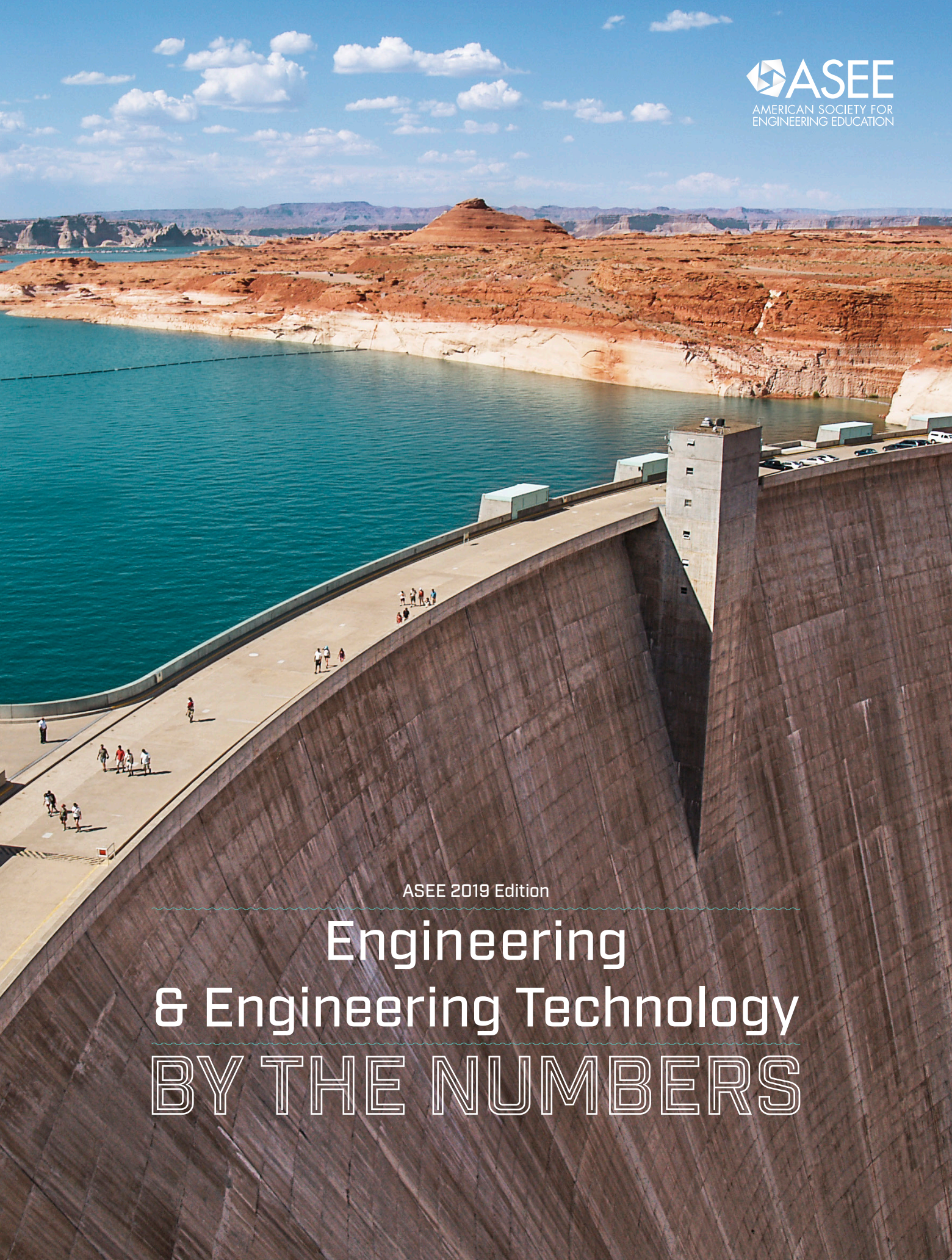

ASEE
AMERICAN SOCIETY FOR ENGINEERING EDUCATION

ASEE 2019 Edition

Engineering & Engineering Technology BY THE NUMBERS

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ASEE Profiles Survey Team
Joseph Roy, Ph.D. Director, Institutional Research & Analytics
Carolyn Wilson, Senior Research Associate
Angela Erdiaw-Kwasie, Data Analyst II
Charles Stuppard, Data Analyst I

11 January 2021

ASEE Staff Removed "Arizona State University Polytechnic" from the data. ASU reports ASU-Polytechnic as part of their submission. ASEE imports IPEDs data for degrees awarded and had identified ASU-Polytechnic as a non-participating institution because it has a different IPEDS ID from ASU. This has been corrected and noted for future years.

16 October 2020

Changes from original publication:

(1) Several institutions contacted us about their classification of dual discipline programs (e.g. Civil/Environmental Engineering and Electrical/Computer Engineering). After internal discussions and identifying what may have created confusion in the original submission, we decided to reclassify institutions who reported last year as "Civil/Environmental Engineering" or "Electrical/Computer Engineering", if the following conditions held:

> **(a) They did not report the program in 2018 as a dual discipline.**
>
> **(b) The name of the program (e.g. "Environmental Engineering (B.Sc.)") indicated a single discipline.**

Only programs that met conditions (a) and (b) were reclassified to single discipline programs. We have modified how we are collecting disciplinary information for 2020 to avoid confusion.

(2) The University of California, Santa Cruz updated the degrees awarded from their original submission.

(3) There was an error in reading in the data submitted by North Carolina State University that has been corrected.

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.

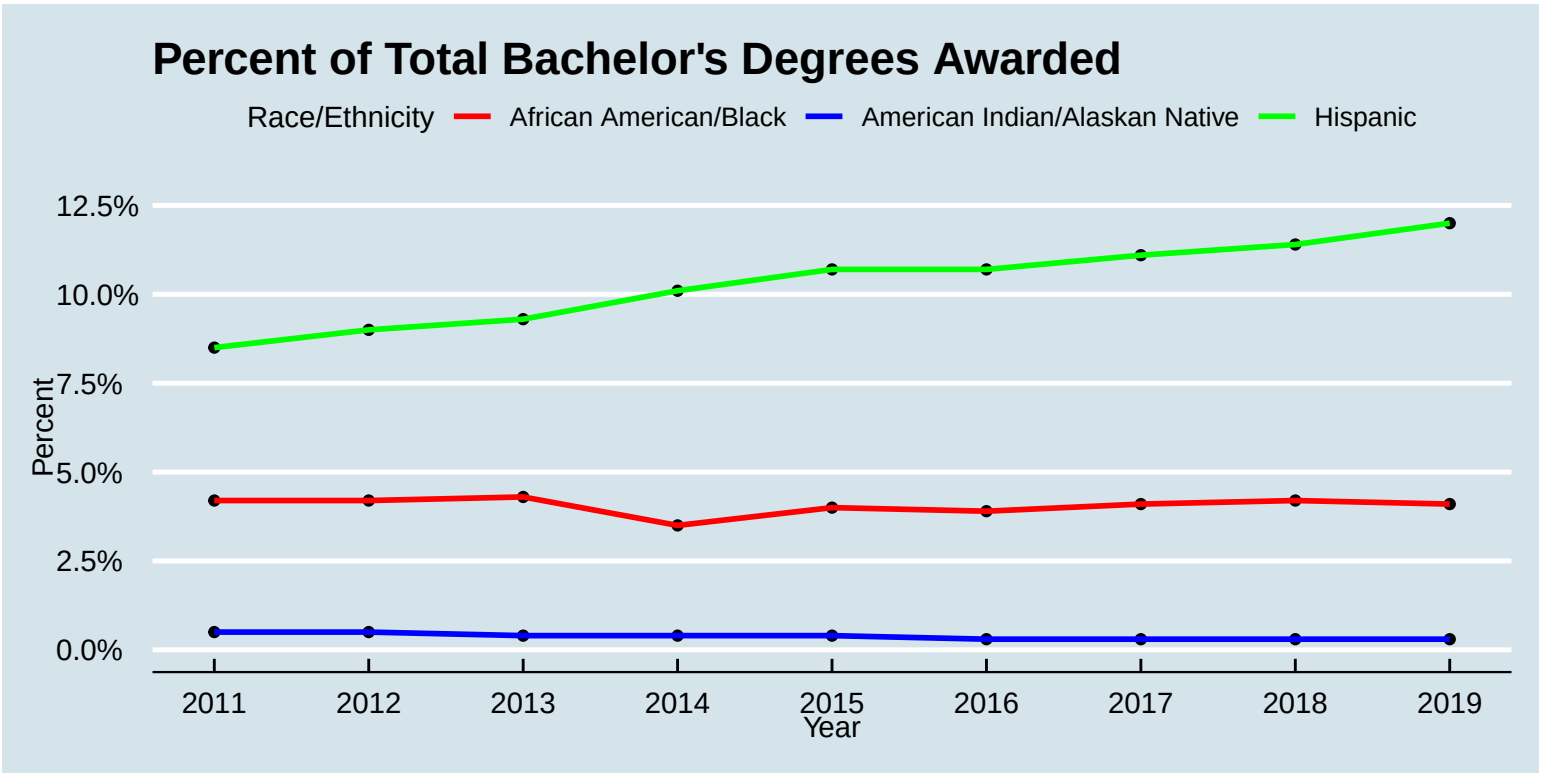
1.1 Gender in ASEE Data Collections

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.

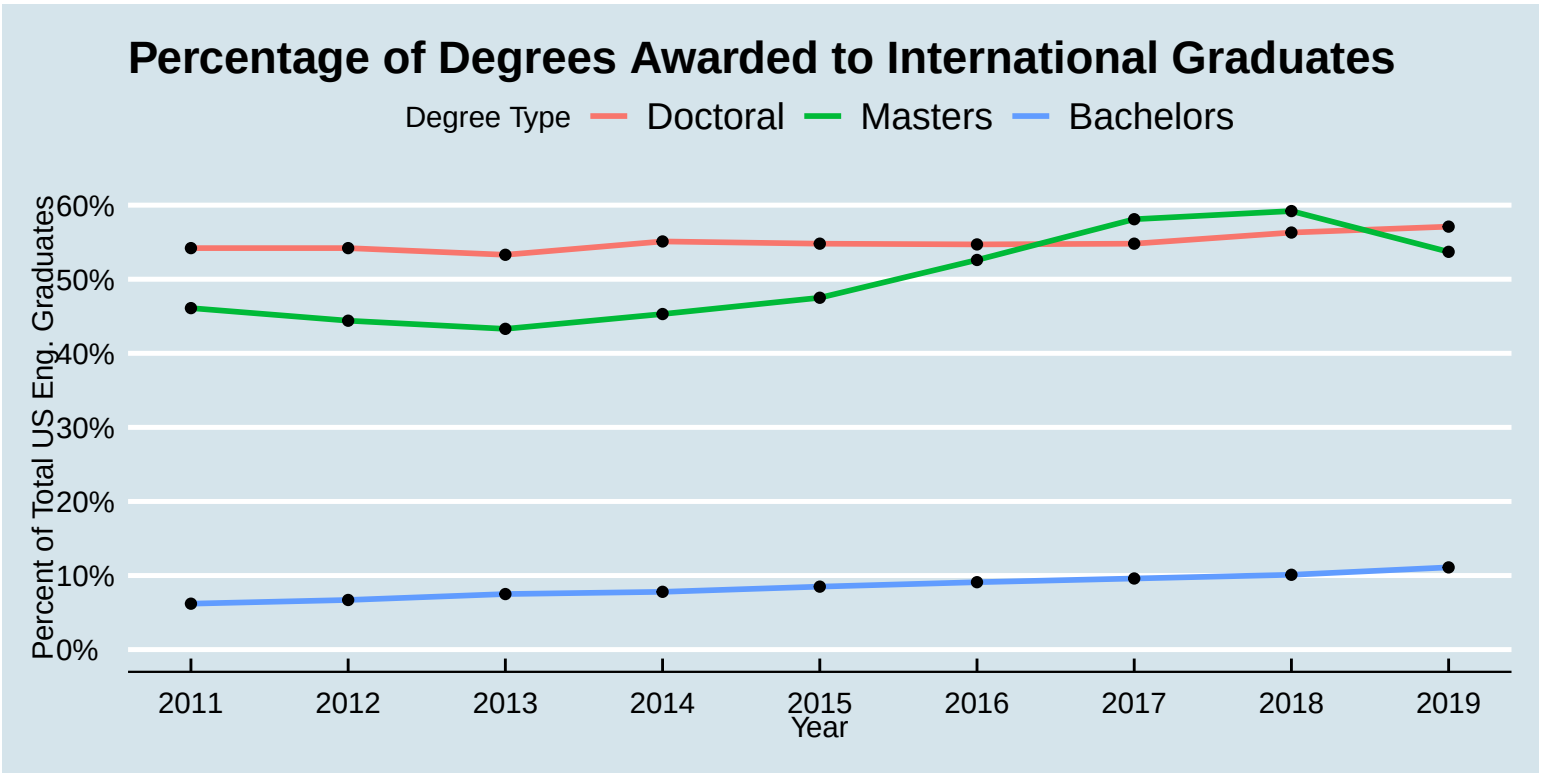
The figure below represents the percent of bachelor degrees in engineering awarded to URM graduates over the last 8 years. The percent of Hispanic graduates has increased from 8.5% in 2011 to 11.9% in 2019 with a steady increase in the intervening years. The percent of Black graduates, however, has not 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

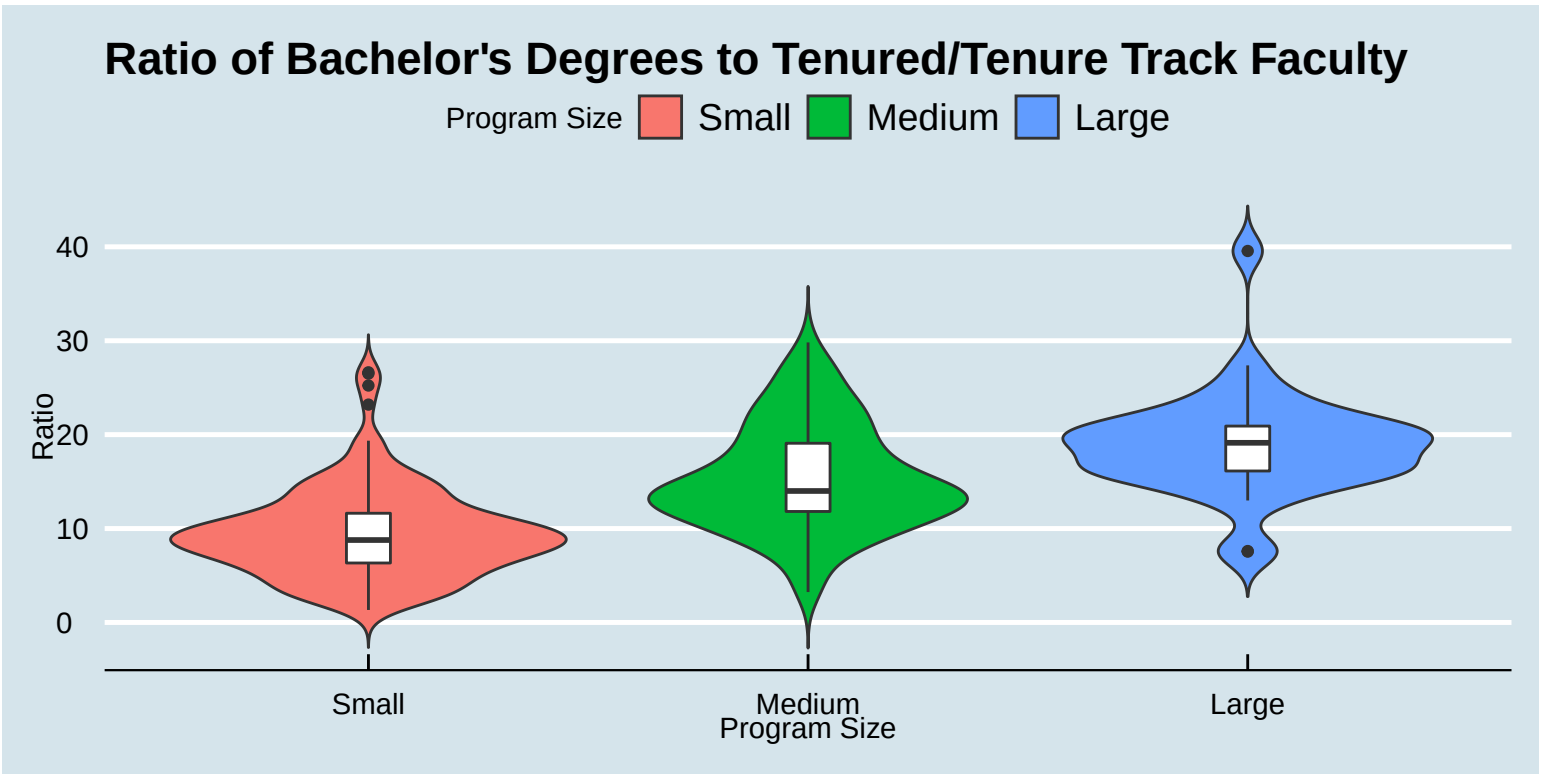
The data below represent the percent of international graduates within engineering since 2011. There is a slight trend upward in the Masters graduates for engineering, but generally the last 8 years have looked remarkably similar with the respect of the amount of international students graduating from 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.



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.



In the figure above, we remove institutions awarding less than 50 bachelors 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.

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

2 ENGINEERING BACHELORS

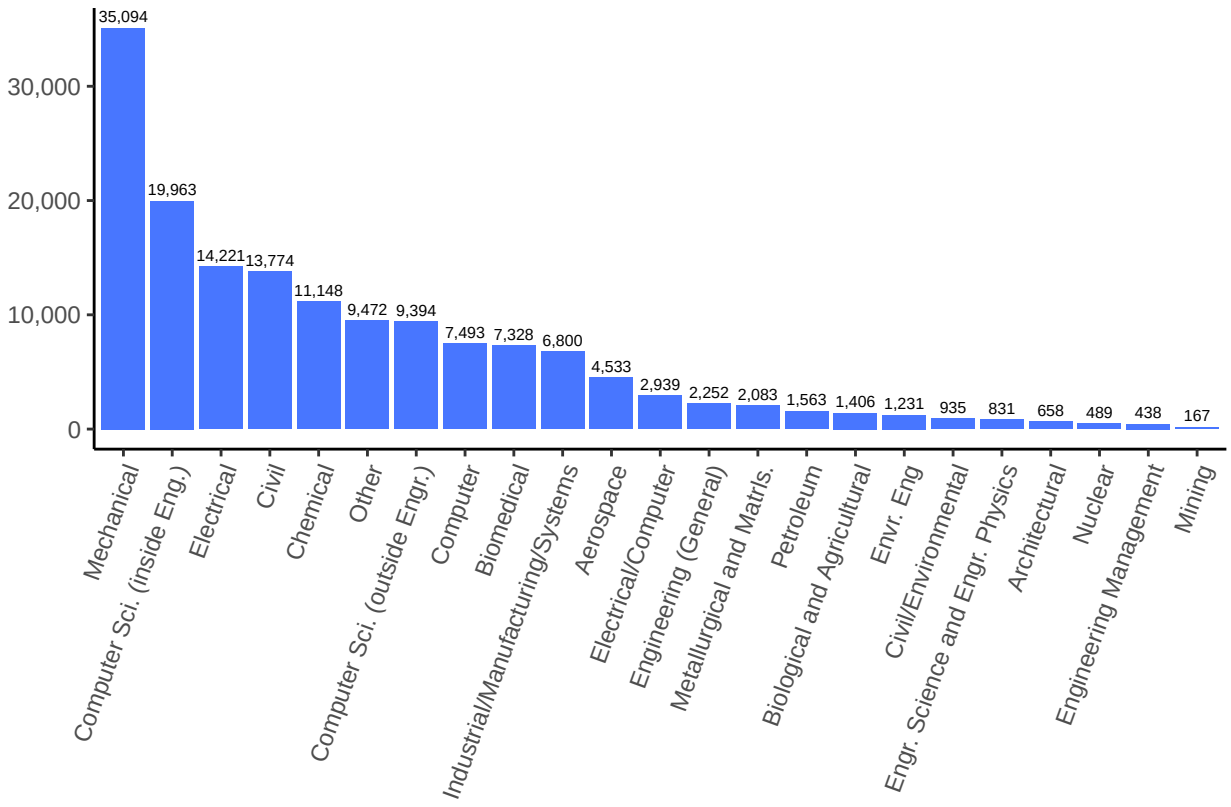
2.1 ENGINEERING BACHELOR'S DEGREES

2.1.1 Total Bachelor's Degrees Awarded by Engineering Discipline

Table 1: Bachelors Degrees by Discipline: 144,818*

Discipline Name	Degrees Awarded
Mechanical	35,094
Computer Sci. (inside Eng.)	19,963
Electrical	14,221
Civil	13,774
Chemical	11,148
Other	9,472
Computer Sci. (outside Engr.)	9,394
Computer	7,493
Biomedical	7,328
Industrial/Manufacturing/Systems	6,800
Aerospace	4,533
Electrical/Computer	2,939
Engineering (General)	2,252
Metallurgical and Matrls.	2,083
Petroleum	1,563
Biological and Agricultural	1,406
Envr. Eng	1,231
Civil/Environmental	935
Engr. Science and Engr. Physics	831
Architectural	658
Nuclear	489
Engineering Management	438
Mining	167

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



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: 21,926

Discipline Name	Degrees Awarded
Mechanical	5,441
Computer Sci. (inside Eng.)	2,786
Civil	2,564
Electrical	2,521
Chemical	1,454
Other	1,325
Computer	1,185
Industrial/Manufacturing/Systems	1,048
Computer Sci. (outside Engr.)	1,037
Biomedical	1,004
Aerospace	619
Electrical/Computer	330
Engineering (General)	311
Metallurgical and Matrls.	263
Petroleum	259
Envr. Eng	174
Biological and Agricultural	144
Civil/Environmental	133
Engr. Science and Engr. Physics	98
Architectural	91
Nuclear	76
Engineering Management	71
Mining	29

