolitan State University of Denver	20.5%
31	New England Institute of Technology	20%
31	Oklahoma State University Institute of Technology	20%
33	University of Louisiana at Lafayette	19%
34	California State University Maritime Academy	18.5%
35	University of Central Missouri	17.6%
36	Grantham University	17.5%
37	Louisiana Tech University	16.9%
38	Excelsior College	16.8%
39	University of North Carolina at Charlotte	16.7%
40	Central Connecticut State University	15.5%
41	Rochester Institute of Technology	15.2%
42	Missouri Western State University	15.2%
42	Northern Michigan University	15.2%
44	University of Massachusetts Lowell	14.8%
45	Eastern Michigan University	14.6%
46	Western Michigan University	14%
47	Central Washington University	13.4%
48	SUNY Polytechnic Institute	13.2%
49	Indiana University-Purdue University Indianapolis	13%
50	Southeastern Louisiana University	12.7%

* 113 Institutions included

9.1.10 Top 50 Institutions Awarding Engineering Technology Degrees to Women

Table 118: Top 50 Institutions Awarding Engineering Technology Degrees to Women

No	Institutions	Degrees Awarded
1	Purdue University Polytechnic Institute	576
2	University of Houston, College of Technology	384
3	Arizona State University	172
4	Farmingdale State College (SUNY)	120
5	Texas A&M University	115
6	Indiana University-Purdue University Indianapolis	88
7	Eastern Michigan University	74
8	Ferris State University	54
9	Purdue University Northwest, Technology	53
10	Excelsior College	46
11	Rochester Institute of Technology	38
12	Old Dominion University	36
13	University of Southern Mississippi	28
14	Southeast Missouri State University	26
14	University of Hartford	26
16	Indiana State University	24
17	New Jersey Institute of Technology	23
18	Kennesaw State University	20
18	Middle Tennessee State University	20
20	New England Institute of Technology	18
20	Pittsburg State University	18
20	Virginia State University	18
23	Murray State University	16
23	Southeastern Louisiana University	16
23	Texas Southern University	16
23	Youngstown State University	16
27	California State University Maritime Academy	14
27	Daytona State College	14
27	Fairmont State University	14
27	Northwestern State University of Louisiana	14
27	Oklahoma State University	14
27	Pennsylvania College of Technology	14
27	Purdue University Fort Wayne	14
34	East Tennessee State University	12
34	Metropolitan State University of Denver	12
34	Miami University	12
34	University of North Carolina at Charlotte	12
38	University of Cincinnati	11
39	Central Washington University	10
39	University of Central Missouri	10
39	University of West Alabama	10
42	University of Louisiana at Lafayette	9
42	Western Michigan University	9
44	Central Connecticut State University	8
44	Eastern Washington University	8
44	Missouri Western State University	8
44	Southern Utah University	8
44	University of Dayton	8
44	University of North Texas	8
44	University of Pittsburgh-Johnstown	8