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 14.7 % of Total

Discipline Name	Degrees Awarded
Civil	18.6%
Electrical	17.7%
Mining	17.4%
Petroleum	16.6%
Engineering Management	16.2%
Computer	15.8%
Mechanical	15.5%
Nuclear	15.5%
Industrial/Manufacturing/Systems	15.4%
Civil/Environmental	14.2%
Envr. Eng	14.1%
Computer Sci. (inside Eng.)	14%
Other	14%
Architectural	13.8%
Engineering (General)	13.8%
Aerospace	13.7%
Biomedical	13.7%
Chemical	13%
Metallurgical and Matrls.	12.6%
Engr. Science and Engr. Physics	11.8%
Electrical/Computer	11.2%
Computer Sci. (outside Engr.)	11%
Biological and Agricultural	10.2%

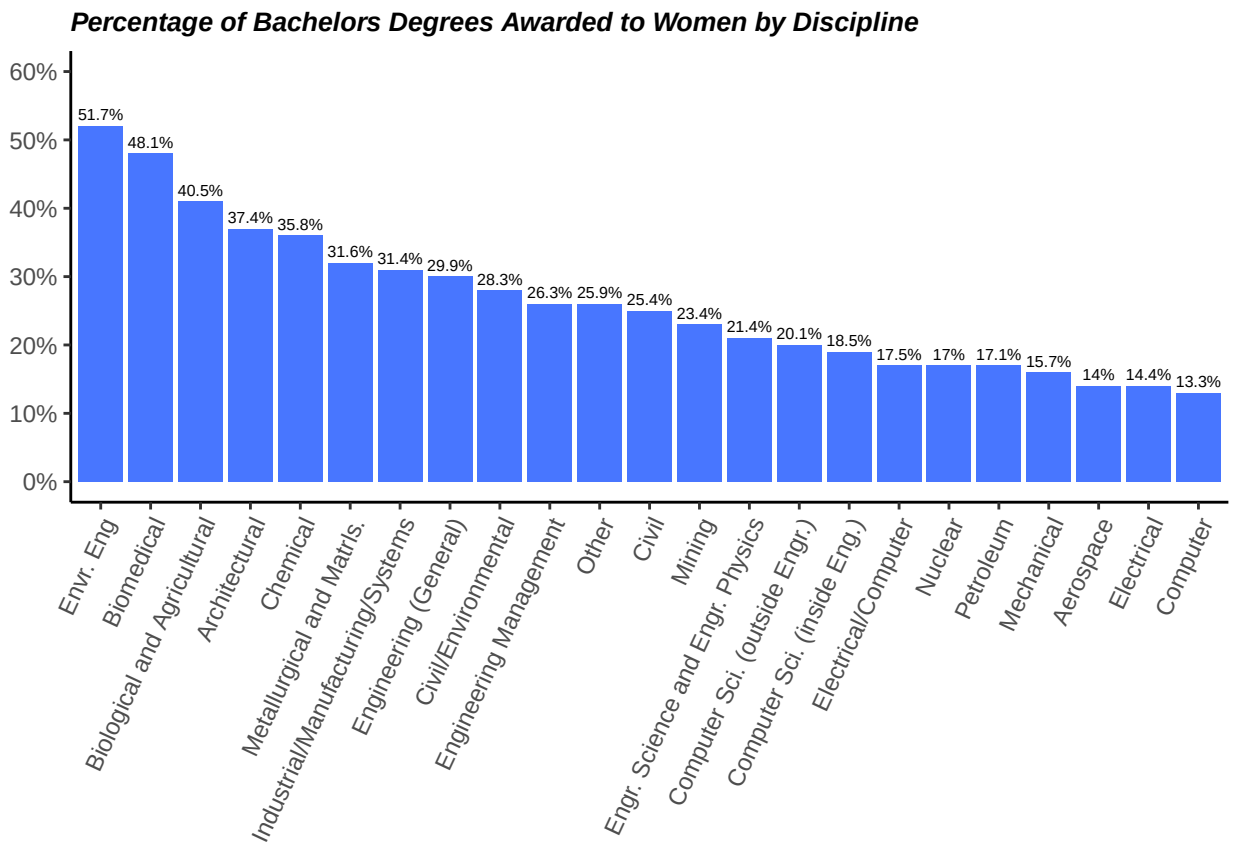
2.1.4 Percentage of Bachelors Degrees Awarded to Women by Discipline

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

Discipline Name	Percent Women
Envr. Eng	51.7%
Biomedical	48.1%
Biological and Agricultural	40.5%
Architectural	37.4%
Chemical	35.8%
Metallurgical and Matrls.	31.6%
Industrial/Manufacturing/Systems	31.4%
Engineering (General)	29.9%
Civil/Environmental	28.3%
Engineering Management	26.3%
Other	25.9%

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

Discipline Name	Percent Women
Civil	25.4%
Mining	23.4%
Engr. Science and Engr. Physics	21.4%
Computer Sci. (outside Engr.)	20.1%
Computer Sci. (inside Eng.)	18.5%
Electrical/Computer	17.5%
Petroleum	17.1%
Nuclear	17%
Mechanical	15.7%
Electrical	14.4%
Aerospace	14%
Computer	13.3%



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	North Carolina State University	1,801
10	**University of California, Irvine**	1,738
11	University of Wisconsin-Madison	1,729
12	**The Ohio State University**	1,715
13	The University of Texas at Austin	1,666
14	**Iowa State University**	1,653
15	University of California, Berkeley	1,646
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	**Stony Brook University**	1,291
25	University at Buffalo, SUNY	1,274
26	**Louisiana State University**	1,177
27	Missouri University of Science and Technology	1,153
28	**University of Minnesota -Twin Cities**	1,131
29	Colorado School of Mines	1,118
30	**Clemson University**	1,091
31	University of California, Davis	1,088

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

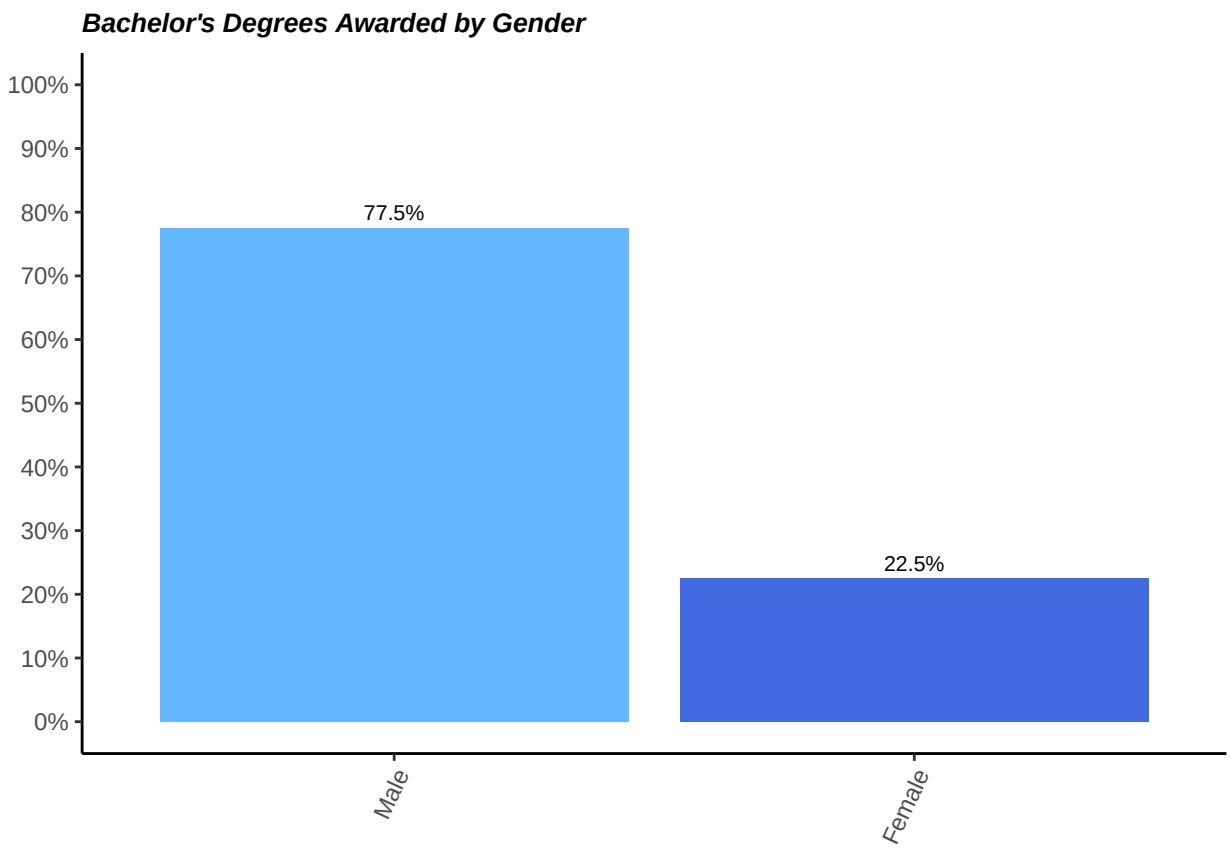
No	Institutions	Degrees Awarded
32	**Florida International University**	1,084
33	Michigan State University	1,072
34	**Northeastern University**	1,071
35	New Jersey Institute of Technology	1,062
36	**University of Colorado Boulder**	1,047
37	Texas Tech University	1,026
38	**George Mason University**	993
38	The University of Texas at Dallas	993
40	**The University of Alabama**	988
41	San Jose State University	980
42	**California State University, Long Beach**	970
43	Rensselaer Polytechnic Institute	966
44	**University of Houston**	949
45	Auburn University	944
46	**University of Pittsburgh**	935
47	University of South Florida	929
48	**Brigham Young University**	902
49	Drexel University	891
50	**University of California, Los Angeles**	888

* 422 Institutions included

2.1.6 Bachelor's Degrees Awarded by Gender

Table 6: Bachelor's Degrees Awarded by Gender

Gender	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Female	17.80%	18.10%	18.40%	18.90%	19.10%	19.90%	20.90%	21.30%	21.90%	22.50%
Male	82.20%	81.90%	81.60%	81.10%	80.90%	80.10%	79.10%	78.70%	78.10%	77.50%

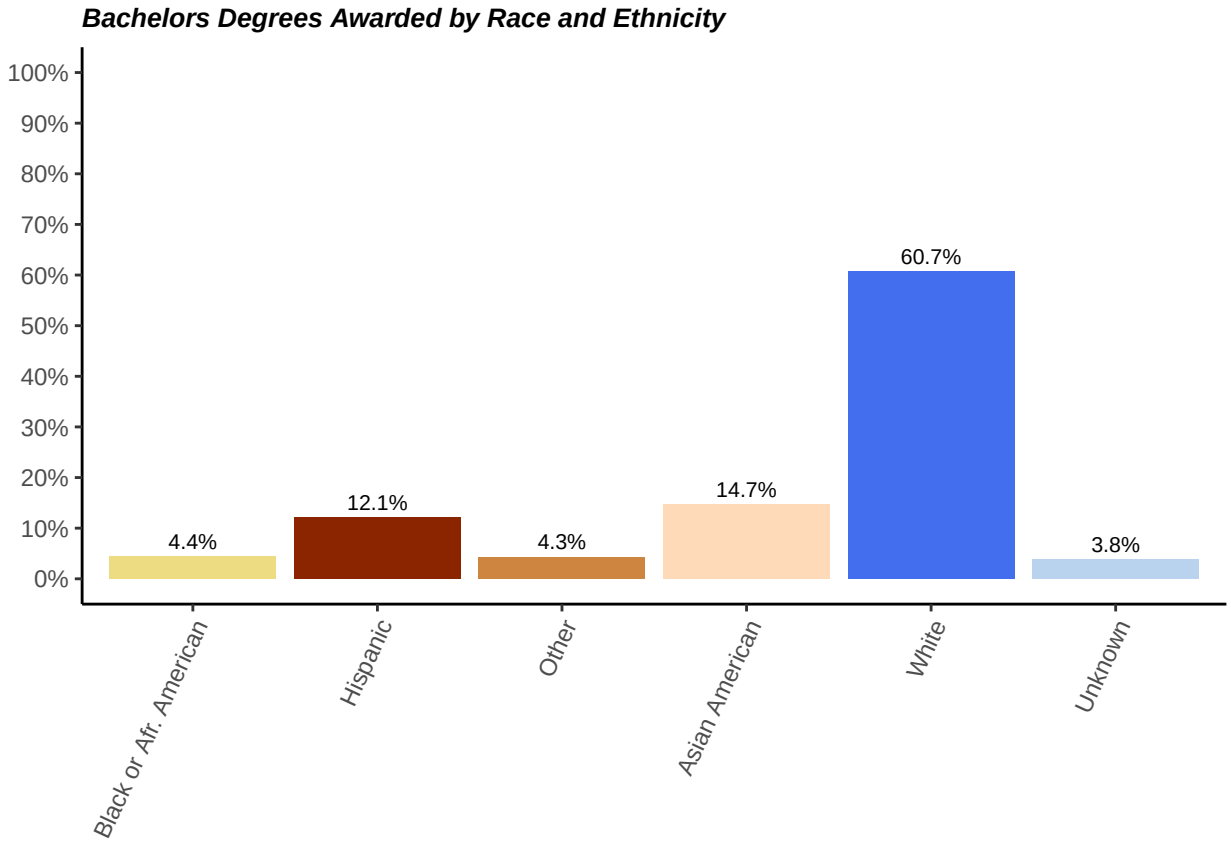


2.1.7 Bachelor's Degrees Awarded by Race and Ethnicity

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%	4.4%
Hispanic	8.5%	9.0%	9.3%	10.1%	10.7%	10.7%	11.1%	11.4%	12.1%
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%	14.7%
White	66.6%	66.2%	65.7%	65.9%	64.9%	63.4%	62.3%	61.5%	60.7%
Unknown	6.9%	6.5%	5.6%	4.5%	3.9%	4.2%	4.1%	4.2%	3.8%

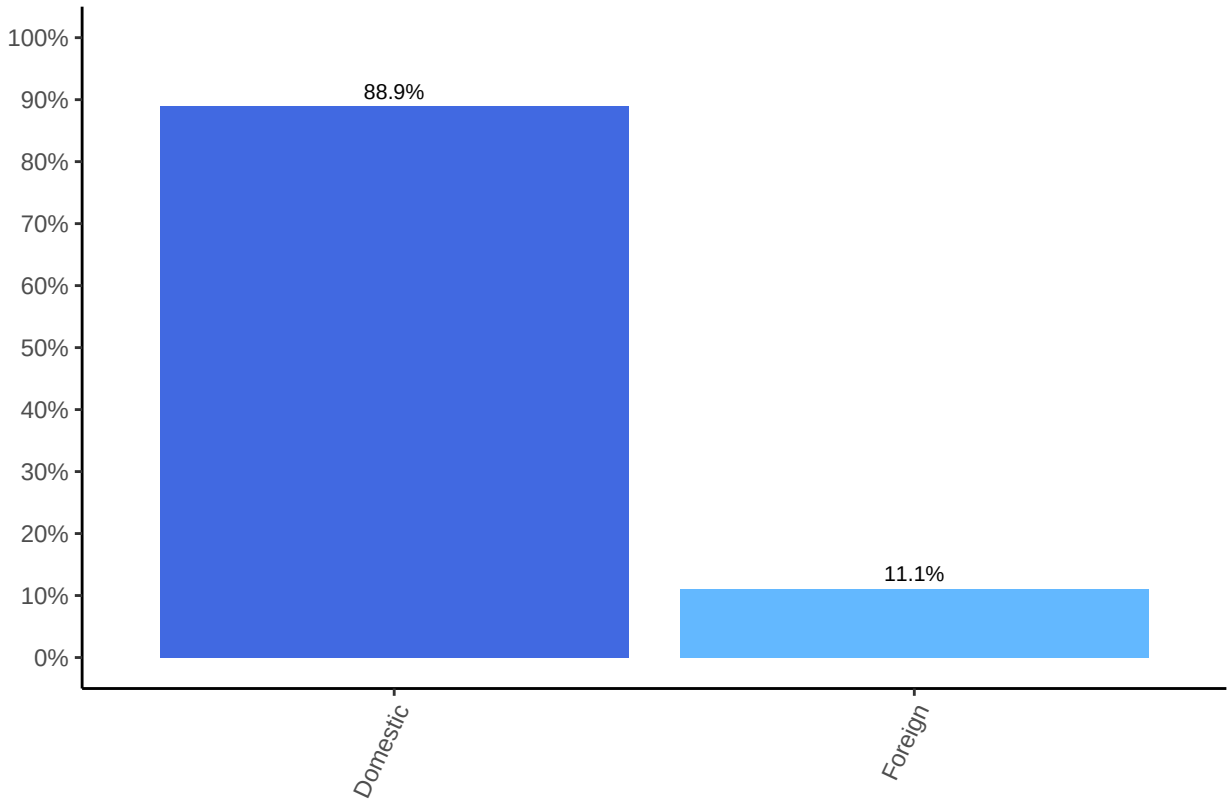
*Data on ethnicity does not include foreign nationals. American Indian/Alaska Native (0.4%), Native Hawaiian/Other Pacfic Islander(0.2%) and Multiracial (3.7%) are combined under Other.



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%	11.1%
Domestic	94.0%	93.8%	93.3%	92.5%	92.2%	91.5%	90.9%	90.4%	89.9%	88.9%



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

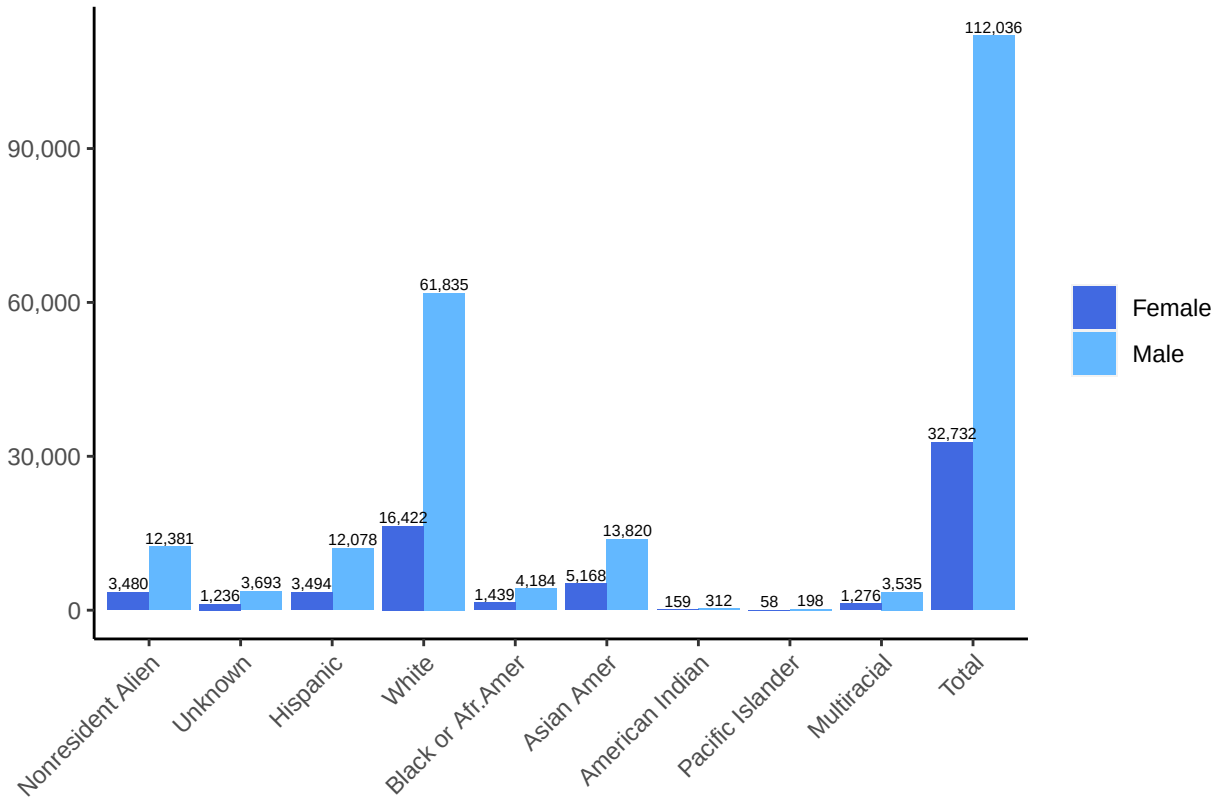
Table 9: Bachelor's Degrees Awarded by Race, Ethnicity, and Gender 144,818*

Ethnicity	Degrees Awarded
Nonresident Alien Male	12,381
Nonresident Alien Female	3,480
Unknown Male	3,693
Unknown Female	1,236
Hispanic Male	12,078
Hispanic Female	3,494
White Male	61,835
White Female	16,422
Black or Afr. American Male	4,184
Black or Afr. American Female	1,439
Asian American Male	13,820
Asian American Female	5,168
American Indian Male	312
American Indian Female	159
Native Hawaiian/Other Pacfic Islander Male	198
Native Hawaiian/Other Pacfic Islander Female	58
Multiracial Male	3,535
Multiracial Female	1,276
Total Male	112,036
Total Female	32,732

* Total degree includes 6 total Non binary graduates and 57 total Other Gender graduates.

* Includes 324 male and118 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**	539
3	University of Central Florida	479
4	**University of Puerto Rico, Mayaguez Campus**	442
5	Arizona State University	429
6	**The University of Texas at El Paso**	421
7	University of Florida	388
8	**Georgia Institute of Technology**	346
9	The University of Texas at San Antonio	340
10	**University of California, Irvine**	336
11	California State University, Long Beach	321
12	**University of Houston**	315
13	New Jersey Institute of Technology	304
14	**The University of Texas at Austin**	264
15	Texas Tech University	261
15	**The University of Texas Rio Grande Valley**	261
17	California State University, Los Angeles	245
18	**University of South Florida**	234
19	California State University, Fullerton	233

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
20	University of Maryland, College Park	216
22	**California Polytechnic State University, San Luis Obispo**	215
23	University of Wisconsin-Madison	213
24	**San Jose State University**	209
25	San Diego State University	198
26	**The University of Texas at Arlington**	194
27	George Mason University	193
27	**Texas A&M University - Kingsville**	193
27	The University of Texas at Dallas	193
30	**University of Illinois at Chicago**	192
31	University of Arizona	190
32	**Florida Atlantic University**	179
33	California State University, Sacramento	175
33	**North Carolina State University**	175
35	Rutgers, The State University of New Jersey, School of Engineering	174
36	**City College of the City University of New York**	167
37	FAMU-FSU College of Engineering	165
38	**Stanford University**	164
39	University of Illinois at Urbana-Champaign	161
40	**Massachusetts Institute of Technology**	160
40	North Carolina A&T State University	160
40	**University of California, Davis**	160
43	University of Maryland, Baltimore County	157
44	**Kennesaw State University**	153
45	The University of New Mexico	147
46	**University of California-Santa Cruz**	146
46	Virginia Polytechnic Institute and State University	146
48	**Stony Brook University**	143
49	Prairie View A & M University	140
50	**University at Buffalo, SUNY**	139

* 422 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	Texas A&M University	523
4	**University of Michigan**	494
5	University of Illinois at Urbana-Champaign	482
6	**North Carolina State University**	468
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

* 422 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	94%
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	55.2%
22	**The University of Texas at San Antonio**	53%
23	Morgan State University	51.2%
24	**Andrews University**	50%
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	**Texas State University**	43.9%
31	Florida Atlantic University	43.3%
32	**University of California, Merced**	41.6%
33	West Texas A & M University	41.5%
34	**University of Maryland Eastern Shore**	40.9%
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	**University of Houston**	33.2%
45	California State University, Long Beach	33.1%
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	**University of Central Florida**	31.2%

* 422 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%
16	**Stanford University**	39.6%
17	Southern Methodist University	38.4%
18	**Dartmouth College**	37.6%
19	Trinity College	37.5%
20	**Princeton University**	36.9%

* 422 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

* 422 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	University of California-Santa Cruz	320
16	**George Mason University**	311
17	Purdue University	295
18	**The University of Texas at Dallas**	294
19	California State University, Long Beach	288
20	**Texas A&M University**	267

* 422 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

* 422 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

* 68 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
3	Arizona State University	142
4	**University of California, San Diego**	136
5	Texas A&M University	130
6	**Boston University**	129
6	The University of Iowa	129
8	**California Polytechnic State University, San Luis Obispo**	116
9	Clemson University	112
10	**University of Wisconsin-Madison**	106
11	The University of Texas at Austin	103
12	**Drexel University**	102
12	The Pennsylvania State University	102
14	**Rutgers, The State University of New Jersey, School of Engineering**	100
15	The Johns Hopkins University	99
16	**Duke University**	96
17	University of California, Riverside	94
17	**University of Connecticut**	94
19	University of Maryland, College Park	92
20	**The University of Texas at Dallas**	91

* 157 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**	147
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

* 160 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	California State University, Long Beach	167
8	**The University of Texas at Austin**	160
9	The Ohio State University	158
10	**California Polytechnic State University, San Luis Obispo**	155
11	Louisiana State University	153
12	**University at Buffalo, SUNY**	150
13	North Carolina State University	148
14	**The University of Alabama**	146
15	University of Florida	140
16	**Florida International University**	139
16	University of Washington in Seattle	139
18	**California State University, Fullerton**	137
18	San Diego State University	137
20	**San Jose State University**	135

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

No	Institutions	Degrees Awarded
21	California State University, Sacramento	134
22	**University of Maryland, College Park**	130
23	Georgia Institute of Technology	129
23	**University of California, Davis**	129
25	Texas Tech University	126
26	**New Jersey Institute of Technology**	125
27	Missouri University of Science and Technology	124
28	**Auburn University**	118
28	Clemson University	118
30	**University of Nebraska, Lincoln**	116
31	Oregon State University	110
32	**Michigan State University**	107
33	FAMU-FSU College of Engineering	106
33	**University of Central Florida**	106
35	The University of Texas at Arlington	105
36	**California State University, Northridge**	102
37	University of California, Irvine	100
38	**Manhattan College**	98
39	University of Massachusetts Lowell	97
40	**West Virginia University**	96
41	California State University, Los Angeles	94
41	**University of Wisconsin, Platteville**	94
43	University of California, San Diego	93
43	**University of Connecticut**	93
45	University of Kentucky	92
45	**University of South Florida**	92
47	University of California, Berkeley	91
47	**University of Wisconsin-Madison**	91
49	Rutgers, The State University of New Jersey, School of Engineering	90
50	**Mississippi State University**	89

* 243 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**	75
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	San Jose State University	65
38	**Kansas State University**	64
38	University of Miami	64
40	**University of Minnesota -Twin Cities**	61
41	University of Washington in Seattle	59
42	**Rutgers, The State University of New Jersey, School of Engineering**	54

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

No	Institutions	Degrees Awarded
42	The University of Texas at El Paso	54
44	**University of Puerto Rico, Mayaguez Campus**	52
45	Lehigh University	51
45	**Southern Illinois University Edwardsville**	51
47	University of Missouri	50
48	**The University of Iowa**	46
48	University at Buffalo, SUNY	46
48	**University of California, Berkeley**	46

* 145 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	**The University of Texas at El Paso**	229
35	California State University, Northridge	224
36	**University of Dayton**	223
37	California State University, Fullerton	219
37	**Drexel University**	219
37	New Jersey Institute of Technology	219
37	**University of Wisconsin, Platteville**	219
41	University of North Carolina at Charlotte	211
42	**Auburn University**	208
42	The University of Texas at Tyler	208
44	**University of Houston**	204
45	The University of Texas at Dallas	203
45	**The University of Texas at San Antonio**	203
45	University of Minnesota -Twin Cities	203
48	**University of Missouri**	200
49	California State University, Long Beach	199
49	**The Ohio State University**	199

* 326 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	The University of Texas at Austin	339
2	**Arizona State University**	310
3	Texas A&M University	239
3	**University of Illinois at Urbana-Champaign**	239

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

No	Institutions	Degrees Awarded
5	Purdue University	227
6	**The Pennsylvania State University**	205
7	California State University, Long Beach	190
7	**Georgia Institute of Technology**	190
9	Virginia Polytechnic Institute and State University	171
10	**University of California, San Diego**	169
11	University of Maryland, College Park	157
12	**San Jose State University**	151
13	University of California, Los Angeles	148
14	**University of Florida**	135
15	Iowa State University	132
16	**University of Central Florida**	131
17	The University of Texas at Dallas	127
18	**California Polytechnic State University, San Luis Obispo**	126
19	Oregon State University	125
20	**Rochester Institute of Technology**	118
20	University of Cincinnati	118
22	**Stevens Institute of Technology**	115
23	University at Buffalo, SUNY	114
24	**Missouri University of Science and Technology**	111
25	Michigan State University	109
25	**University of California, Irvine**	109
27	San Diego State University	106
27	**University of Minnesota -Twin Cities**	106
29	University of Wisconsin-Madison	105
30	**Kennesaw State University**	102
31	University of Illinois at Chicago	97
31	**University of Massachusetts Lowell**	97
33	University of California, Davis	96
34	**New Jersey Institute of Technology**	95
34	The University of Texas at San Antonio	95
36	**Drexel University**	94
36	University of South Florida	94
38	**Florida International University**	93
39	California State University, Northridge	92
39	**The University of Texas at El Paso**	92
39	University of Michigan	92
42	**University of Hawaii at Manoa**	89
43	George Mason University	88
44	**Milwaukee School of Engineering**	87
45	Texas State University	84
46	**Brigham Young University - Idaho**	83
46	Michigan Technological University	83
46	**Rensselaer Polytechnic Institute**	83
49	University of Michigan-Dearborn	82
50	**City College of the City University of New York**	80

* 305 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	University of Illinois at Urbana-Champaign	356
2	**San Jose State University**	252
3	Iowa State University	241
4	**Purdue University**	206
5	Virginia Polytechnic Institute and State University	183
6	**North Carolina State University**	152
7	Georgia Institute of Technology	151
8	**Florida International University**	113
8	University of Central Florida	113
10	**Northeastern University**	108
11	University of California-Santa Cruz	107
11	**University of Florida**	107
13	University of Nevada, Reno	106
14	**University of Michigan**	98
14	University of Wisconsin-Madison	98
16	**West Virginia University**	92
17	California Polytechnic State University, San Luis Obispo	89
18	**Arizona State University**	87
19	University of Pittsburgh	86

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

No	Institutions	Degrees Awarded
20	**University of Maryland, College Park**	85
21	The University of Texas at Dallas	83
22	**Missouri University of Science and Technology**	82
22	University of California, San Diego	82
24	**Boston University**	81
25	Santa Clara University	78
26	**The Pennsylvania State University**	74
27	Rensselaer Polytechnic Institute	72
27	**University of Minnesota -Twin Cities**	72
29	San Diego State University	70
30	**California State University, Fullerton**	67
31	Rochester Institute of Technology	66
31	**University of South Florida**	66
33	University of Maryland, Baltimore County	64
34	**Clemson University**	62
35	Drexel University	61
35	**University of Cincinnati**	61
37	Michigan State University	59
38	**University of California, Irvine**	58
38	University of Puerto Rico, Mayaguez Campus	58
38	**Wichita State University**	58
41	University of California, Los Angeles	56
42	**Florida Gulf Coast University**	55
43	Stony Brook University	54
44	**Michigan Technological University**	52
44	University of Massachusetts Amherst	52
46	**California State University, Long Beach**	51
46	University of California, Santa Barbara	51
48	**George Mason University**	50
49	City College of the City University of New York	49
50	**Embry Riddle Aeronautical University-Daytona Beach**	45

* 227 Institutions included

2.1.25 Top 20 Institutions by Total Bachelor's Degrees awarded in Electrical/Computer Engineering

Table 25: Top 20 Institutions by Total Bachelor's Degrees awarded in Electrical/Computer Engineering

No	Institutions	Degrees Awarded
1	University of California, Berkeley	434
2	**The Ohio State University**	274
3	Rutgers, The State University of New Jersey, School of Engineering	248
4	**University of Washington in Seattle**	221
5	Carnegie Mellon University	190
6	**Brigham Young University**	120
7	University of Arizona	119
8	**Massachusetts Institute of Technology**	109
9	The State University of New York at Binghamton	108
10	**Duke University**	100
11	Worcester Polytechnic Institute	89
12	**Cornell University**	88
13	New York Institute of Technology	87
14	**The University of Iowa**	80
15	Colorado State University	66
16	**University of Colorado Boulder**	62
17	University of Missouri - Kansas City	58
18	**Rowan University**	57
19	University of South Alabama	54
20	**University of Washington-Tacoma**	47

* 102 Institutions included

2.1.26 Top 20 Institutions by Total Bachelor's Degrees awarded in Computer Science (outside engineering)

Table 26: Top 20 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 20 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

* 52 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 California-Santa Cruz**	470
7	University of Michigan	465
8	**University of California, San Diego**	447
9	Florida International University	397
10	**Texas A&M University**	368
11	University of California, Davis	362
12	**University of Washington in Seattle**	361
13	Stony Brook University	342
14	**Stanford University**	330
15	Virginia Polytechnic Institute and State University	304
16	**The Ohio State University**	296
17	University of Minnesota -Twin Cities	295
18	**University at Buffalo, SUNY**	273
19	Cornell University	272
20	**University of Southern California**	263
21	George Mason University	250
22	**California State University, Fullerton**	246
23	University of California, Los Angeles	245
24	**California State University, Sacramento**	243
25	Michigan State University	233
26	**California Polytechnic State University, San Luis Obispo**	229
27	University of Pennsylvania	208
28	**California State University, Northridge**	207
29	University of Maryland, Baltimore County	206
30	**University of Illinois at Chicago**	205
31	University of North Texas	203
31	**University of Utah**	203
33	California State University, Long Beach	200
34	**The Pennsylvania State University**	195
35	Auburn University	193
36	**The University of Texas at Arlington**	186
37	University of California, Riverside	182
38	**University of Virginia**	172
39	University of Washington-Tacoma	165
40	**Miami University**	155
41	University of Florida	154
42	**University of Connecticut**	153
43	Washington University in St. Louis	152
44	**University of Colorado Boulder**	151

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

No	Institutions	Degrees Awarded
45	Florida Atlantic University	146
45	**Portland State University**	146
47	Princeton University	145
48	**Clemson University**	140
48	Oakland University	140
48	**University of South Florida**	140

* 149 Institutions included

2.1.28 Top 50 Institutions by Total Bachelor's Degrees awarded in Engineering (General)

Table 28: Top 50 Institutions by Total Bachelor's Degrees awarded in Engineering (General)

No	Institutions	Degrees Awarded
1	University at Buffalo, SUNY	209
2	**Arizona State University**	205
3	Stanford University	110
4	**McNeese State University**	109
5	North Carolina State University	97
6	**University of Wisconsin - Stout**	96
7	Harvey Mudd College	83
8	**James Madison University**	75
8	Montana Technological University	75
10	**Geneva College**	66
11	Olivet Nazarene University	63
12	**Texas Christian University**	56
13	University of Detroit Mercy	44
13	**Walla Walla University**	44
15	Frostburg State University	43
16	**Hope College**	42
17	Smith College	39
18	**University of Southern Indiana**	36
19	Marshall University	35
20	**Vanderbilt University**	33
21	Swarthmore College	31
21	**University of Colorado Boulder**	31
21	University of North Carolina at Asheville	31
24	**Fort Lewis College**	30
25	Elizabethtown College	29
25	**Seattle University**	29
27	Western Carolina University	28
28	**John Brown University**	27
28	Minnesota State University-Mankato	27
30	**Loyola University Maryland**	26
31	Seattle Pacific University	25
32	**Oral Roberts University**	24
32	The University of Tennessee-Martin	24
34	**College of Staten Island CUNY**	22
34	The University of Mississippi	22
34	**University of Maryland Eastern Shore**	22
37	Northwest Nazarene University	21
38	**Bob Jones University**	19
39	Andrews University	16
39	**Trinity College**	16
41	Wentworth Institute of Technology	15
42	**California Polytechnic State University, San Luis Obispo**	13
43	University of Hartford	12
44	**Miami University**	11
44	Southern Arkansas University Main Campus	11
44	**University of Rochester**	11
47	Brown University	10
48	**Pennsylvania State University-Penn State Abington**	9
49	Pennsylvania State University-Penn State Hazleton	8
49	**The University of Tennessee-Chattanooga**	8

* 129 Institutions included

2.2 ENGINEERING UNDERGRADUATE ENROLLMENT, FALL 2019

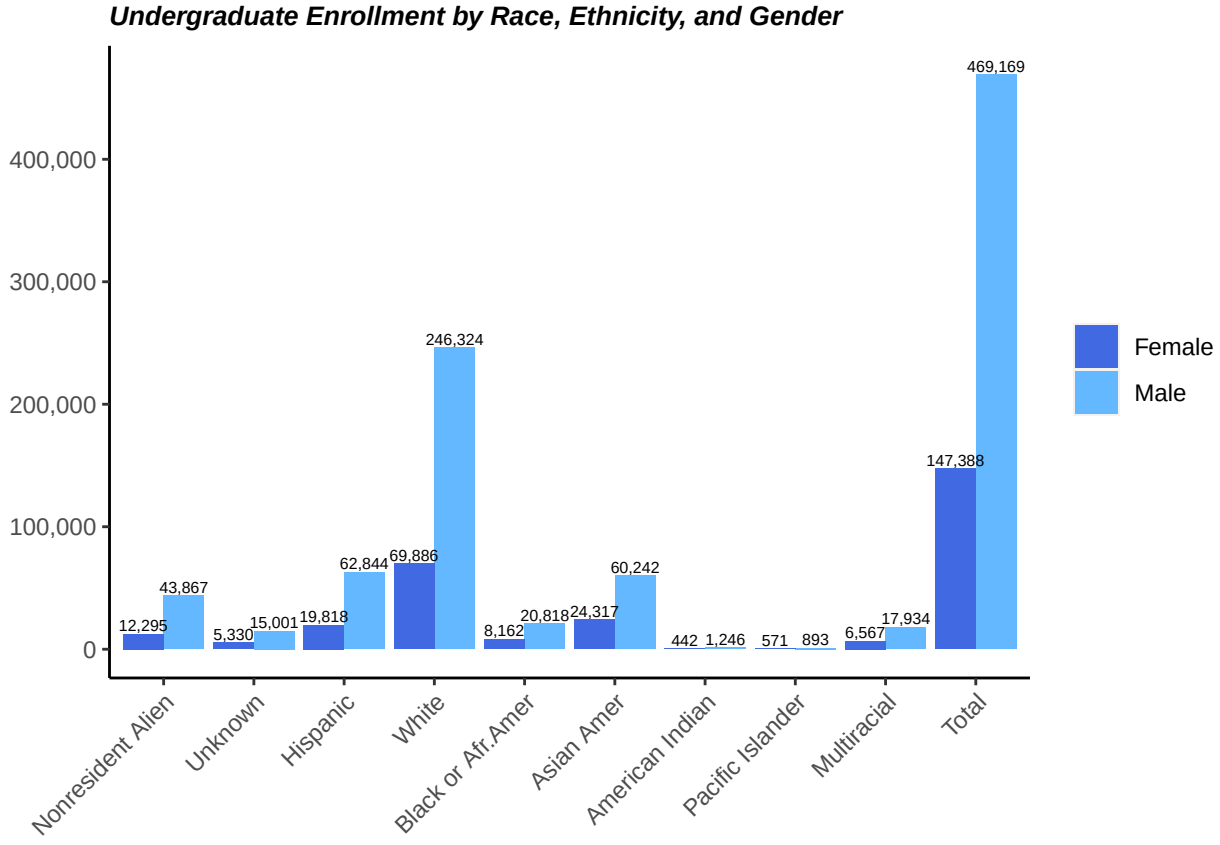
2.2.1 Undergraduate Enrollment by Race, Ethnicity, and Gender

Table 29: Undergraduate Enrollment Awarded by Race, Ethnicity, and Gender 616,557*

Ethnicity	Enrollments
Nonresident Alien Male	43,867
Nonresident Alien Female	12,295
Unknown Male	15,001
Unknown Female	5,330
Hispanic Male	62,844
Hispanic Female	19,818
White Male	246,324
White Female	69,886
Black or Afr. American Male	20,818
Black or Afr. American Female	8,162
Asian American Male	60,242
Asian American Female	24,317
American Indian Male	1,246
American Indian Female	442
Native Hawaiian/Other Pacfic Islander Male	893
Native Hawaiian/Other Pacfic Islander Female	571
Multiracial Male	17,934
Multiracial Female	6,567
Total Male	469,169
Total Female	147,388

* Total Enrollment includes is for full time students

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



2.2.2 Engineering Undergraduate Enrollment by Institutions

Table 30: 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	North Carolina State University	8,403
8	**The Pennsylvania State University**	8,182
9	University of Illinois at Urbana-Champaign	8,156
10	**Oregon State University**	7,943
11	The Ohio State University	7,931
12	**University of Florida**	7,892
13	The University of Texas at Austin	7,812
14	**California State University, Sacramento**	7,751
15	University of Arizona	7,610

Table 30: Top 50 Engineering Undergraduate Enrollment by Institutions *(continued)*

No	Institutions	Enrollment
16	**Iowa State University**	7,562
17	University of California, Irvine	7,461
18	**University of Michigan**	7,334
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

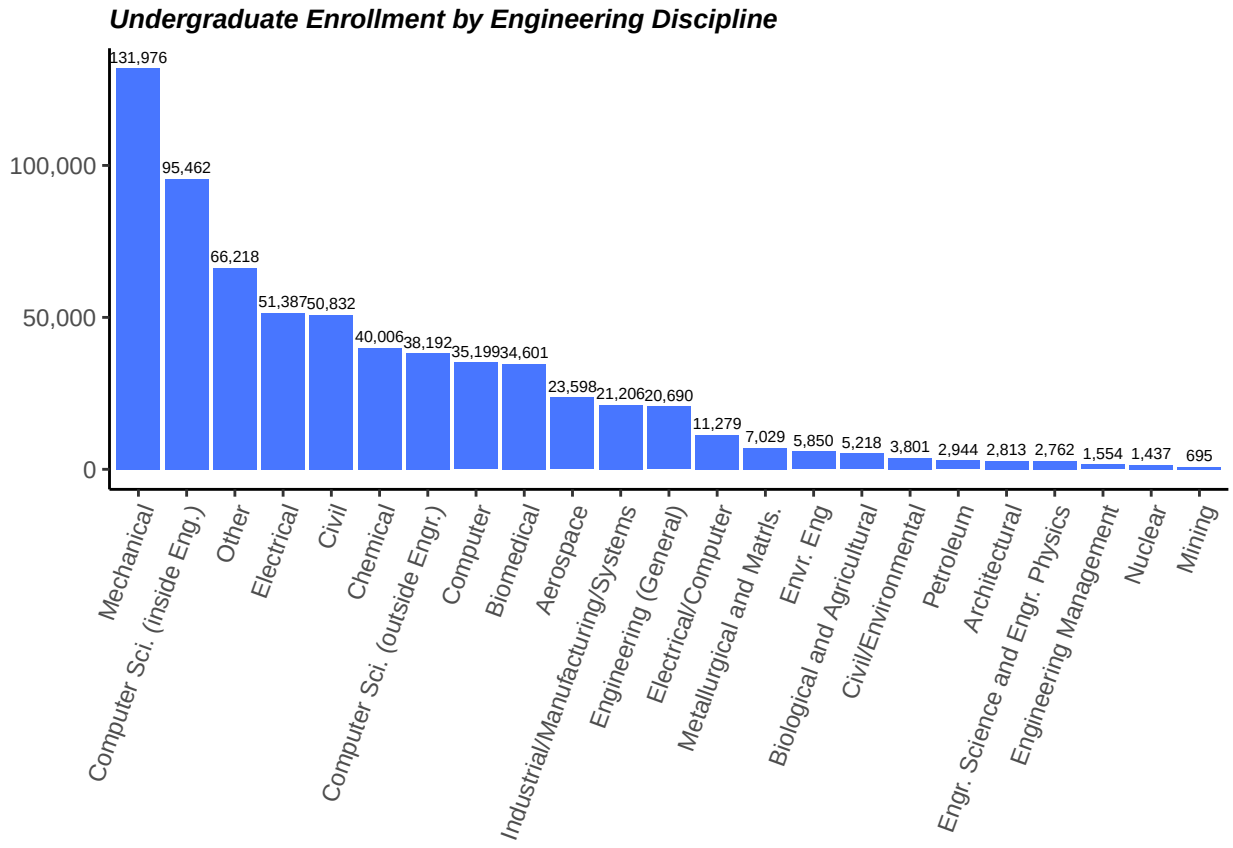
* Enrollment is full time plus part time students.
* Some Institutions donot permit formal enrollment in their engineering colleges until the second or third year.