* 113 Institutions included

9.2 ENGINEERING TECHNOLOGY ENROLLMENT, FALL 2019

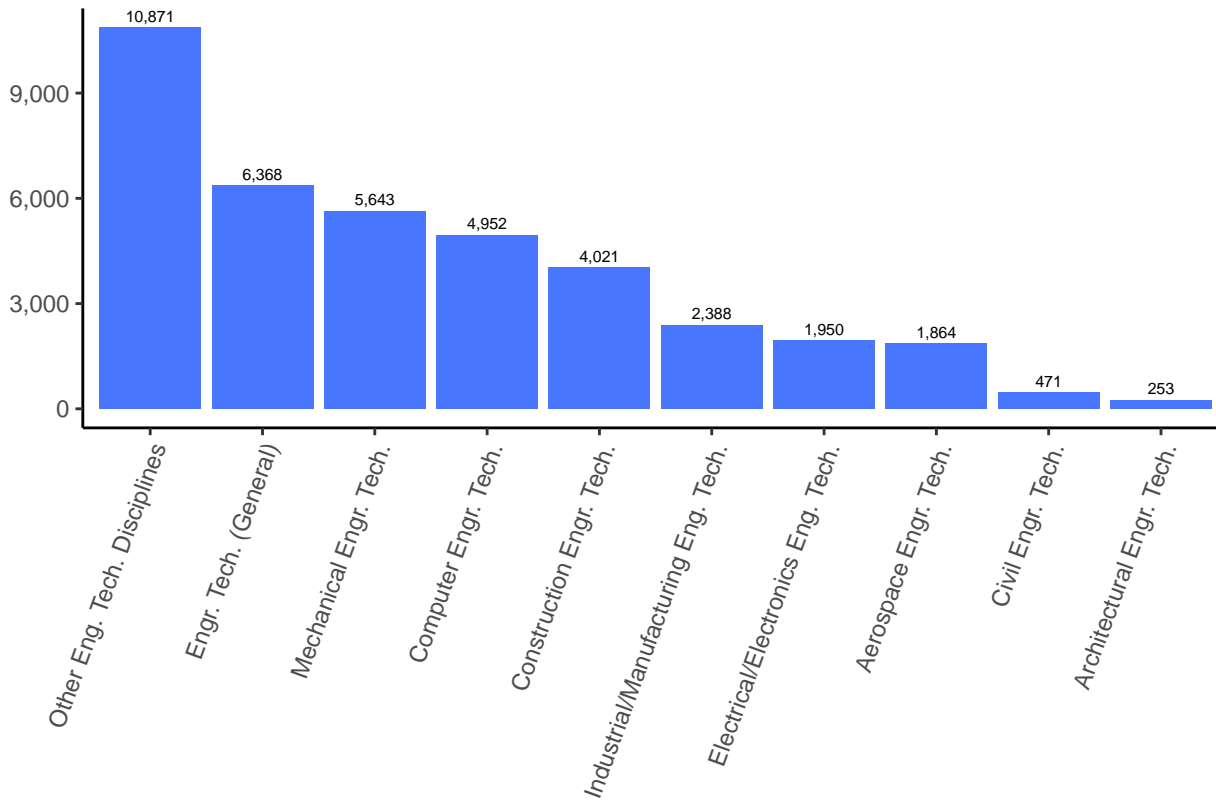
9.2.1 Full-Time Engineering Technology Enrollment by Discipline

Table 119: Full-Time Engineering Technology Enrollment by Discipline: 38,781

Discipline Name	Degrees Awarded
Other Eng. Tech. Disciplines	10,871
Engr. Tech. (General)	6,368
Mechanical Engr. Tech.	5,643
Computer Engr. Tech.	4,952
Construction Engr. Tech.	4,021
Industrial/Manufacturing Eng. Tech.	2,388
Electrical/Electronics Eng. Tech.	1,950
Aerospace Engr. Tech.	1,864
Civil Engr. Tech.	471
Architectural Engr. Tech.	253

* Enrollment is for full-time bachelor's degree candidates in Engineering Technology

Full-Time Engineering Technology Enrollment by Discipline



9.2.2 Top 50 Institutions by Engineering Technology Enrollment

Table 120: Top 50 Institutions by Engineering Technology Enrollment

No	Institutions	Enrollments
1	Purdue University Polytechnic Institute	8,690
2	University of Houston, College of Technology	6,030
3	Arizona State University	4,759
4	Farmingdale State College (SUNY)	2,433
5	Texas A&M University	2,058
6	Ferris State University	2,039
7	Eastern Michigan University	1,851
8	East Carolina University	1,825
9	The University of Toledo	1,400
10	Indiana University-Purdue University Indianapolis	1,308
11	Purdue University Northwest	888
12	New Jersey Institute of Technology	839
13	University of North Carolina at Charlotte	772
14	Kennesaw State University	761
15	Old Dominion University	750
16	University of Cincinnati	687
17	Oklahoma State University	649
18	University of Maine	556
19	Western Carolina University	522
20	University of Wisconsin, Platteville	515
21	Indiana University-Purdue University Fort Wayne	508
22	Miami University	454
23	University of North Texas	446
24	The Pennsylvania State University	430
25	Oregon Institute of Technology	409
26	Montana State University	404
27	University of Wisconsin - Stout	403
28	University of Louisiana at Lafayette	337
29	Buffalo State	336
30	Northern Illinois University	315
31	Minnesota State University-Mankato	295
32	SUNY Polytechnic Institute	289
33	Ohio University	275
34	University of Dayton	273
35	Wayne State University	265
36	The University of Memphis	263
37	South Dakota State University	254
38	Penn State Erie, The Behrend College	252
39	Louisiana Tech University	249
40	Western Michigan University	244
41	Abilene Christian University	234
42	Tennessee Technological University	228
43	Temple University	224
44	Central Michigan University	211
45	California State University Maritime Academy	207
46	Michigan Technological University	201
47	University of Hartford	199
48	University of Arkansas at Little Rock	165
49	Trine University	164
50	University of Massachusetts Lowell	134