2.2.3 Undergraduate Enrollment by Engineering Discipline

Table 31: Undergraduate Enrollment by Engineering Discipline: 616,557

Discipline Name	Enrollments
Mechanical	131,976
Computer Sci. (inside Eng.)	95,462
Other	66,218
Electrical	51,387
Civil	50,832
Chemical	40,006
Computer Sci. (outside Engr.)	38,192
Computer	35,199
Biomedical	34,601
Aerospace	23,598
Industrial/Manufacturing/Systems	21,206
Engineering (General)	20,690
Electrical/Computer	11,279
Metallurgical and Matrls.	7,029
Envr. Eng	5,850
Biological and Agricultural	5,218
Civil/Environmental	3,801
Petroleum	2,944
Architectural	2,813
Engr. Science and Engr. Physics	2,762
Engineering Management	1,554
Nuclear	1,437
Mining	695

* Total does not include Computer Science (outside engineering)
* Enrollment is for full-time bachelor's degree candidates in engineering.



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

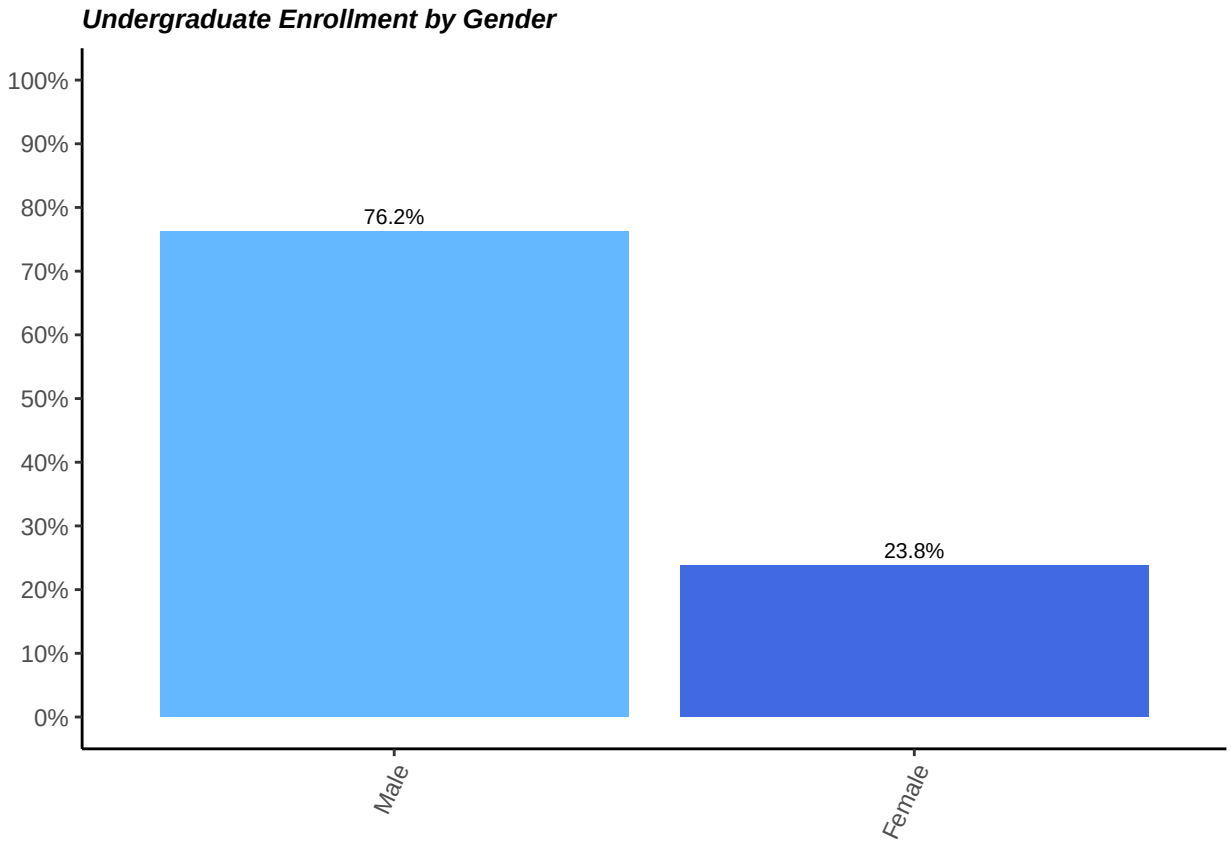
Table 32: Undergraduate Enrollment by Engineering Discipline:(Full time and Part time)

Discipline Name	Full Time	Part Time
Aerospace	23,598	1,428
Architectural	2,813	133
Biological and Agricultural	5,218	235
Biomedical	34,601	1,360
Chemical	40,006	2,607
Civil	50,832	5,183
Civil/Environmental	3,801	369
Computer	35,199	3,696
Computer Sci. (inside Eng.)	95,462	14,380
Electrical	51,387	8,118
Electrical/Computer	11,279	675
Engineering (General)	20,690	1,024
Engineering Management	1,554	81
Engr. Science and Engr. Physics	2,762	184
Envr. Eng	5,850	363
Industrial/Manufacturing/Systems	21,206	2,676
Mechanical	131,976	14,292
Metallurgical and Matrls.	7,029	445
Mining	695	83
Nuclear	1,437	97
Other	66,218	6,262
Petroleum	2,944	389

2.2.5 Undergraduate Enrollment by Gender

Table 33: Undergraduate Enrollment by Gender

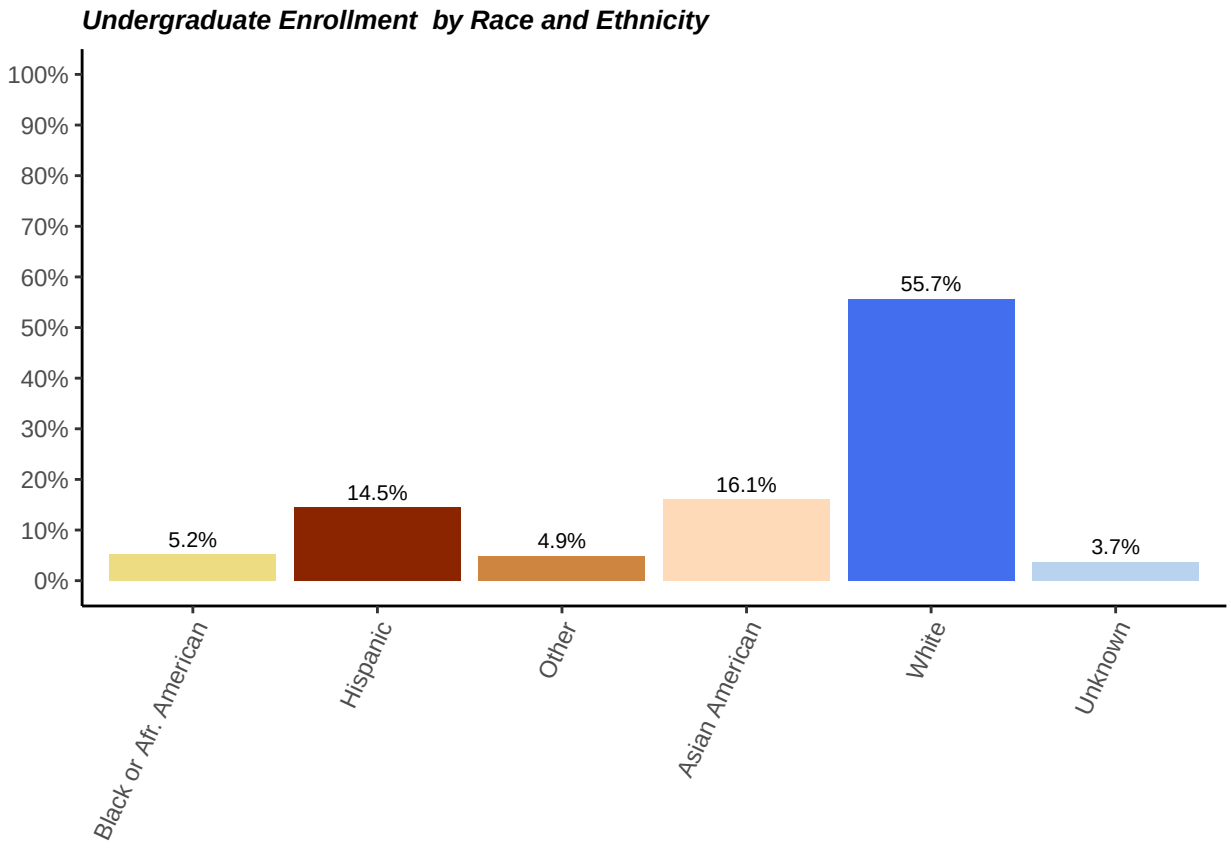
Gender	Percentage
Female	23.8%
Male	76.2%



2.2.6 Undergraduate Enrollment by Race and Ethnicity

Table 34: Undergraduate Enrollment by Race and Ethnicity*

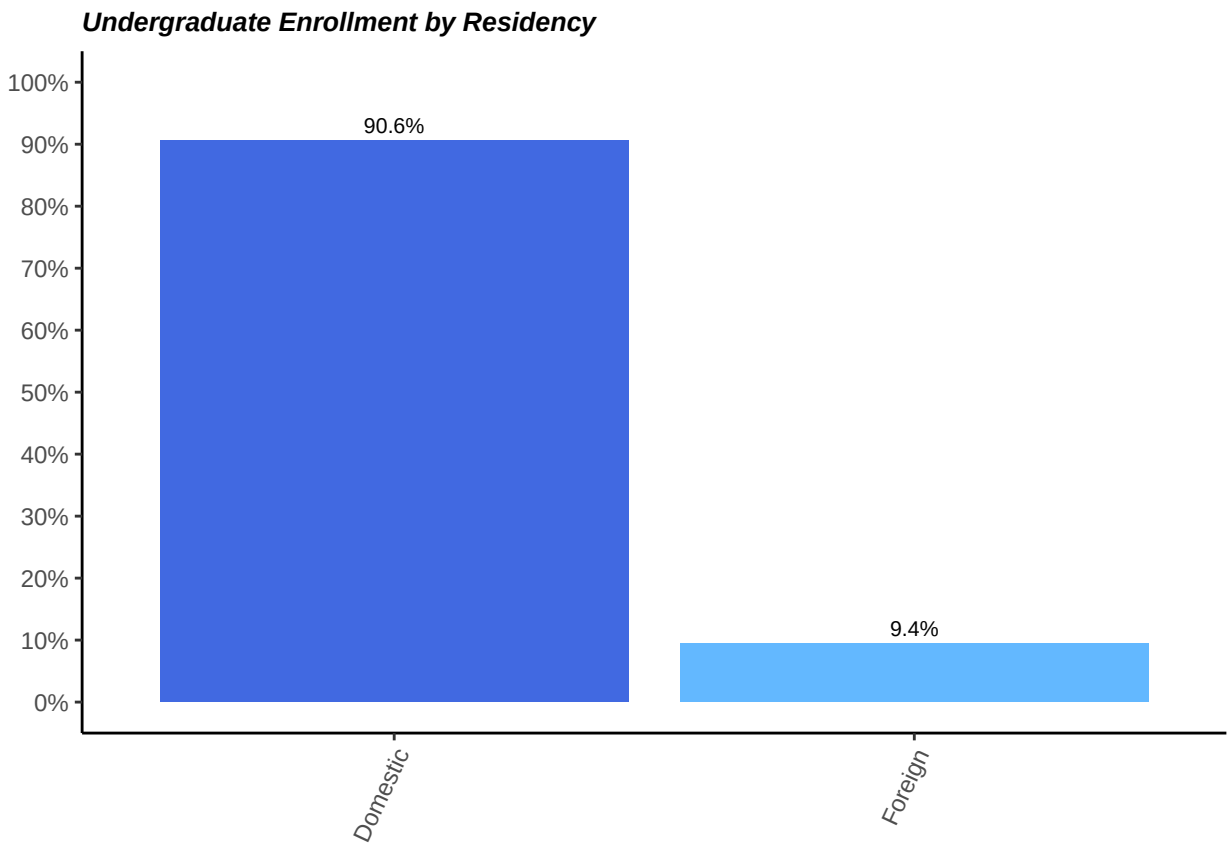
Ethnicity	Percentage
Black or Afr. American	5.2%
Hispanic	14.5%
Other	4.9%
Asian American	16.1%
White	55.7%
Unknown	3.7%



2.2.7 Undergraduate Enrollment by Residency

Table 35: Undergraduate Enrollment by Residency

Nationality	Percentage
Foreign	9.4%
Domestic	90.6%


Undergraduate Enrollment by Residency
100%
90%
80%
70%
60%
50%
40%
30%
20%
10%
0%
90.6%
9.4%
Domestic
Foreign

3 ENGINEERING MASTERS

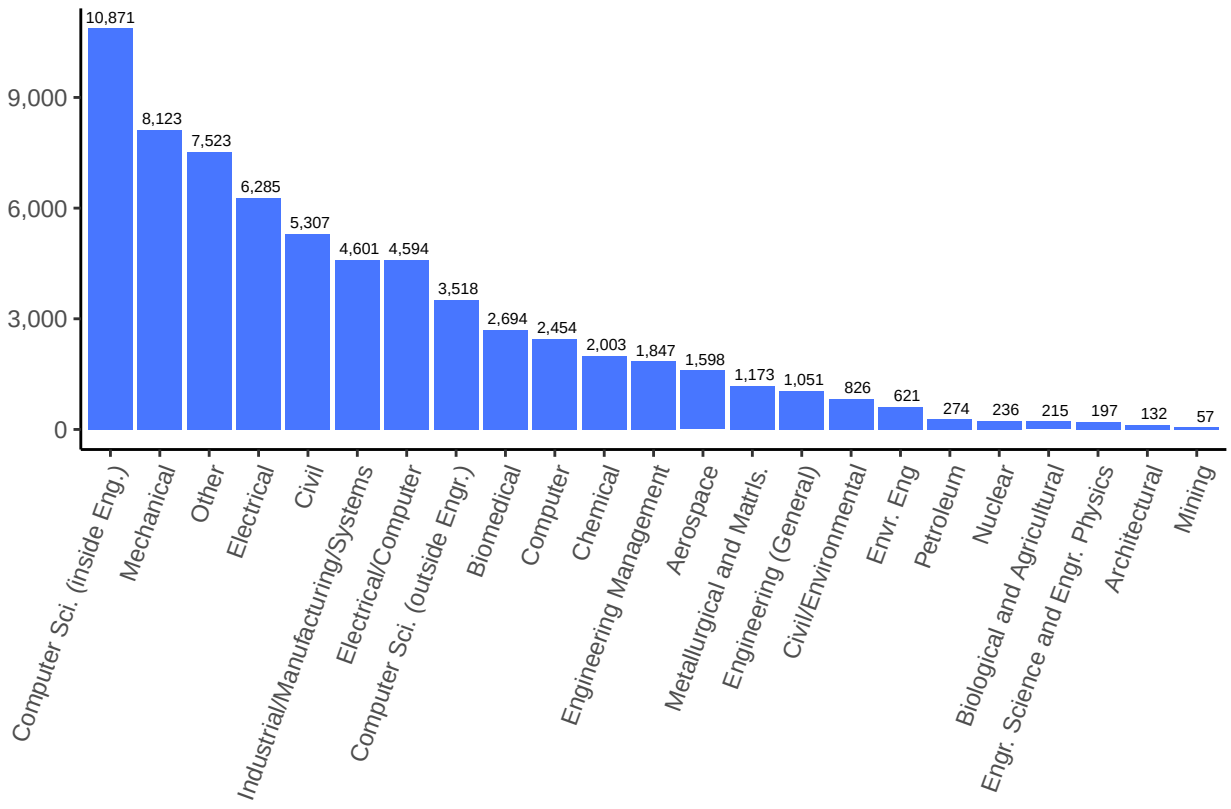
3.1 ENGINEERING MASTER'S DEGREE

3.1.1 Masters Degrees Awarded by Engineering Discipline

Table 36: Masters Degrees by discipline: 62,682

Discipline Name	Degrees Awarded
Computer Sci. (inside Eng.)	10,871
Mechanical	8,123
Other	7,523
Electrical	6,285
Civil	5,307
Industrial/Manufacturing/Systems	4,601
Electrical/Computer	4,594
Computer Sci. (outside Engr.)	3,518
Biomedical	2,694
Computer	2,454
Chemical	2,003
Engineering Management	1,847
Aerospace	1,598
Metallurgical and Matrls.	1,173
Engineering (General)	1,051
Civil/Environmental	826
Envr. Eng	621
Petroleum	274
Nuclear	236
Biological and Agricultural	215
Engr. Science and Engr. Physics	197
Architectural	132
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 37: Master's Degrees Awarded to Underrepresented Minorities by Engineering Discipline: 4,278

Discipline Name	Degrees Awarded
Other	592
Mechanical	577
Civil	537
Computer Sci. (inside Eng.)	474
Industrial/Manufacturing/Systems	339
Electrical	314
Biomedical	235
Engineering Management	223
Electrical/Computer	213
Aerospace	139
Chemical	133
Computer Sci. (outside Engr.)	124
Engineering (General)	121
Computer	85
Metallurgical and Matrls.	83
Civil/Environmental	65
Envr. Eng	65
Petroleum	24
Nuclear	20
Architectural	13
Biological and Agricultural	12
Engr. Science and Engr. Physics	12
Mining	2

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

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

Table 38: Percentage of Master's Degrees Awarded to Underrepresented Minorities by Discipline 6.6 % of Total

Discipline Name	Percent Women
Engineering Management	12.1%
Engineering (General)	11.5%
Envr. Eng	10.5%
Civil	10.1%
Architectural	9.8%
Petroleum	8.8%
Aerospace	8.7%
Biomedical	8.7%
Nuclear	8.5%
Civil/Environmental	7.9%
Other	7.9%
Industrial/Manufacturing/Systems	7.4%
Mechanical	7.1%
Metallurgical and Matrls.	7.1%
Chemical	6.6%
Engr. Science and Engr. Physics	6.1%
Biological and Agricultural	5.6%
Electrical	5%
Electrical/Computer	4.6%
Computer Sci. (inside Eng.)	4.4%
Computer	3.5%
Computer Sci. (outside Engr.)	3.5%
Mining	3.5%

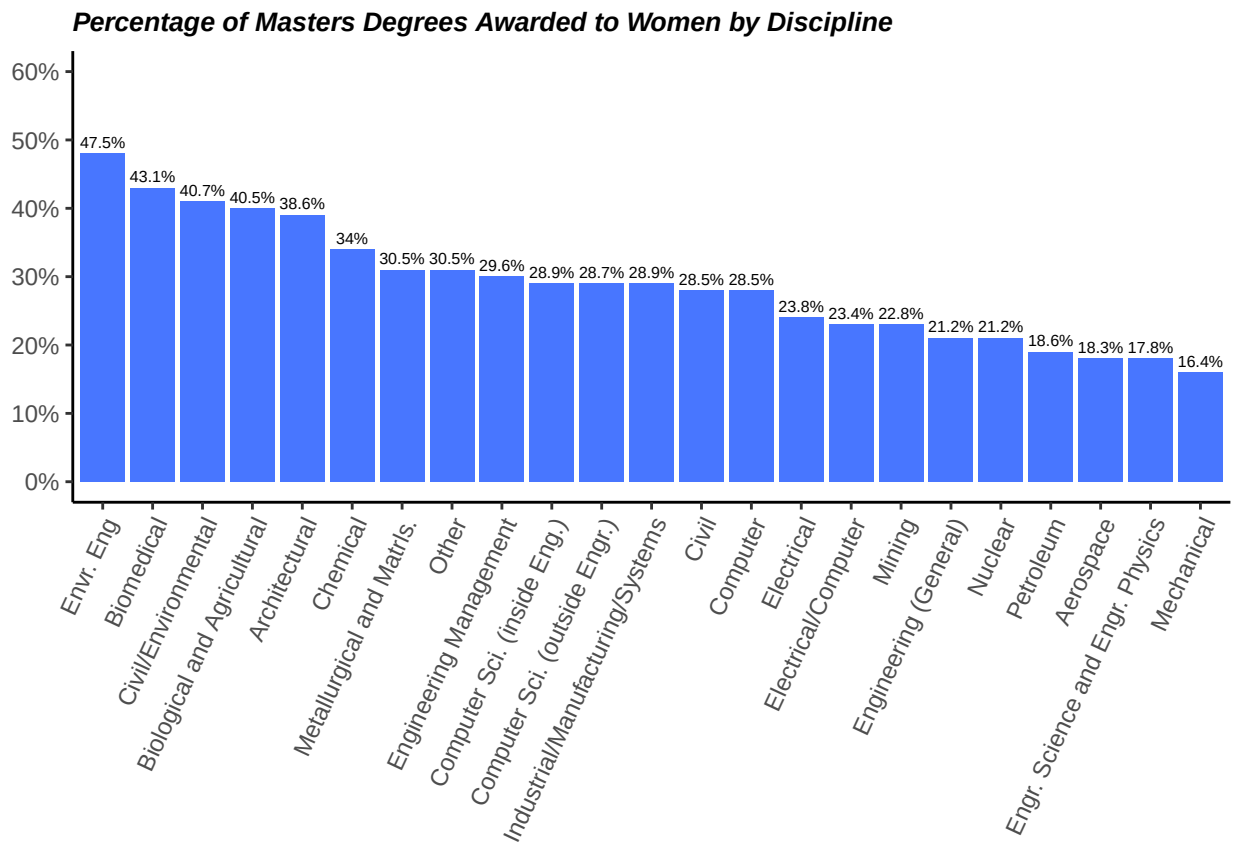
3.1.4 Percentage of Master's Degrees Awarded to Women by Discipline