Table 120: Top 50 Institutions by Engineering Technology Enrollment (continued)

No	Institutions	Enrollments
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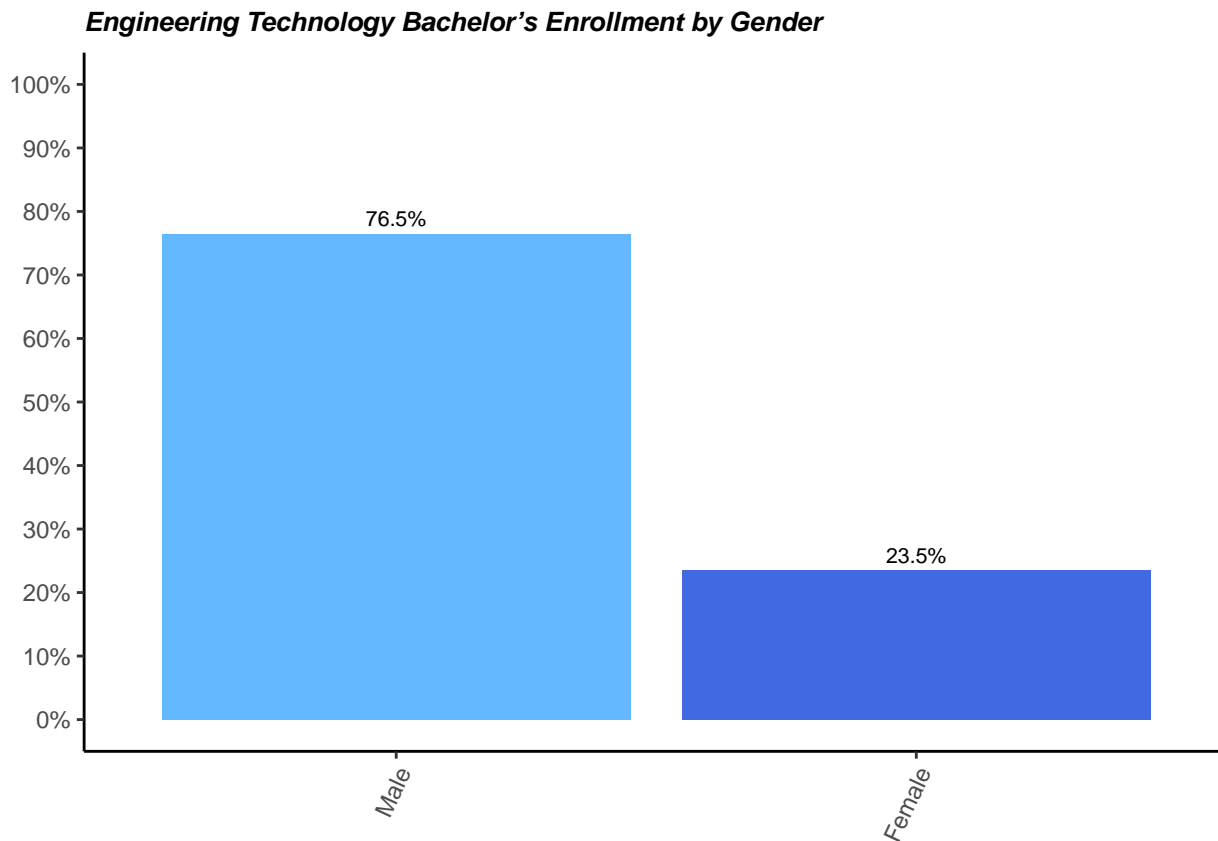
* 113 Institutions reported.

* Enrollment is for full-time and part-time bachelor's degree candidates in engineering technology.