Table 39: Percentage of Masters Degrees Awarded to Women by Discipline 27.3 % of Total

Discipline Name	Percent Women
Envr. Eng	47.5%
Biomedical	43.1%
Civil/Environmental	40.7%
Biological and Agricultural	40.5%
Architectural	38.6%
Chemical	34%
Metallurgical and Matrls.	30.5%
Other	30.5%
Engineering Management	29.6%

Table 39: Percentage of Masters Degrees Awarded to Women by Discipline 27.3 % of Total *(continued)*

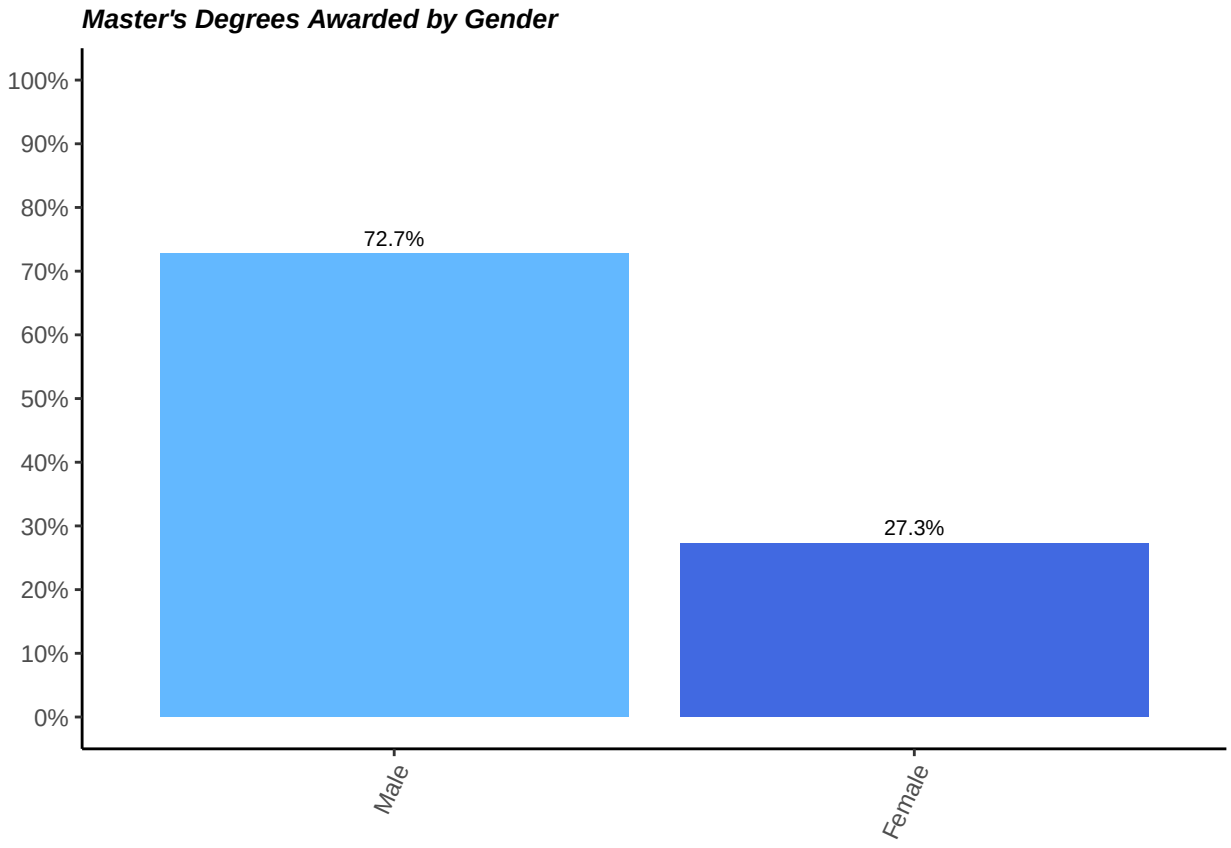
Discipline Name	Percent Women
Computer Sci. (inside Eng.)	28.9%
Industrial/Manufacturing/Systems	28.9%
Computer Sci. (outside Engr.)	28.7%
Civil	28.5%
Computer	28.5%
Electrical	23.8%
Electrical/Computer	23.4%
Mining	22.8%
Engineering (General)	21.2%
Nuclear	21.2%
Petroleum	18.6%
Aerospace	18.3%
Engr. Science and Engr. Physics	17.8%
Mechanical	16.4%



3.1.5 Master's Degrees Awarded by Gender

Table 40: Master's Degrees Awarded by Gender

Gender	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Female	23.00%	22.60%	22.60%	23.10%	23.90%	24.20%	25.40%	25.70%	26.70%	27.30%
Male	77.00%	77.40%	81.60%	76.90%	76.10%	75.80%	74.60%	74.30%	73.30%	72.70%

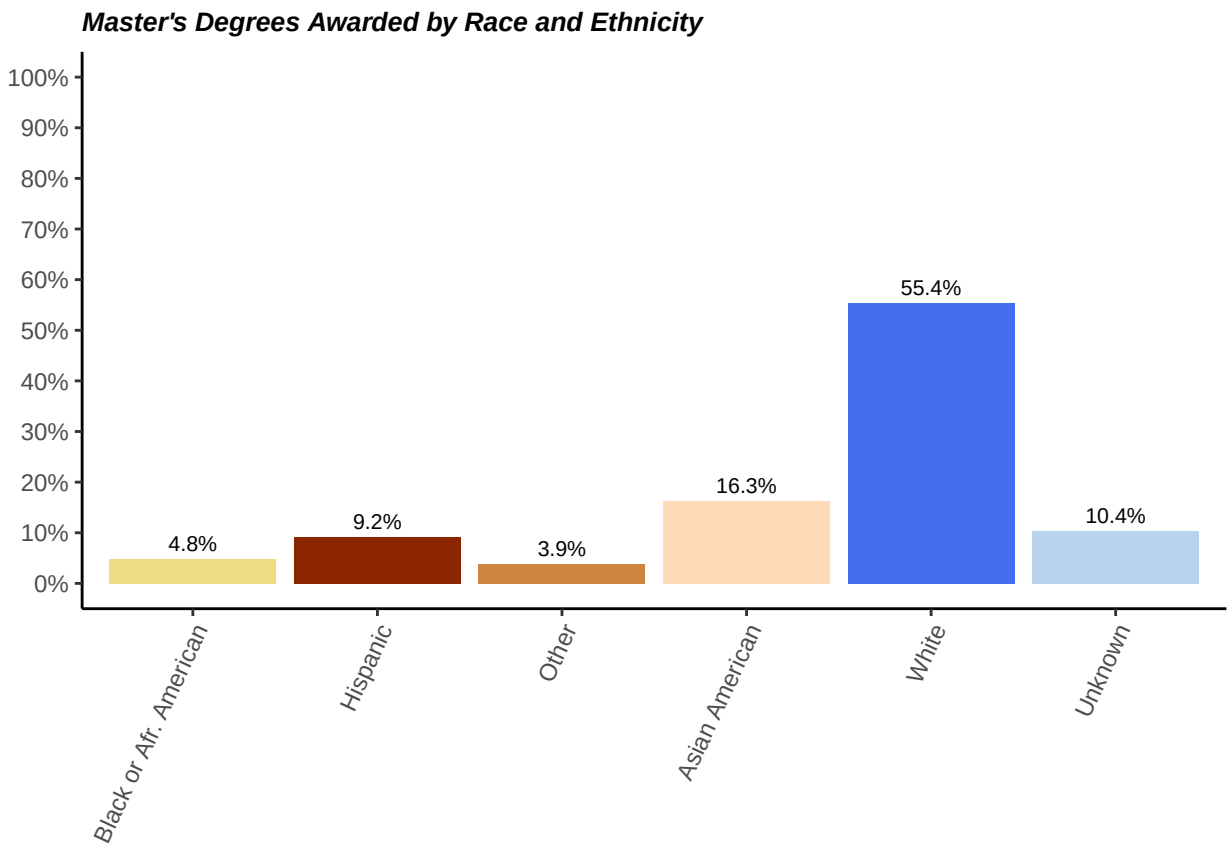


3.1.6 Master's Degrees Awarded by Race and Ethnicity

Table 41: 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%	16.3%
White	60.9%	58.2%	59.7%	59.5%	60.2%	59.5%	60.1%	58.2%	55.4%
Unknown	11.7%	13.6%	11.8%	11.0%	10.6%	9.4%	8.4%	8.6%	10.4%

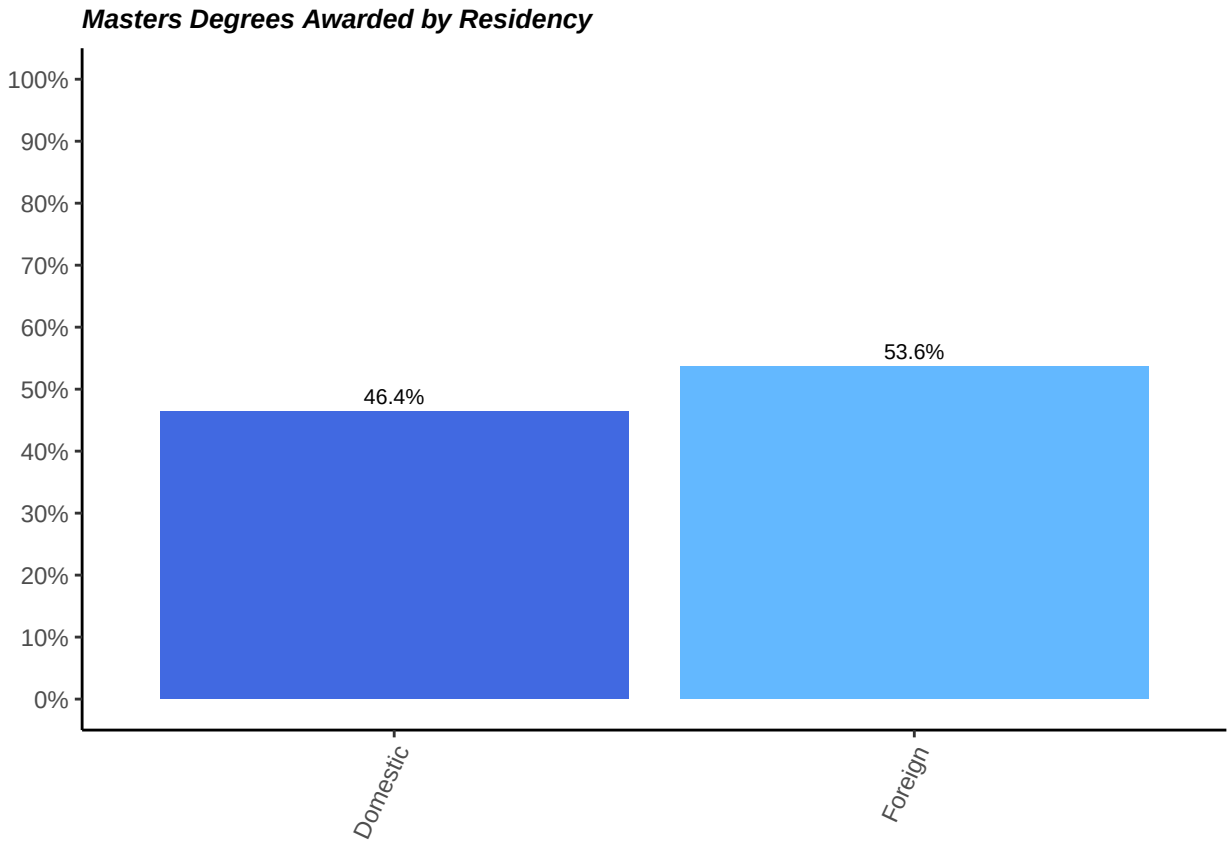
*Data on ethnicity does not include foreign nationals. American Indian/Alaska Native (0.2%), Native Hawaiian/Other Pacfic Islander(0.1%) and Multiracial (3.6%) are combined under Other.



3.1.7 Masters Degrees Awarded by Residency

Table 42: 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%



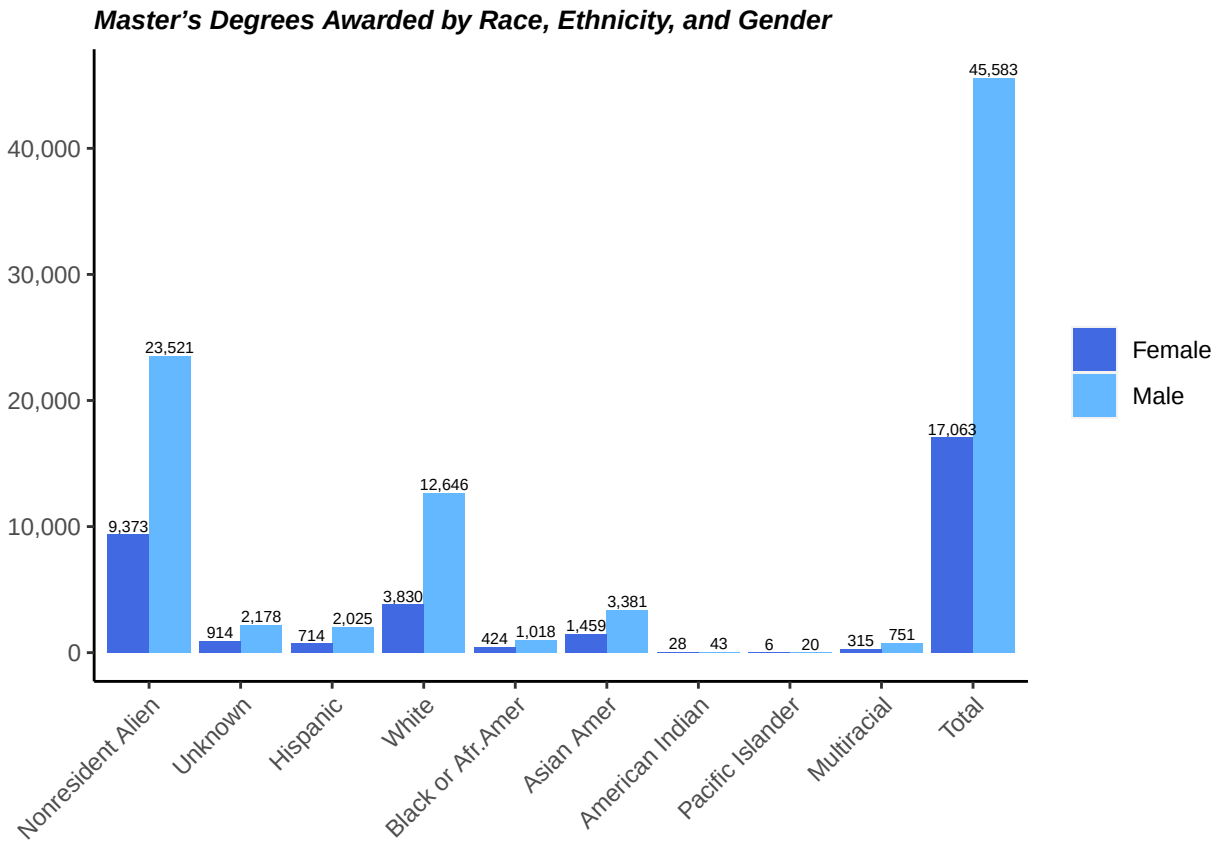
3.1.8 Master's Degrees Awarded by Race, Ethnicity, and Gender

Table 43: Master's Degrees Awarded by Race, Ethnicity, and Gender 62,682*

Ethnicity	Degrees Awarded
Nonresident Alien Male	23,521
Nonresident Alien Female	9,373
Unknown Male	2,178
Unknown Female	914
Hispanic Male	2,025
Hispanic Female	714
White Male	12,646
White Female	3,830
Black or Afr. American Male	1,018
Black or Afr. American Female	424
Asian American Male	3,381
Asian American Female	1,459
American Indian Male	43
American Indian Female	28
Native Hawaiian/Other Pacfic Islander Male	20
Native Hawaiian/Other Pacfic Islander Female	6
Multiracial Male	751
Multiracial Female	315
Total Male	45,583
Total Female	17,063

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

* Includes 34 male and22 female graduates from Puerto Rico.



3.1.9 Top 50 Institutions Awarding Engineering Masters Degrees

Table 44: 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	1,646
4	**Columbia University**	1,486
5	Georgia Institute of Technology	1,481
6	**The Johns Hopkins University**	1,392
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	Cornell University	1,036
12	**San Jose State University**	961
13	Stevens Institute of Technology	936
14	**New Jersey Institute of Technology**	928
15	North Carolina State University	913
16	**The University of Texas at Arlington**	910
17	University of California, Berkeley	897
18	**Texas A&M University**	895
19	University of California, San Diego	892
20	**University of Florida**	823
21	Massachusetts Institute of Technology	821
22	**NYU Tandon School of Engineering**	782
23	The University of Texas at Dallas	758
24	**Stony Brook University**	743
25	University of California, Los Angeles	731
26	**Purdue University**	730
27	University of Washington in Seattle	724
28	**Northwestern University**	683
29	University of Pennsylvania	663
30	**University of Colorado Boulder**	628
31	University of Illinois at Chicago	594
32	**Worcester Polytechnic Institute**	560
33	George Mason University	539
34	**The George Washington University**	531
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	**The University of Texas at Austin**	461
41	Missouri University of Science and Technology	456
42	**University of Minnesota -Twin Cities**	455
43	University of South Florida	454
44	**Boston University**	440
45	Rutgers, The State University of New Jersey, School of Engineering	436
46	**California State University, Fullerton**	432
47	Rochester Institute of Technology	424
48	**Duke University**	420
49	Southern Methodist University	417
50	**University of Cincinnati**	412

Table 44: Top 50 Institutions Awarding Engineering Master's Degr
(continued)

No	Institutions	Degrees Awarded

* 422 Institutions included

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

Table 45: 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
2	The Johns Hopkins University	131
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**	85
8	University of Southern California	85
10	**Cornell University**	70
11	University of Florida	69
12	**University of Michigan**	68
13	Carnegie Mellon University	63
14	**California State University, Fullerton**	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	53
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 46: 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	**Morgan State University**	20.8%
33	Fairleigh Dickinson University-Metropolitan Campus	20%
33	**SUNY Polytechnic Institute**	20%
35	University of Miami	18.9%
36	**Princeton University**	17.4%
37	Pace University	16.7%
37	**University of Southern Mississippi**	16.7%
39	Tennessee State University	15.8%
40	**Northern Arizona University**	15.4%
41	University of Saint Thomas	15.2%
42	**Old Dominion University**	15.1%
43	California State University, Los Angeles	14.9%

Table 46: 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%
46	**University of Central Oklahoma**	14.3%

* 422 Institutions included

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

Table 47: 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	**University of Georgia**	53.3%
7	Capitol Technology University	50%
7	**Central Connecticut State University**	50%
7	Lipscomb University	50%
7	**Pennsylvania State University-Penn State Great Valley**	50%
7	Tulane University	50%
7	**University of South Dakota**	50%
13	Dartmouth College	46.2%
14	**The University of Memphis**	44.4%
15	Monmouth University	43.8%
16	**Tufts University**	43.5%
17	Princeton University	43.5%
18	**University of California, Merced**	43.3%
19	Georgia Southern University	42.9%
19	**University of Central Oklahoma**	42.9%

* 422 included

3.1.13 Top 20 Institutions by Total Masters's Degrees awarded in Engineering (General)

Table 48: Top 20 Institutions by Total Master's Degrees awarded in Engineering (General)

No	Institutions	Degrees Awarded
1	Old Dominion University	100
2	**Lamar University**	95
3	Arizona State University	90
4	**Oklahoma Christian University**	60
5	University of Oklahoma, Gallogly College of Engineering	41
6	**San Francisco State University**	40
7	University of Arkansas	39
7	**University of Wisconsin, Platteville**	39
9	California State University-Fresno	37
10	**Marshall University**	32
10	University of the Pacific	32
12	**Villanova University**	30
13	Eastern Michigan University	27
13	**The University of Tennessee-Chattanooga**	27
15	University of Massachusetts Lowell	24
16	**Prairie View A & M University**	23
16	Purdue University Fort Wayne	23
18	**Texas State University**	22
19	University of Georgia	21
20	**Case Western Reserve University**	19

* 129 Institutions included

3.2 ENGINEERING MASTER'S ENROLLMENT

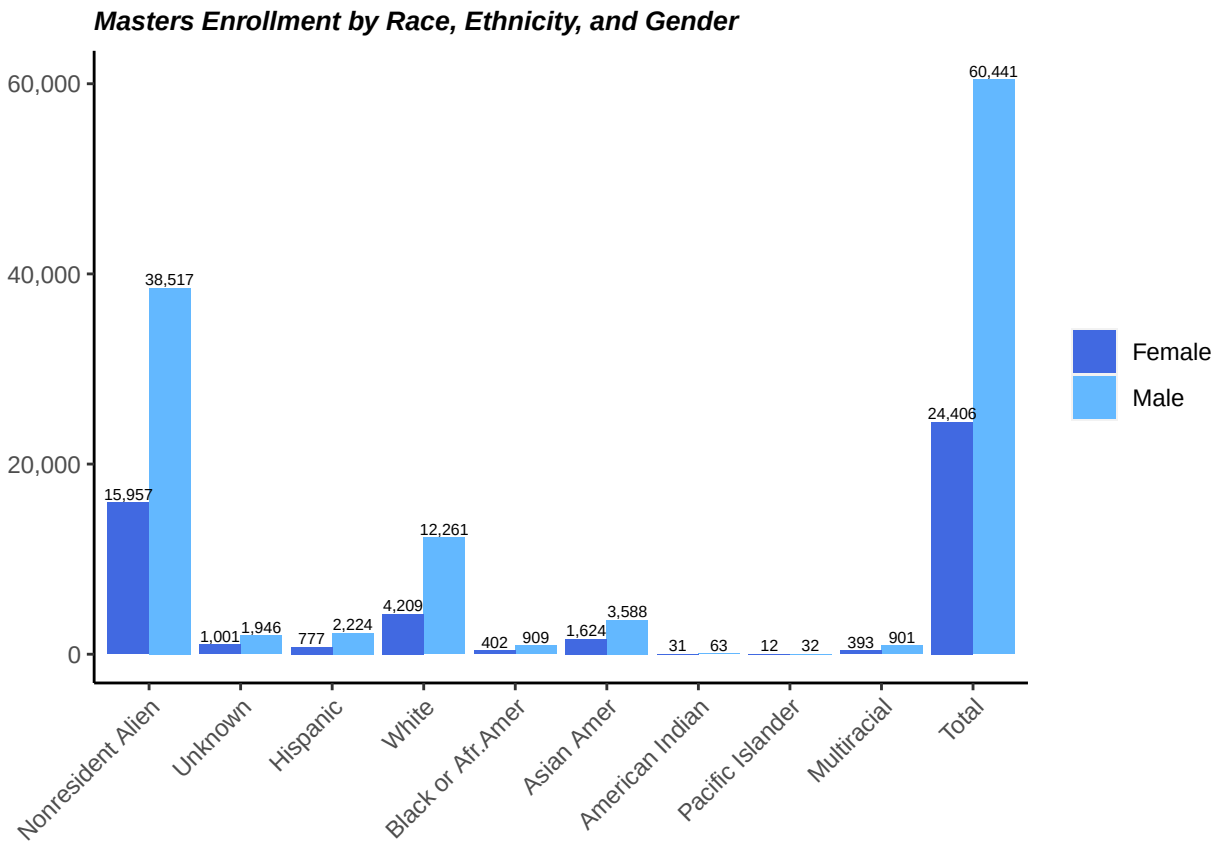
3.2.1 Masters Enrollment by Race, Ethnicity, and Gender

Table 49: Master's Enrollment Awarded by Race, Ethnicity, and Gender 84,847*

Ethnicity	Enrollments
Nonresident Alien Male	38,517
Nonresident Alien Female	15,957
Unknown Male	1,946
Unknown Female	1,001
Hispanic Male	2,224
Hispanic Female	777
White Male	12,261
White Female	4,209
Black or Afr. American Male	909
Black or Afr. American Female	402
Asian American Male	3,588
Asian American Female	1,624
American Indian Male	63
American Indian Female	31
Native Hawaiian/Other Pacfic Islander Male	32
Native Hawaiian/Other Pacfic Islander Female	12
Multiracial Male	901
Multiracial Female	393
Total Male	60,441
Total Female	24,406

* Total Enrollment includes is for full time students

* Includes 112 male and 44 female.



3.2.2 Top 50 Institutions with Highest Graduate Enrollment

Table 50: 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
9	Purdue University	4,110
10	**Texas A&M University**	3,690
11	Stanford University	3,637
12	**North Carolina State University**	3,574
13	University of Michigan	3,531
14	**University of Arizona**	3,186
15	University of California, San Diego	3,174
16	**Massachusetts Institute of Technology**	3,140

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

No	Institutions	Enrollment
17	NYU Tandon School of Engineering	2,878
18	**University of Washington in Seattle**	2,781
19	University of Florida	2,619
20	**The University of Texas at Arlington**	2,568
21	Cornell University	2,557
22	**The University of Texas at Austin**	2,549
23	University of California, Berkeley	2,373
24	**Virginia Polytechnic Institute and State University**	2,206
25	University of Pennsylvania	2,199
26	**Northwestern University**	2,198
27	The University of Texas at Dallas	2,195
28	**University of California, Los Angeles**	2,193
29	San Jose State University	2,184
30	**The Pennsylvania State University**	2,167
31	University of Maryland, College Park	2,102
32	**University of Colorado Boulder**	2,097
33	New Jersey Institute of Technology	2,005
34	**Stevens Institute of Technology**	1,961
35	The George Washington University	1,949
36	**University of Wisconsin-Madison**	1,858
37	The Ohio State University	1,812
38	**George Mason University**	1,782
39	University of Minnesota -Twin Cities	1,776
40	**University of Central Florida**	1,754
41	University of California, Irvine	1,696
42	**Stony Brook University**	1,574
43	University at Buffalo, SUNY	1,567
44	**Clemson University**	1,534
45	Washington University in St. Louis	1,474
46	**Duke University**	1,462
47	Colorado School of Mines	1,384
48	**Boston University**	1,344
49	Iowa State University	1,340
50	**University of Utah**	1,321

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

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

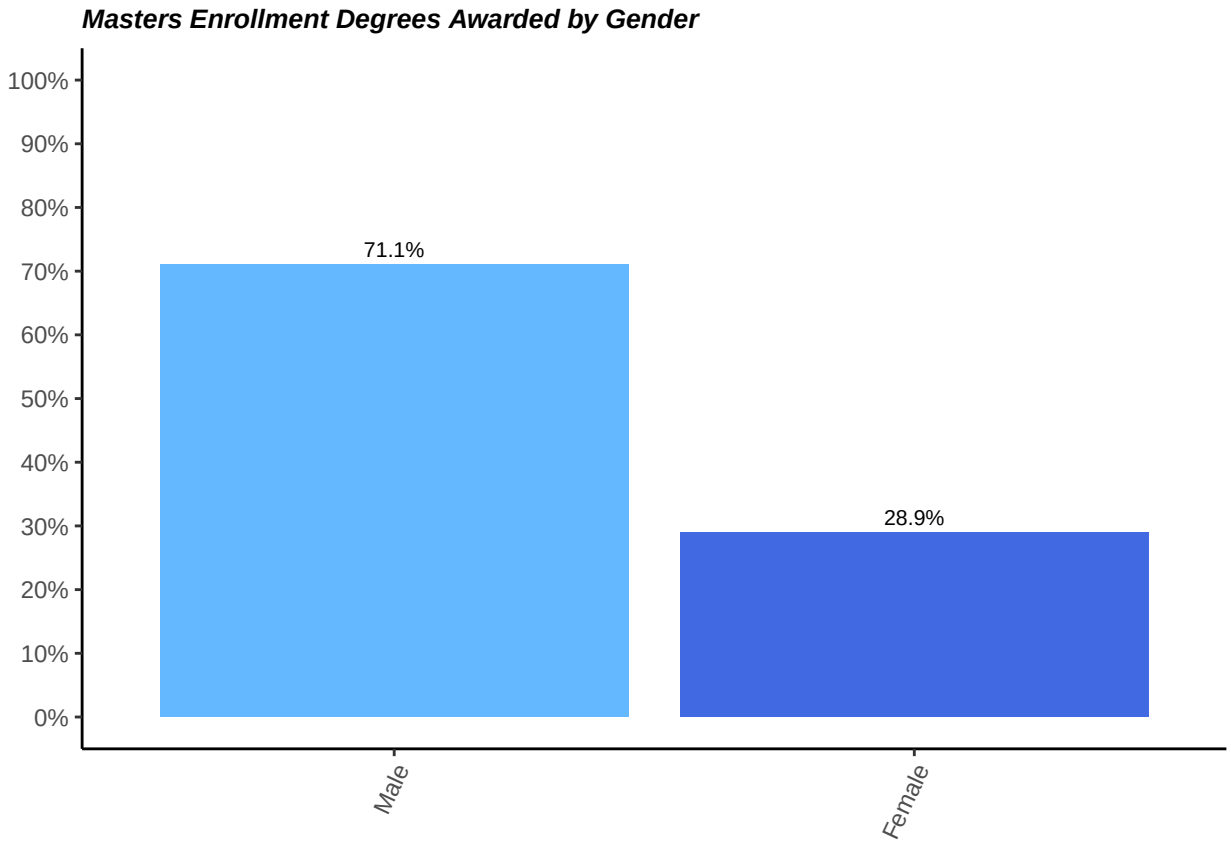
Table 51: Masters Enrollment by Engineering Discipline:(Full time and Part time)

Discipline Name	Full Time	Part Time
Aerospace	2,164	1,415
Architectural	127	27
Biological and Agricultural	449	109
Biomedical	3,548	939
Chemical	2,237	640
Civil	5,819	3,266
Civil/Environmental	1,237	318
Computer	3,404	1,281
Computer Sci. (inside Eng.)	19,291	8,006
Electrical	8,000	3,801
Electrical/Computer	6,478	2,387
Engineering (General)	788	1,105
Engineering Management	2,530	3,110
Engr. Science and Engr. Physics	155	156
Envr. Eng	707	495
Industrial/Manufacturing/Systems	5,461	4,091
Mechanical	10,271	5,280
Metallurgical and Matrls.	1,563	579
Mining	79	48
Nuclear	305	175
Other	9,896	5,228
Petroleum	338	123

3.2.4 Masters Enrollment by Gender

Table 52: Masters Enrollment by Gender

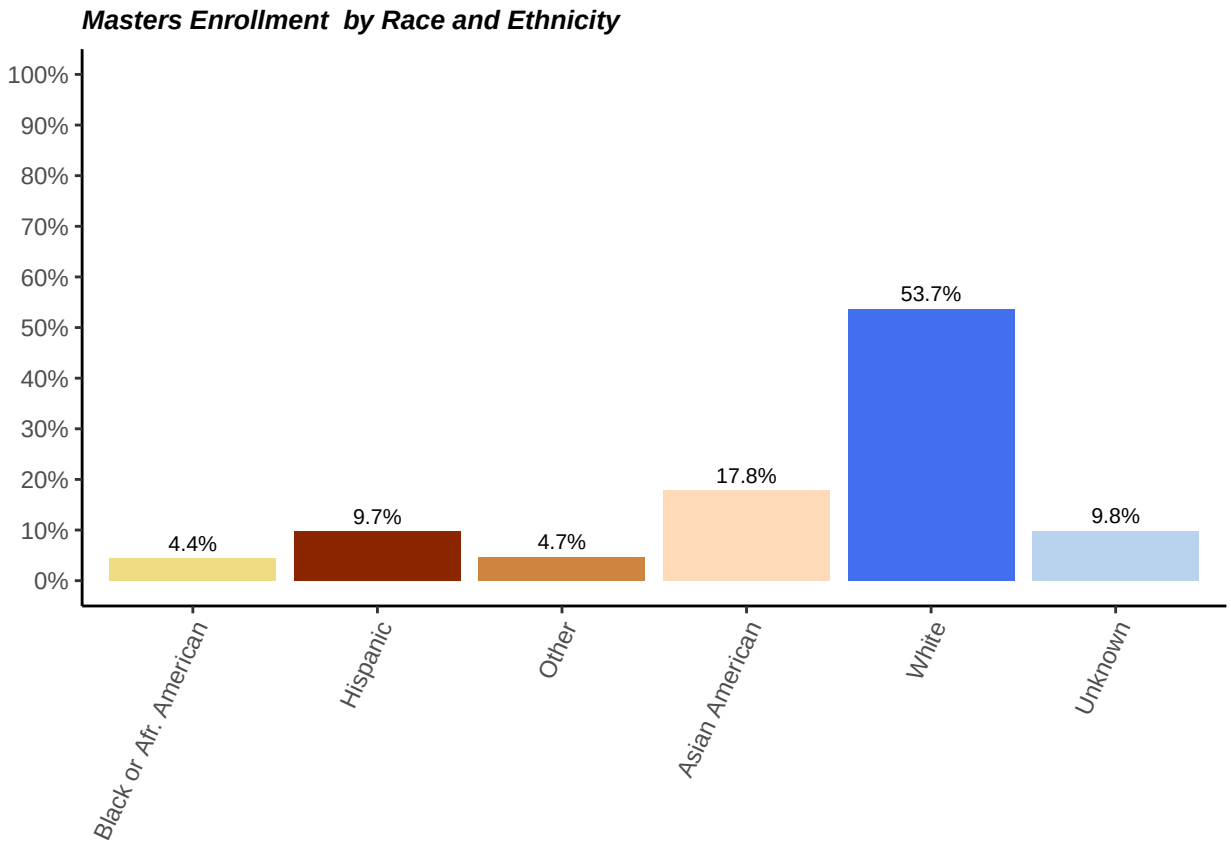
Gender	Percentage
Female	28.9%
Male	71.1%



3.2.5 Masters Enrollment by Race and Ethnicity

Table 53: Masters Enrollment by Race and Ethnicity*

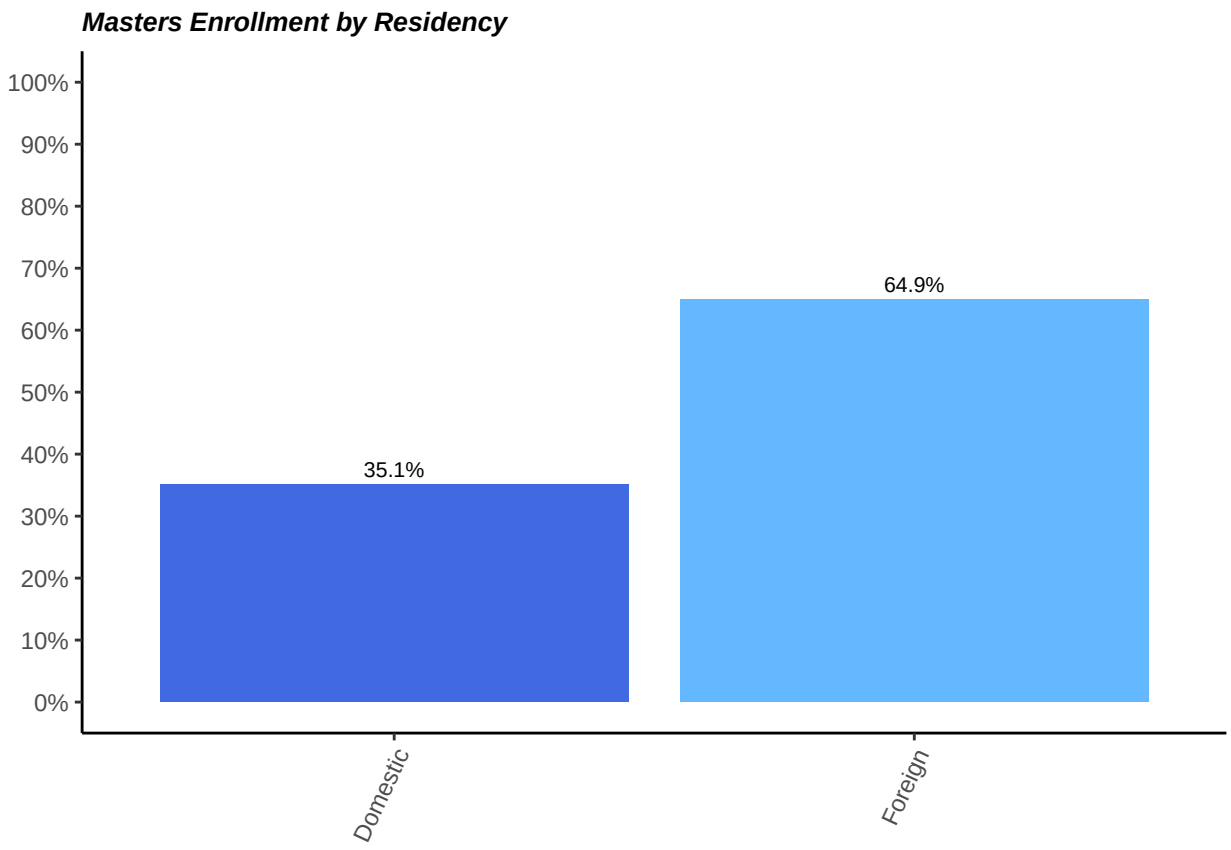
Ethnicity	Percentage
Black or Afr. American	4.4%
Hispanic	9.7%
Other	4.7%
Asian American	17.8%
White	53.7%
Unknown	9.8%



3.2.6 Masters Enrollment by Residency

Table 54: Masters Enrollment by Residency

Nationality	Percentage
Foreign	64.9%
Domestic	35.1%


Masters Enrollment by Residency
100%
90%
80%
70%
60%
50%
40%
30%
20%
10%
0%
35.1%
64.9%
Domestic
Foreign

4 ENGINEERING DOCTORAL

4.1 ENGINEERING DOCTORAL DEGREES

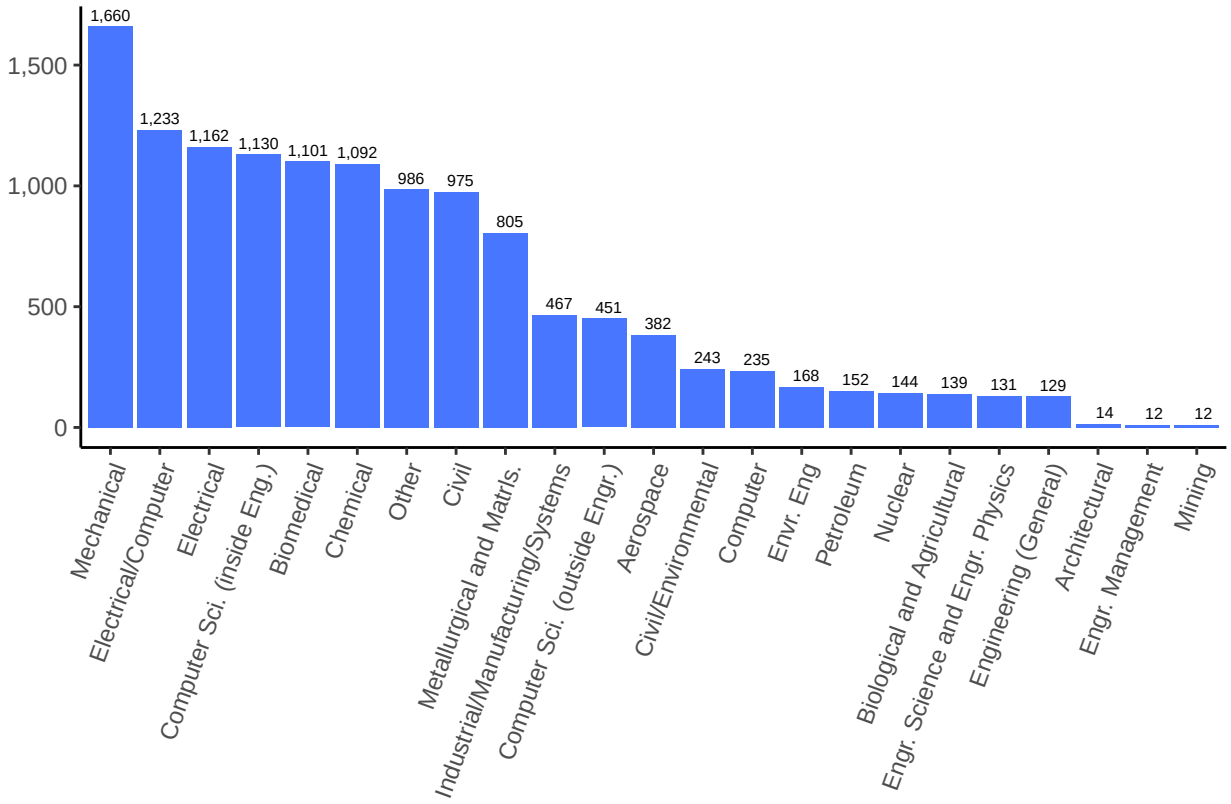
4.1.1 Doctoral Degrees Awarded by Engineering Discipline

Table 55: Doctoral Degrees by discipline: 12,372

Discipline Name	Degrees Awarded
Mechanical	1,660
Electrical/Computer	1,233
Electrical	1,162
Computer Sci. (inside Eng.)	1,130
Biomedical	1,101
Chemical	1,092
Other	986
Civil	975
Metallurgical and Matrls.	805
Industrial/Manufacturing/Systems	467
Computer Sci. (outside Engr.)	451
Aerospace	382
Civil/Environmental	243
Computer	235
Envr. Eng	168
Petroleum	152
Nuclear	144
Biological and Agricultural	139
Engr. Science and Engr. Physics	131
Engineering (General)	129
Architectural	14
Engr. Management	12
Mining	12

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

Doctoral Degrees Awarded by Engineering Discipline



4.1.2 Total Doctoral Degrees Awarded to Underrepresented Minorities by Engineering Discipline

Table 56: Doctoral Degrees Awarded to Underrepresented Minorities by Engineering Discipline: 568

Discipline Name	Degrees Awarded
Biomedical	91
Other	76
Chemical	68
Mechanical	61
Civil	38
Computer Sci. (inside Eng.)	37
Electrical/Computer	37
Metallurgical and Matrls.	31
Industrial/Manufacturing/Systems	30
Electrical	26
Aerospace	18
Envr. Eng	13
Civil/Environmental	11
Nuclear	9
Biological and Agricultural	6
Computer	5
Computer Sci. (outside Engr.)	5
Engineering (General)	4
Petroleum	4
Engr. Science and Engr. Physics	3
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 57: Percentage of Doctoral Degrees Awarded to Underrepresented Minorities by Discipline 4.4 % of Total