9.2.3 Engineering Technology Enrollment by Gender

Table 121: Engineering Technology Enrollment by Gender

Male	Female
76.5%	23.5%



9.2.4 Engineering Technology Enrollment by Race and Ethnicity

Table 122: Engineering Technology Enrollment by Race and Ethnicity*

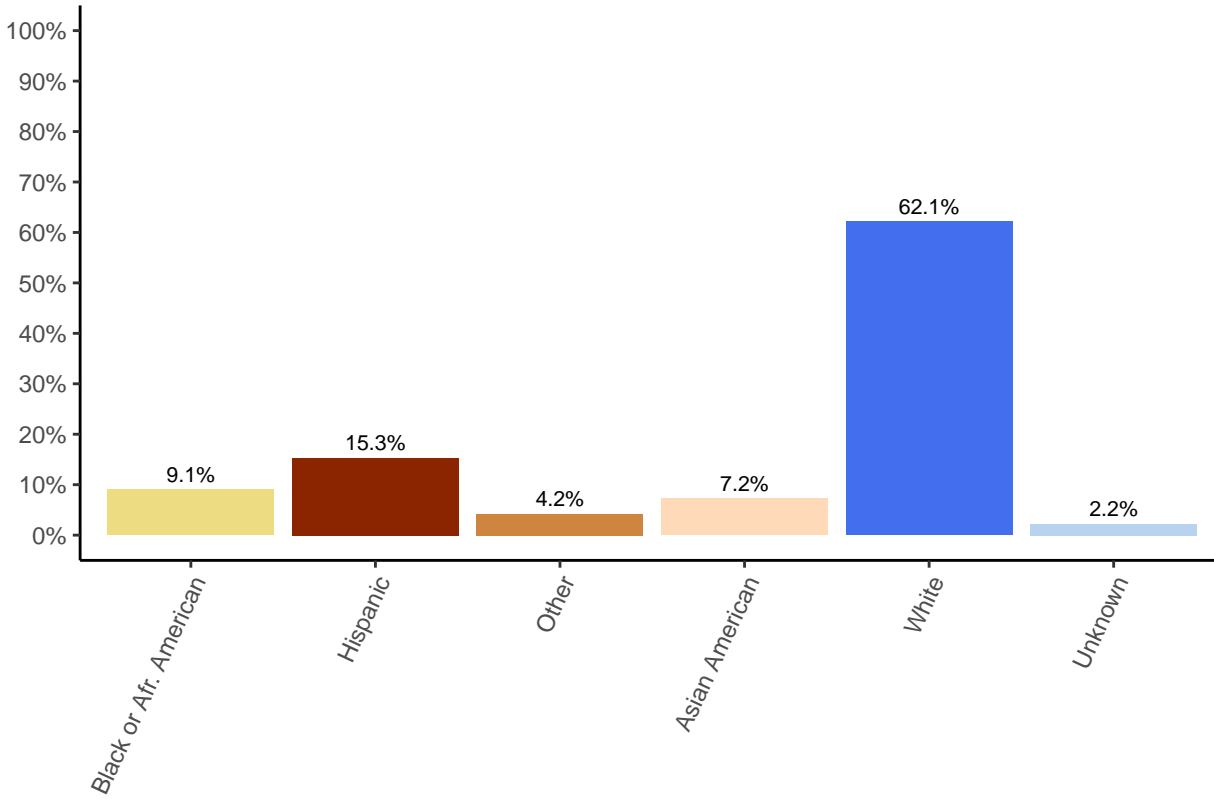
Ethnicity	Percentage
Black or Afr. American	9.1%
Hispanic	15.3%
Other	4.2%
Asian American	7.2%
White	62.1%
Unknown	2.2%

* American Indian/Alaska Native 0.5% Native Hawaiian/Other Pacific Islander 0.2%

* and Multiracial 3.5% are combined under other

* *Data on ethnicity does not include foreign nationals.