Discipline Name	Percent Women
Biomedical	8.3%
Envr. Eng	7.7%
Other	7.7%
Industrial/Manufacturing/Systems	6.4%
Chemical	6.2%
Nuclear	6.2%
Aerospace	4.7%
Civil/Environmental	4.5%
Biological and Agricultural	4.3%
Civil	3.9%
Metallurgical and Matrls.	3.9%
Mechanical	3.7%
Computer Sci. (inside Eng.)	3.3%
Engineering (General)	3.1%
Electrical/Computer	3%
Petroleum	2.6%
Engr. Science and Engr. Physics	2.3%
Electrical	2.2%
Computer	2.1%
Computer Sci. (outside Engr.)	1.1%
Architectural	0%
Engr. Management	0%
Mining	0%

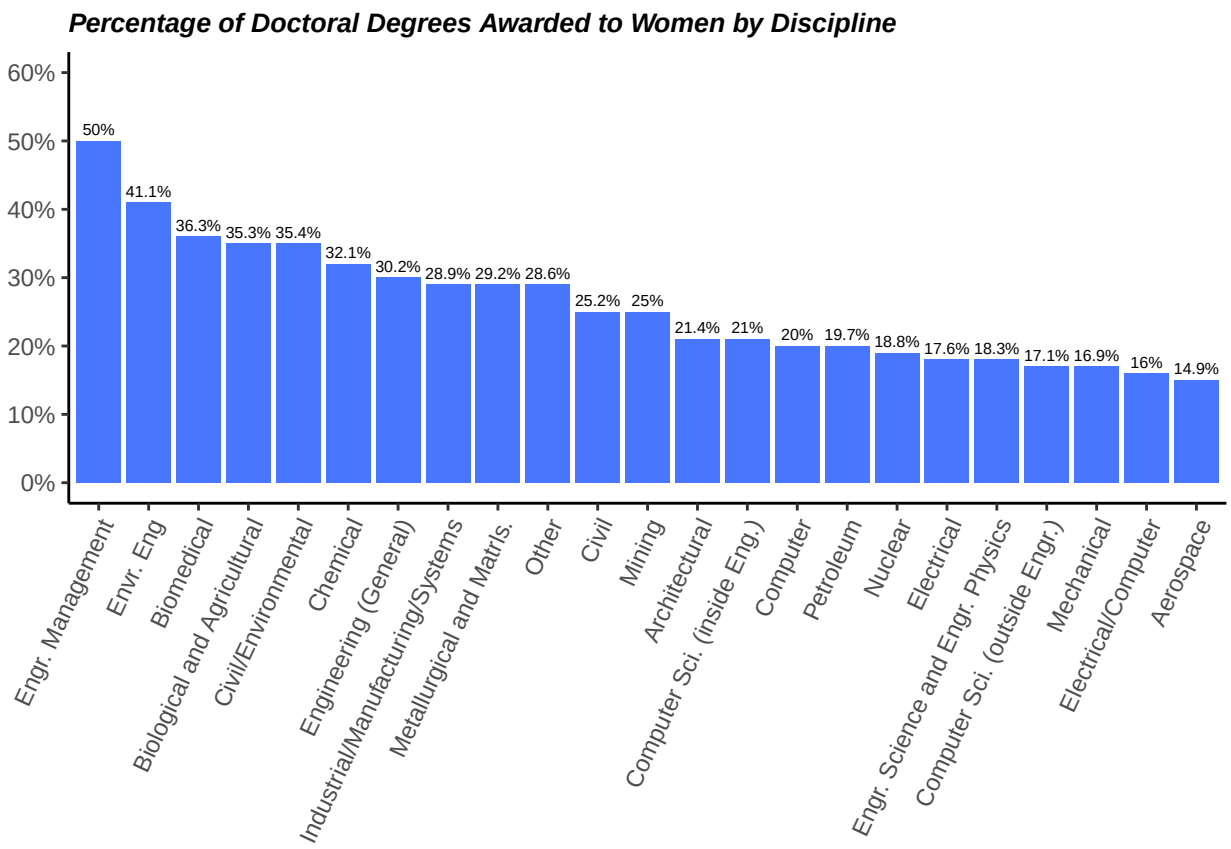
4.1.4 Percentage of Doctoral Degrees Awarded to Women by Discipline

Table 58: Percentage of Doctoral Degrees Awarded to Women by Discipline 24.1 % of Total

Discipline Name	Percent Women
Engr. Management	50%
Envr. Eng	41.1%
Biomedical	36.3%
Civil/Environmental	35.4%
Biological and Agricultural	35.3%
Chemical	32.1%
Engineering (General)	30.2%
Metallurgical and Matrls.	29.2%
Industrial/Manufacturing/Systems	28.9%

Table 58: Percentage of Doctoral Degrees Awarded to Women by Discipline 24.1 % of Total *(continued)*

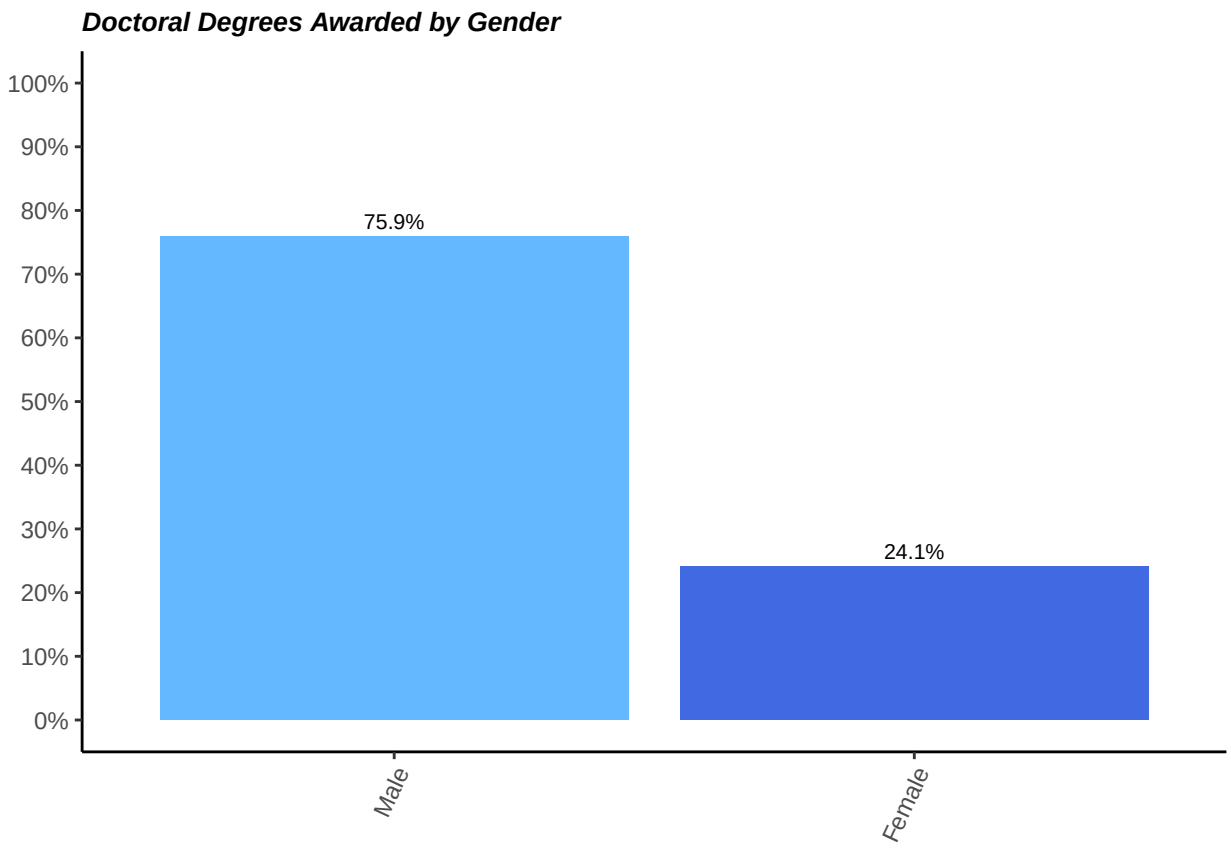
Discipline Name	Percent Women
Other	28.6%
Civil	25.2%
Mining	25%
Architectural	21.4%
Computer Sci. (inside Eng.)	21%
Computer	20%
Petroleum	19.7%
Nuclear	18.8%
Engr. Science and Engr. Physics	18.3%
Electrical	17.6%
Computer Sci. (outside Engr.)	17.1%
Mechanical	16.9%
Electrical/Computer	16%
Aerospace	14.9%



4.1.5 Doctoral Degrees Awarded by Gender

Table 59: Doctoral Degrees Awarded by Gender

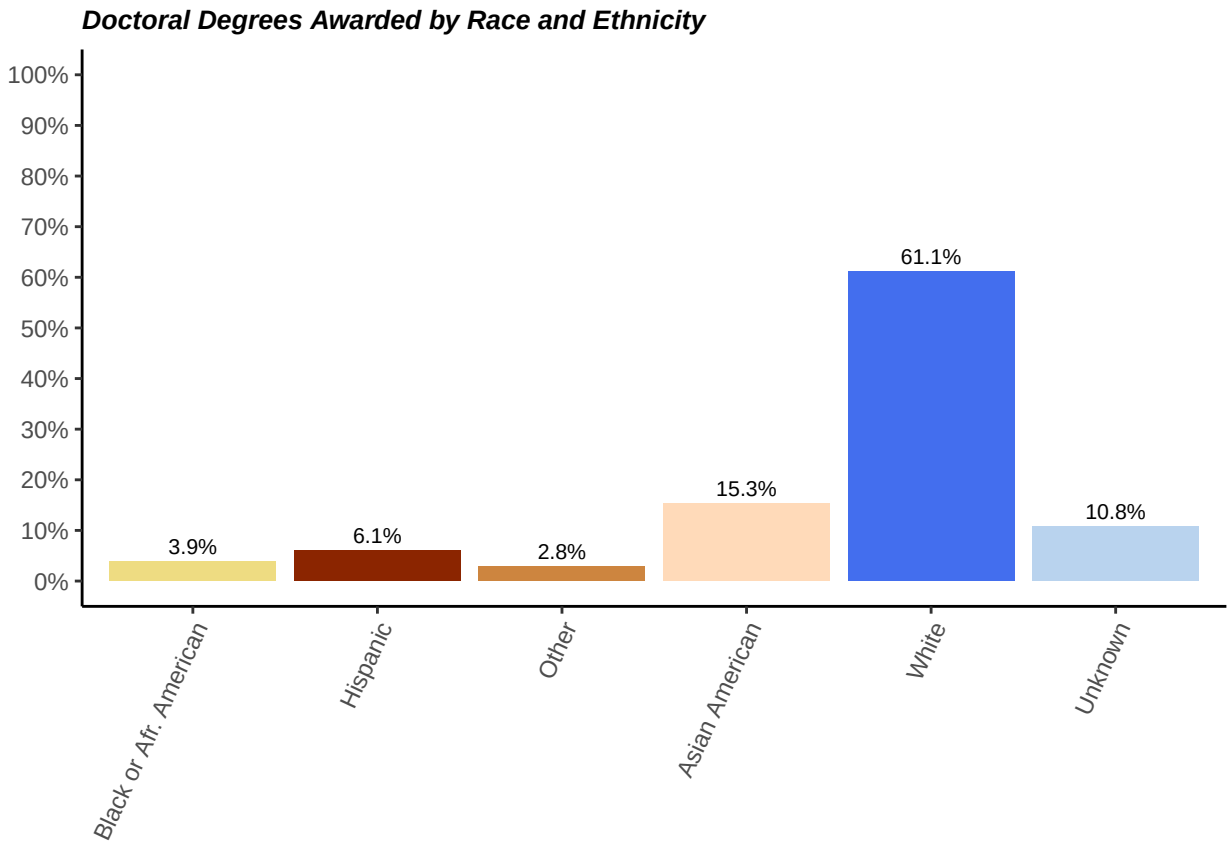
Gender	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Female	21.20%	22.90%	21.80%	22.20%	22.40%	22.20%	23.30%	23.50%	23.60%	24.10%
Male	78.80%	77.10%	78.20%	77.80%	77.60%	77.80%	76.70%	76.50%	76.40%	75.90%



4.1.6 Doctoral Degrees Awarded by Race and Ethnicity

Table 60: Doctoral Degrees Awarded by Ethnicity

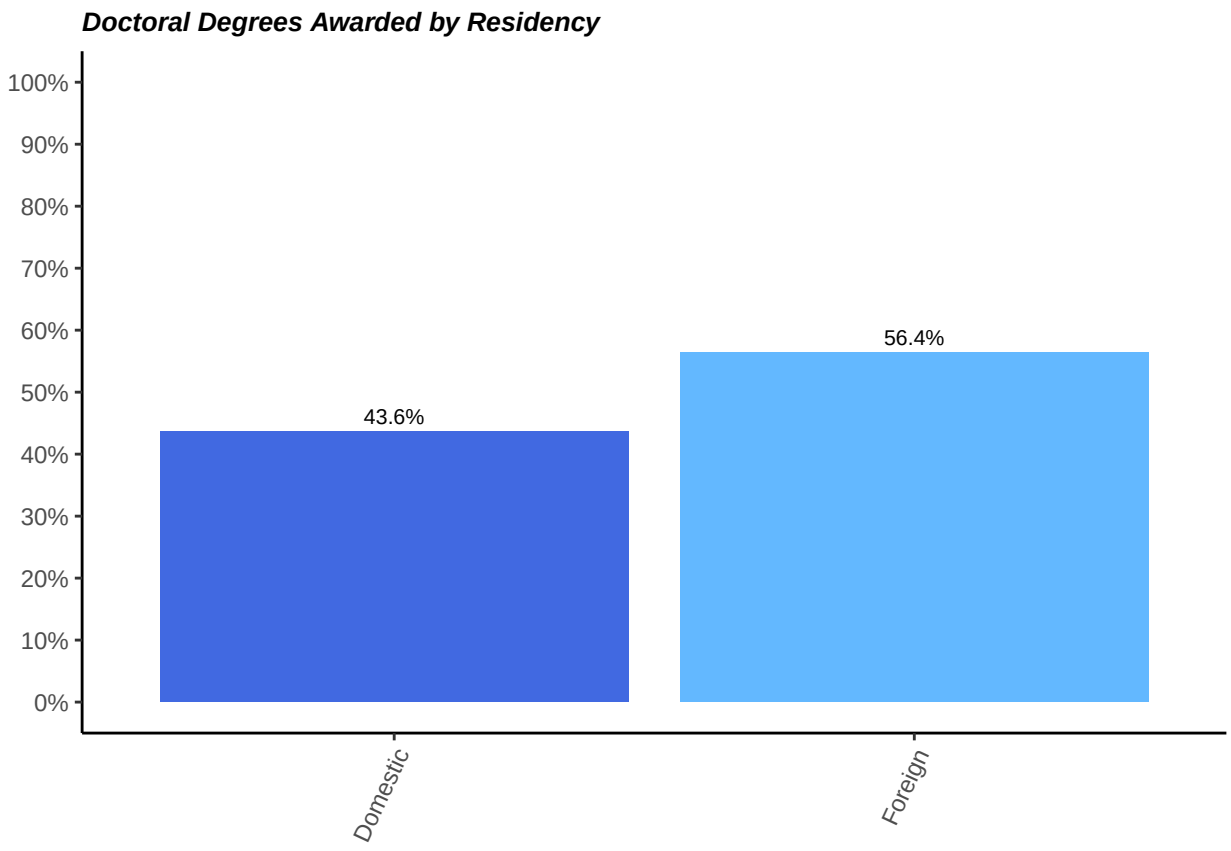
Ethnicity	2011	2012	2013	2014	2015	2016	2017	2018	2019
Black or Afr. American	3.5%	4.1%	4.1%	3.6%	3.2%	4.4%	3.8%	4.2%	3.9%
Hispanic	4.2%	4.1%	4.7%	5.1%	6.1%	5.7%	6.3%	6.0%	6.1%
Other	1.6%	1.7%	1.7%	1.6%	2.2%	3.1%	2.9%	2.9%	2.8%
Asian American	15.1%	14.1%	13.5%	10.4%	14.1%	14.9%	14.8%	13.9%	15.3%
White	60.3%	61.1%	61.8%	65.1%	62.9%	62.0%	62.2%	62.0%	61.1%
Unknown	15.3%	14.9%	14.2%	14.2%	11.5%	9.9%	10.0%	11.1%	10.8%



4.1.7 Doctoral Degrees Awarded by Residency

Table 61: 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%	56.4%
Domestic	45.8%	45.8%	46.7%	44.9%	45.2%	45.3%	45.2%	44.3%	43.7%	43.6%



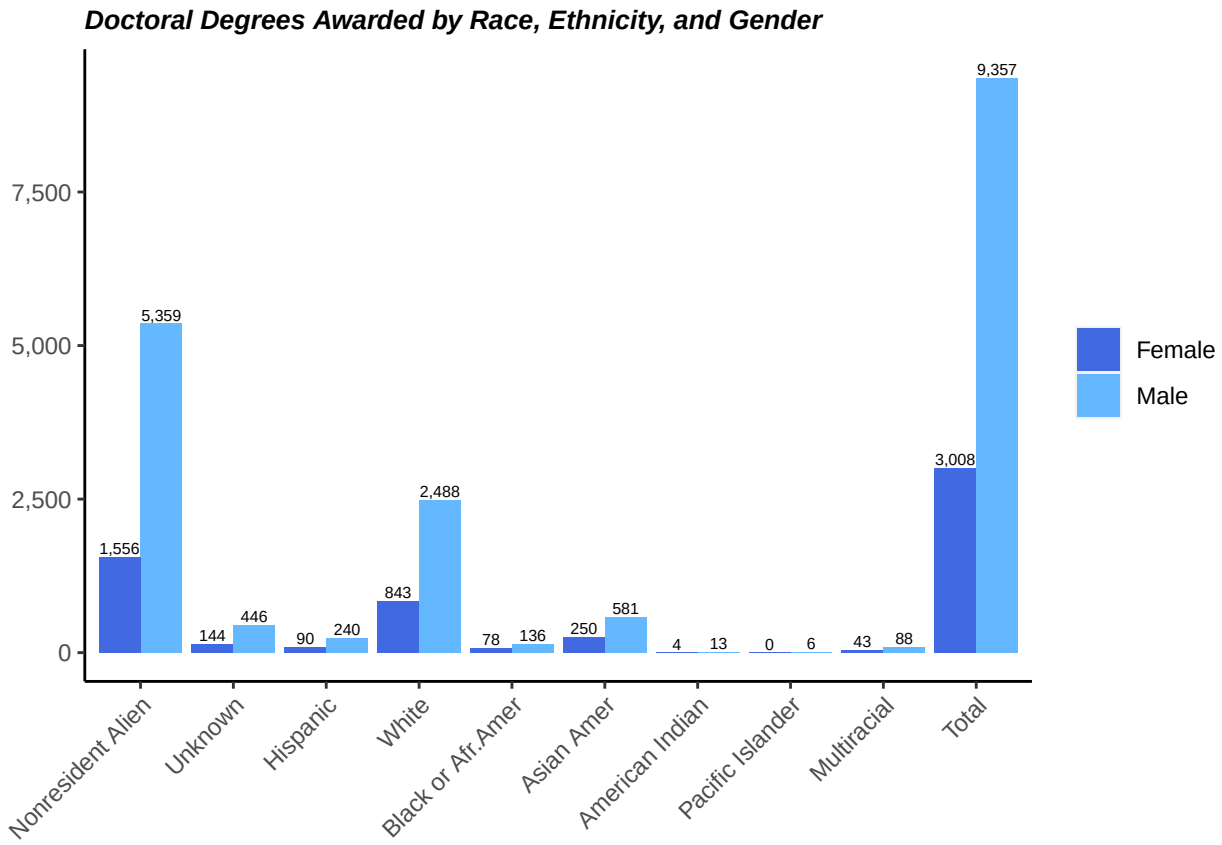
4.1.8 Doctoral Degrees Awarded by Race, Ethnicity, and Gender

Table 62: Doctoral Degrees Awarded by Race, Ethnicity, and Gender 12,372*

Ethnicity	Degrees
Nonresident Alien Male	5,359
Nonresident Alien Female	1,556
Unknown Male	446
Unknown Female	144
Hispanic Male	240
Hispanic Female	90
White Male	2,488
White Female	843
Black or Afr. American Male	136
Black or Afr. American Female	78
Asian American Male	581
Asian American Female	250
American Indian Male	13
American Indian Female	4
Native Hawaiian/Other Pacfic Islander Male	6
Native Hawaiian/Other Pacfic Islander Female	0
Multiracial Male	88
Multiracial Female	43
Total Male	9,357
Total Female	3,008

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

* Includes 11 male and0 female graduates from Puerto Rico.