Engineering Technology Enrollment by Race and Ethnicity



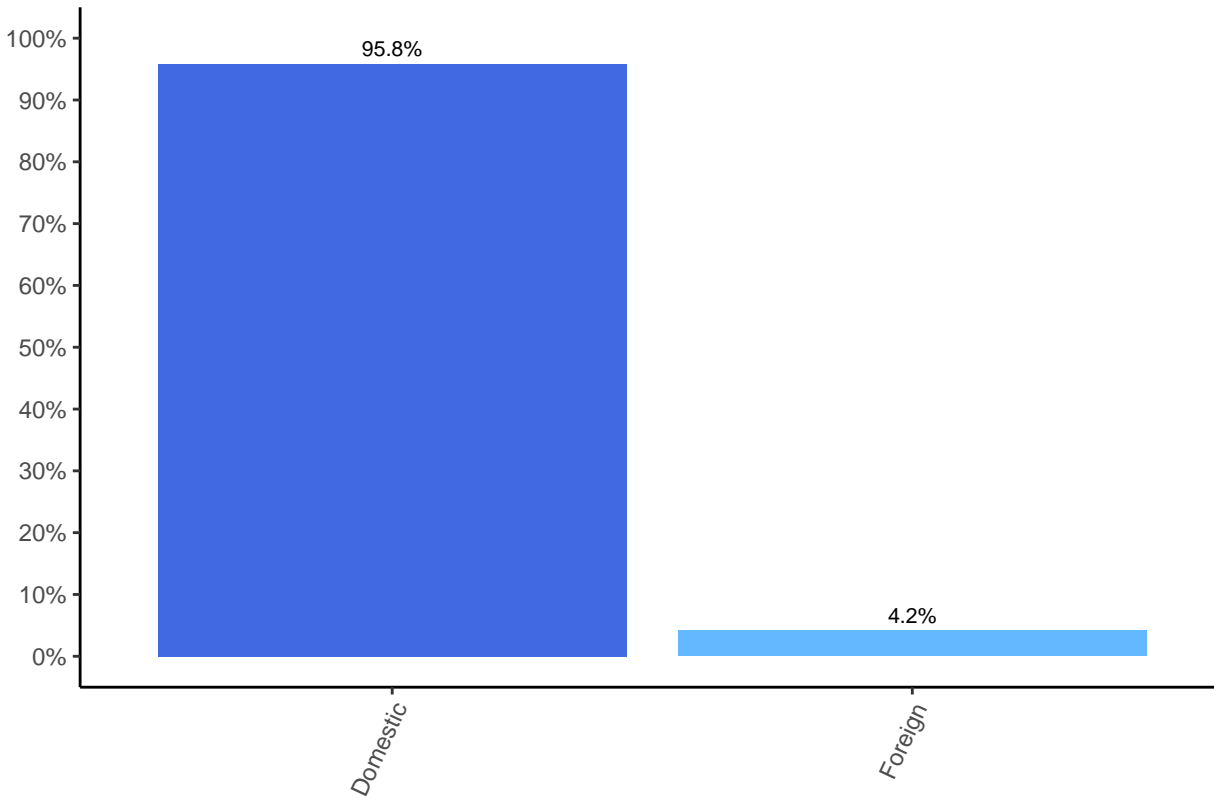
9.2.5 Engineering Technology Enrollment by Residency

Table 123: Doctoral Enrollment by Residency

Foreign	Domestic
4.2%	95.8%

* Enrollment is for full-time and part-time bachelor’s degree candidates in engineering technology
 * 63 Institutions reported.

Engineering Technology Enrollment Awarded by Residency



10 SURVEY DEFINITIONS

Joseph R. Roy, Ph.D.

Below are the definitions used for the Profiles Survey. The definitions are the same for both the Engineering and Engineering Technology portions of the survey.

10.1 Race/Ethnicity

The definitions of race/ethnicity align with the US Department of Education's data collections in order to ensure that institutions have and can report the data requested. We do not survey individual students or faculty, but institutions and only receive total (unduplicated) headcounts for each program or department we collect data for.

American Indian or Alaska Native: A person having origins in any of the original peoples of North and South America (including Central America), and who maintains tribal affiliation or community attachment.

Asian: A person having origins in any of the original peoples of the Far East, Southeast Asia, or the Indian subcontinent including, for example, Cambodia, China, India, Japan, Korea, Malaysia, Pakistan, the Philippine Islands, Thailand, and Vietnam.

Black or African American: A person having origins in any of the black racial groups of Africa. Terms such as "Haitian" or "Negro" can be used in addition to "Black or African American."

Hispanic or Latino: A person of Cuban, Mexican, Puerto Rican, South or Central American, or other Spanish culture or origin, regardless of race. The term, "Spanish origin," can be used in addition to "Hispanic or Latino."

Native Hawaiian or Other Pacific Islander: A person having origins in any of the original peoples of Hawaii, Guam, Samoa, or other Pacific Islands.

White: A person having origins in any of the original peoples of Europe, the Middle East, or North Africa.

Nonresident alien: A person who is not a citizen or a national of the United States and who is in this country on a visa or temporary basis and does not have the right to remain indefinitely.

Two or more: Persons who reported themselves as belonging to more than one of the race categories. These individuals should only be counted in this field and not any of the race categories.

Unknown: Those individuals who do not select any of the above options.

Hispanic/Latino includes individuals of any race who identify as Hispanic or Latino. The five race categories include only persons who reported one of those fields as their sole race and did not report Hispanic/Latino ethnicity.

Nonresident aliens are not included in any of the race or ethnicity fields.

Canadian institutions and other non-US institutions report students under two categories: Unknown and Nonresident Alien.

10.2 Gender

Institutions were given an option how to report their data for graduation, enrollment and faculty counts.

Gender Category Options:

-Male/Female -Male/Female/Non-binary Gender/Another Gender or Unknown

Institutions that choose the binary gender option spreadsheet, are reporting data to ASEE as it would be reported to the U.S. Department of Education's Integrated Post-Secondary Education System (IPEDS) survey. Gender for individuals (student or faculty) which is unknown or another gender besides male or female would be reported in one of the two categories (male or female) selected by the institution, as noted in the IPEDS FAQ's. Under this option, institutions included counts for all individuals.

For the second option, institutions were asked to report with four gender categories: -Male -Female -Non-binary Gender -Another Gender or Unknown

This change has been made in response to a request from institutions to reflect their changing student and faculty composition. Please see the technical review panel discussion from 2016 for more information about the collection of gender information at a national level.

10.2.1 Reporting Period

The reporting period for the 2019 data collection are listed below.

- For degrees awarded we include all completions between July 1, 2018 to June 30, 2019.
- For enrollment, institutions were instructed to report their data for the Fall 2019 session.
- For full time and part time faculty data, institutions were instructed to report for the Fall 2019 session.
- For research expenditures, institutions were asked to report their data for fiscal year 2019.

10.3 Other Definitions

- Full-time staff: As defined by the institution. The type of appointment at the snapshot determines whether an employee is full-time or part-time. The employee's term of contract is not considered in making the determination of full- or part-time.
- Full-time student: Undergraduate: A student enrolled for 12 or more semester credits or 12 or more quarter credits or 24 or more clock hours a week each term Graduate: A student enrolled for 9 or more semester credits or 9 or a student involved in thesis or dissertation preparation that is considered full-time by the institution.
- Non-tenure track, teaching faculty: Persons identified by the institution as such as typically those whose initial assignments are made for the purpose of conducting instructions as a principle activity (or activities). They may hold academic rank titles of professor, associate professor, assistant professor, instructor, lecturer, or the equivalent of any of those academic ranks. Graduate instruction (teaching) and research assistants are not included in this category.
- Part-time student: Undergraduate: A student enrolled for either less than 12 semester or quarter hours or less than 24 clock hours a week each term. Graduate: A student enrolled for less than 9 semester or quarter credits.
- Research personnel: An occupational category used to classify persons whose specific assignments customarily are made for the purpose of conducting research. Regardless of title, academic rank, these employees formally spend the majority of their time conducting research (exclude tenure/tenure-track faculty from this count).
- Tuition: The amount of money charged to students for instructional services. Tuition may be charged per term, per course, or per credit

- Tuition and fees (published charges): The amount of tuition and required fees covering a full academic year most frequently charged to students. These values represent what a typical student would be charged and may not be the same for all students at an institution. If tuition is charged on a per-credit-hour basis, the average full-time credit hour load for an entire academic year is used to estimate average tuition. Required fees include the fixed sum charged that are required of such a large proportion of all students that the student who does not pay the charges is an exception.

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