4.1.9 Top 50 Institutions Awarding Engineering Doctoral Degrees

Table 63: 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	University of California, San Diego	184
13	**University of Washington in Seattle**	184
15	University of Southern California	182
16	**University of Wisconsin-Madison**	178
17	The Pennsylvania State University	174
18	**Cornell University**	169
18	The Ohio State University	169
20	**University of Florida**	166
21	University of Minnesota -Twin Cities	162
22	**North Carolina State University**	159
23	University of California, Los Angeles	158
24	**Arizona State University**	157
25	Northwestern University	150
26	**Iowa State University**	143
27	Columbia University	136
27	**The George Washington University**	136
29	University of California, Irvine	135
30	**University of Colorado Boulder**	131
31	The Johns Hopkins University	121
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 64: Top 20 Institutions by Total Doctoral Degrees awarded to Underrepresented Minorities

No	Institutions	Degrees Awarded
1	The George Washington University	30
2	**Georgia Institute of Technology**	24
2	Massachusetts Institute of Technology	24
4	**Stanford University**	20
5	University of California, Riverside	16
5	**University of Michigan**	16
7	University of Florida	15
8	**University of California, Berkeley**	14
9	University of Puerto Rico, Mayaguez Campus	11
10	**Northwestern University**	10
10	Purdue University	10
10	**University of California, Los Angeles**	10
10	University of Maryland, College Park	10
14	**Cornell University**	9
14	University of California, San Diego	9
14	**University of Central Florida**	9
14	University of Washington in Seattle	9
14	**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 65: 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 George Washington University	22.1%
8	**The University of Texas at El Paso**	21.1%
9	University of California, Riverside	17.6%
10	**California State University, Long Beach**	16.7%
10	University of North Carolina at Chapel Hill	16.7%
12	**University of Hawaii at Manoa**	14.3%
12	University of North Dakota	14.3%
12	**University of Southern Mississippi**	14.3%
15	University of Maryland, Baltimore County	13.9%
16	**University of Rhode Island**	12.5%
17	The University of Texas at San Antonio	12.1%
18	**University of Arkansas**	11.4%
19	Howard University	11.1%
20	**City College of the City University of New York**	10.3%
21	Embry Riddle Aeronautical University-Daytona Beach	9.1%
21	**Ohio University**	9.1%
21	Vanderbilt University	9.1%
24	**University of Florida**	9%
25	The University of New Mexico	8.9%
26	**University of South Carolina**	8.9%
27	University of California-Santa Cruz	8.7%
28	**University of Notre Dame**	8.6%
28	West Virginia University	8.6%
30	**University of Central Florida**	8.3%
31	Air Force Institute of Technology	7.7%
31	**The Catholic University of America**	7.7%
33	University of Missouri	7%
34	**Duke University**	6.9%
35	The University of Texas at Dallas	6.7%
36	**Northwestern University**	6.7%
36	Tennessee Technological University	6.7%
36	**William Marsh Rice University**	6.7%
39	The Johns Hopkins University	6.6%
40	**Florida International University**	6.5%
41	Massachusetts Institute of Technology	6.5%
42	**University of Delaware**	6.5%
42	Utah State University	6.5%
44	**Case Western Reserve University**	6.4%
45	FAMU-FSU College of Engineering	6.3%
46	**Georgia Institute of Technology**	6.3%
47	Stanford University	6.3%
47	**University of California, Los Angeles**	6.3%
49	Northeastern University	6.3%
50	**University of California, Berkeley**	6.1%

Table 65: Top 50 Institutions by Percentage of Doctoral Degrees awarded to Underrepresented Minorities *(continued)*

No	Institutions	Percent Underrepresented Minorities

* 422 Institutions included

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

Table 66: Top 20 Highest Percentage of Doctoral Degrees to Women

No	Institutions	Percent Women
1	Rowan University	100%
1	**San Diego State University**	100%
3	University of Nevada, Las Vegas	58.3%
4	**Jackson State University**	50%
4	SUNY College of Environmental Science and Forestry	50%
4	**Texas A&M University - Kingsville**	50%
4	Tufts University	50%
4	**University of Detroit Mercy**	50%
4	Western New England University	50%
10	**Lamar University**	46.7%
11	University of Louisiana at Lafayette	44.4%
12	**Tennessee State University**	42.9%
12	University of Maine	42.9%
14	**Alfred University, NY State College of Ceramics**	40%
14	North Carolina A&T State University	40%
14	**University of Miami**	40%
14	University of Wyoming	40%
18	**Clarkson University**	38.1%
19	Embry Riddle Aeronautical University-Daytona Beach	36.4%
19	**University of Massachusetts Dartmouth**	36.4%

* 422 Institutions included

4.1.13 Top 50 Institutions Awarding Doctoral Degrees to Foreign Nationals

Table 67: 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	**University of California, Los Angeles**	108
16	University of California, San Diego	108
18	**The Ohio State University**	107
19	University of Wisconsin-Madison	102
20	**University of Minnesota -Twin Cities**	101
21	North Carolina State University	90
21	**University of California, Berkeley**	90
23	University of Florida	89
24	**Stony Brook University**	82
24	University of Washington in Seattle	82
26	**Northwestern University**	79
27	University of Houston	78
28	**Cornell University**	75
29	Rutgers, The State University of New Jersey, School of Engineering	74
30	**Missouri University of Science and Technology**	72
30	The University of Texas at Dallas	72
32	**Michigan State University**	68
33	University of California, Davis	67
33	**University of California, Irvine**	67
35	University of Connecticut	65
36	**The University of Texas at Arlington**	64
37	University of Tennessee, Knoxville	63
38	**University of Central Florida**	62
39	Northeastern University	61
40	**Clemson University**	60
40	University of Illinois at Chicago	60
42	**Rensselaer Polytechnic Institute**	57
42	The Johns Hopkins University	57

Table 67: Highest Number of Engineering Doctoral Degrees *(continued)*

No	Institutions	Degrees Awarded
42	**William Marsh Rice University**	57
45	Oregon State University	54
46	**Auburn University**	53
46	University of Nebraska, Lincoln	53
48	**University of Colorado Boulder**	51
49	University of Delaware	50
50	**University of Arizona**	47

* 422 Institutions included

4.1.14 Top 50 Institutions Awarding Bachelor's Degrees (excluding computer science both inside and outside Engineering)

Table 68: Top 50 Institutions Awarding Bachelor's Degrees (excluding computer science)

No	Institutions	Degrees Awarded
1	Georgia Institute of Technology	2,195
2	**Purdue University**	1,925
3	University of Illinois at Urbana-Champaign	1,907
4	**Texas A&M University**	1,868
5	North Carolina State University	1,801
6	**The Pennsylvania State University**	1,758
7	Arizona State University	1,725
8	**Iowa State University**	1,653
9	Virginia Polytechnic Institute and State University	1,648
10	**The Ohio State University**	1,419
11	The University of Texas at Austin	1,301
12	**University of Florida**	1,279
13	California Polytechnic State University, San Luis Obispo	1,195
14	**University of Wisconsin-Madison**	1,192
15	University of Michigan	1,148
16	**Louisiana State University**	1,067
17	University of California, Berkeley	1,052
18	**Missouri University of Science and Technology**	1,037
19	University of Maryland, College Park	1,032
20	**University of Central Florida**	1,015
21	Colorado School of Mines	1,009
22	**University of Washington in Seattle**	1,005
23	University at Buffalo, SUNY	1,001
24	**San Jose State University**	980
25	Clemson University	951
26	**Stony Brook University**	949
27	Oregon State University	940
28	**Texas Tech University**	922
29	University of California, San Diego	914
30	**The University of Alabama**	899
31	Rutgers, The State University of New Jersey, School of Engineering	892
32	**University of Colorado Boulder**	890
33	Massachusetts Institute of Technology	840
33	**West Virginia University**	840
35	Michigan State University	839
36	**University of Minnesota -Twin Cities**	836
37	University of California, Irvine	835
38	**Northeastern University**	807
39	University of South Florida	789
40	**Michigan Technological University**	783
41	California State University, Long Beach	770
42	**Rensselaer Polytechnic Institute**	769
43	Drexel University	754
44	**Auburn University**	751
45	University of Oklahoma, Gallogly College of Engineering	745
46	**George Mason University**	743
47	San Diego State University	736
48	**University of California, Davis**	726
49	University of Pittsburgh	719
50	**Worcester Polytechnic Institute**	715

* 422 Institutions included

4.1.15 Top 50 Institutions Awarding Master's Degrees (excluding computer science both inside and outside Engineering)

Table 69: 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	Columbia University	1,107
6	**Carnegie Mellon University**	1,064

Table 69: Top 50 Institutions Awarding Master's Degrees (excluding computer science) *(continued)*

No	Institutions	Degrees Awarded
7	The Johns Hopkins University	1,009
8	**San Jose State University**	961
9	Arizona State University	951
10	**Stanford University**	887
11	Texas A&M University	880
12	**University of California, Berkeley**	874
13	Massachusetts Institute of Technology	819
14	**University of Illinois at Urbana-Champaign**	813
15	Cornell University	763
16	**University of Washington in Seattle**	724
17	Stevens Institute of Technology	701
18	**North Carolina State University**	678
19	Purdue University	667
20	**University of Florida**	663
21	The University of Texas at Arlington	642
22	**Northwestern University**	626
23	University of California, Los Angeles	570
24	**University of California, San Diego**	559
25	University of Colorado Boulder	542
26	**The George Washington University**	531
27	New Jersey Institute of Technology	494
28	**University of Maryland, College Park**	491
29	NYU Tandon School of Engineering	486
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	The University of Texas at Austin	425
36	**University of South Florida**	424
37	George Mason University	392
38	**Duke University**	385
39	The Ohio State University	384
40	**University of Illinois at Chicago**	383
41	Illinois Institute of Technology	377
42	**Santa Clara University**	355
43	The Pennsylvania State University	354
44	**Boston University**	353
45	University of Houston	350
46	**Drexel University**	344
47	Rutgers, The State University of New Jersey, School of Engineering	338
48	**Washington University in St. Louis**	332
49	Colorado School of Mines	330
49	**University of Wisconsin-Madison**	330

* 422 Institutions included

4.1.16 Top 50 Institutions Awarding Doctoral Degrees (excluding computer science both inside and outside Engineering)

Table 70: 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	University of California, Berkeley	190
10	**University of Washington in Seattle**	184
11	Virginia Polytechnic Institute and State University	179
12	**The Pennsylvania State University**	174
13	University of Maryland, College Park	160
14	**University of California, San Diego**	159
15	University of Wisconsin-Madison	157
16	**University of Florida**	154
17	Cornell University	151
18	**Northwestern University**	150
19	The Ohio State University	149
20	**North Carolina State University**	137
21	The George Washington University	136
22	**University of California, Los Angeles**	134
23	Iowa State University	133
23	**University of Minnesota -Twin Cities**	133
25	Arizona State University	132
25	**University of Southern California**	132
27	Carnegie Mellon University	129
28	**Columbia University**	116

Table 70: Top 50 Institutions Awarding Doctoral Degrees (excluding computer science) *(continued)*

No	Institutions	Degrees Awarded
29	University of Colorado Boulder	112
30	**The Johns Hopkins University**	103
30	University of Tennessee, Knoxville	103
32	**University of California, Irvine**	102
33	University of Utah	101
34	**Colorado School of Mines**	99
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

Table 71: Highest Percentage of Doctoral Degrees to Foreign Nationals (min 25 awarded)

No	Institutions	Percentage
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%
7	Illinois Institute of Technology	93.3%
8	**Western Michigan University**	89.7%
9	Howard University	88.9%
10	**University of Arkansas at Little Rock**	88.2%
11	Lamar University	86.7%
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	**University of North Texas**	80.6%
19	University of Louisville	80%
19	**University of Wyoming**	80%
21	University of North Carolina at Charlotte	79.5%
22	**Missouri University of Science and Technology**	79.1%
23	Iowa State University	78.3%
24	**University of Nebraska, Lincoln**	77.9%
25	University of Wisconsin, Milwaukee	77.4%
26	**Ohio University**	77.3%
27	Oklahoma State University	76.9%
27	**University of Denver**	76.9%
29	Clarkson University	76.2%
30	**Florida International University**	76.1%
31	Auburn University	75.7%
32	**Michigan State University**	75.6%
33	Stony Brook University	75.2%
34	**University of Nevada, Las Vegas**	75%
35	University of Cincinnati	74%
35	**University of Oklahoma, Gallogly College of Engineering**	74%
37	University of Illinois at Chicago	73.2%
38	**Lehigh University**	72.7%
38	The University of Toledo	72.7%
40	**The University of Tulsa**	72%
41	Texas A&M University	71.9%
41	**The University of Texas at Arlington**	71.9%
43	Florida Institute of Technology	71.7%
44	**Southern Illinois University Carbondale**	71.4%
44	Tennessee State University	71.4%
44	**University of Hawaii at Manoa**	71.4%

Table 71: Highest Percentage of Doctoral Degrees to Foreign Nationals (min 25 awarded) *(continued)*

No	Institutions	Percentage
44	University of Nevada, Reno	71.4%
48	**Stevens Institute of Technology**	71.1%
49	Arizona State University	70.7%
49	**University of Connecticut**	70.7%

* 422 Institutions included

4.1.18 Institutions with the Lowest Percentage of Doctoral Degrees to Foreign Nationals

Table 72: Institutions with the Lowest Percentage of Doctoral Degrees to Foreign Nationals (min 25 awarded)

No	Institutions	Percentage
1	Idaho State University	33.3%
1	**University of Alaska Fairbanks, College of Engineering and Mines**	33.3%
1	University of Louisiana at Lafayette	33.3%
4	**Duke University**	36.8%
5	University of South Alabama	37.1%
6	**Villanova University**	37.5%
7	University of California, Santa Barbara	38.4%
8	**Drexel University**	38.9%
8	University of Colorado Boulder	38.9%
10	**University of California, Berkeley**	39.3%
11	Colorado State University	41%
12	**University of Colorado Denver**	41.2%
13	Colorado School of Mines	41.6%
13	**University of Utah**	41.6%
15	North Dakota State University	41.7%
15	**University of Dayton**	41.7%
17	Vanderbilt University	42.4%
18	**University of California, Riverside**	42.9%
18	University of Maine	42.9%
20	**Stanford University**	43.4%
21	Cornell University	44.4%
22	**The University of New Mexico**	44.6%
22	University of Washington in Seattle	44.6%
24	**Tufts University**	44.7%
25	University of Miami	45%

* 422 Institutions included

4.1.19 Top 10 Institutions by Total Doctoral Degrees awarded in Engineering (General)

Table 73: Top 10 Institutions by Total Doctoral Degrees awarded in Engineering (General)

No	Institutions	Degrees Awarded
1	Old Dominion University	36
2	**University of Nebraska, Lincoln**	20
3	Morgan State University	9
3	**University of California, Berkeley**	9
5	Lamar University	8
5	**University of Colorado Denver**	8
5	Villanova University	8
8	**University of Georgia**	7
9	Montana State University	5
10	**Jackson State University**	4

* 129 Institutions included

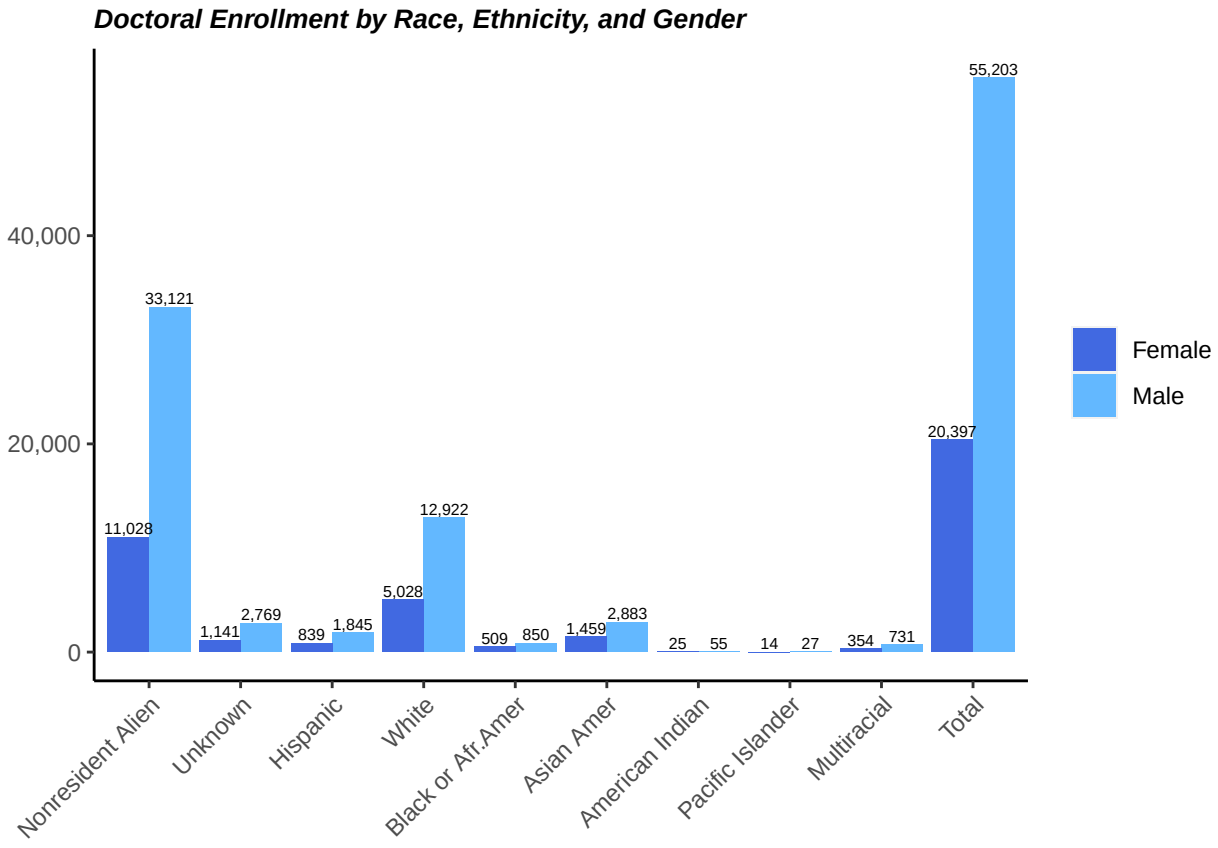
4.2 ENGINEERING DOCTORAL ENROLLMENT

4.2.1 Doctoral Enrollment by Race, Ethnicity, and Gender

Table 74: Doctoral Enrollment by Race, Ethnicity, and Gender 75,600*

Ethnicity	Enrollments
Nonresident Alien Male	33,121
Nonresident Alien Female	11,028
Unknown Male	2,769
Unknown Female	1,141
Hispanic Male	1,845
Hispanic Female	839
White Male	12,922
White Female	5,028
Black or Afr. American Male	850
Black or Afr. American Female	509
Asian American Male	2,883
Asian American Female	1,459
American Indian Male	55
American Indian Female	25
Native Hawaiian/Other Pacfic Islander Male	27
Native Hawaiian/Other Pacfic Islander Female	14
Multiracial Male	731
Multiracial Female	354
Total Male	55,203
Total Female	20,397

* Includes 56 male and32 female enrolled students from Institutions in Puerto Rico.



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

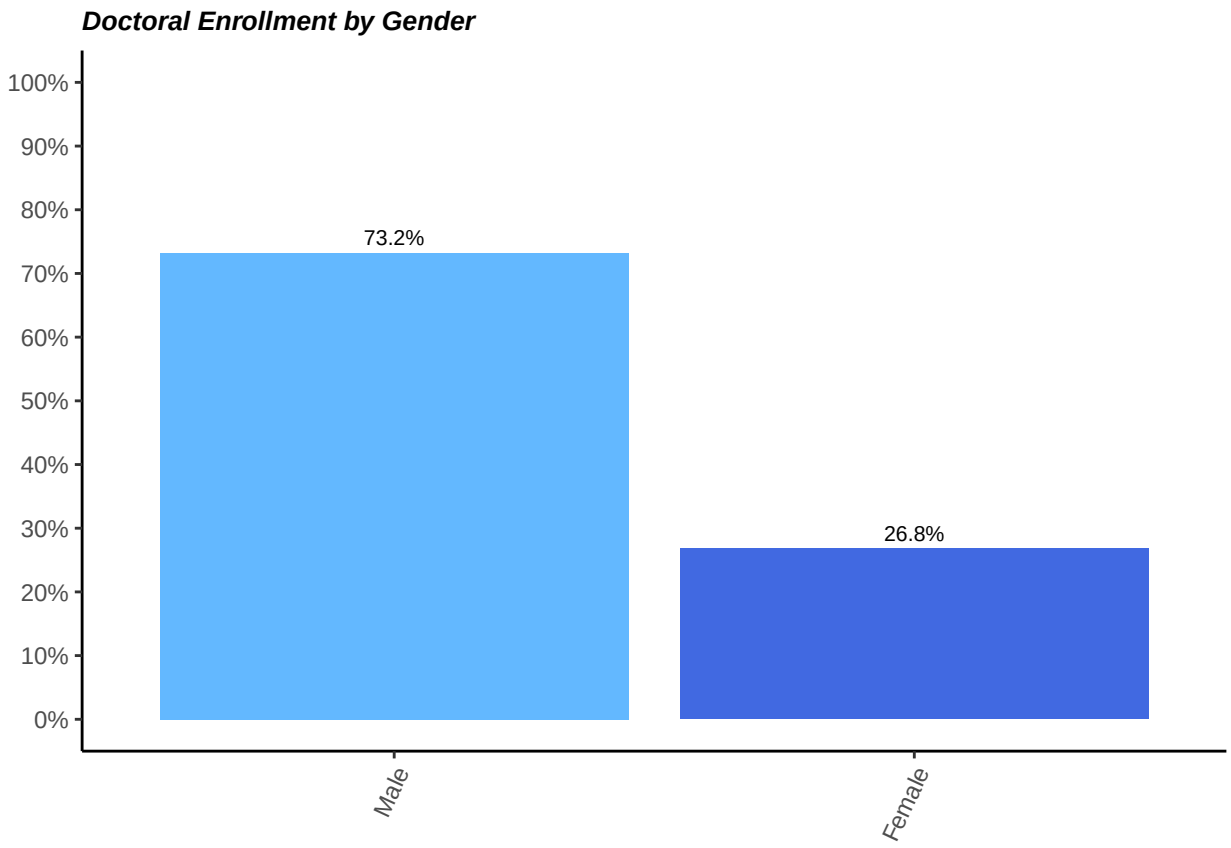
Table 75: Doctoral Enrollment by Engineering Discipline:(Full time and Part time)

Discipline Name	Full Time	Part Time
Aerospace	2,692	230
Architectural	82	1
Biological and Agricultural	672	76
Biomedical	7,250	468
Chemical	6,502	247
Civil	4,842	584
Civil/Environmental	1,243	166
Computer	1,708	211
Computer Sci. (inside Eng.)	9,103	993
Computer Sci. (outside Engr.)	3,892	331
Electrical	6,789	748
Electrical/Computer	7,733	843
Engineering (General)	729	99
Engineering Management	157	199
Engr. Science and Engr. Physics	771	58
Envr. Eng	811	74
Industrial/Manufacturing/Systems	3,008	608
Mechanical	10,005	926
Metallurgical and Matrls.	4,517	217
Mining	99	29
Nuclear	865	66
Other	5,542	858
Petroleum	480	62

4.2.3 Doctoral Enrollment by Gender

Table 76: Doctoral Enrollment by Gender

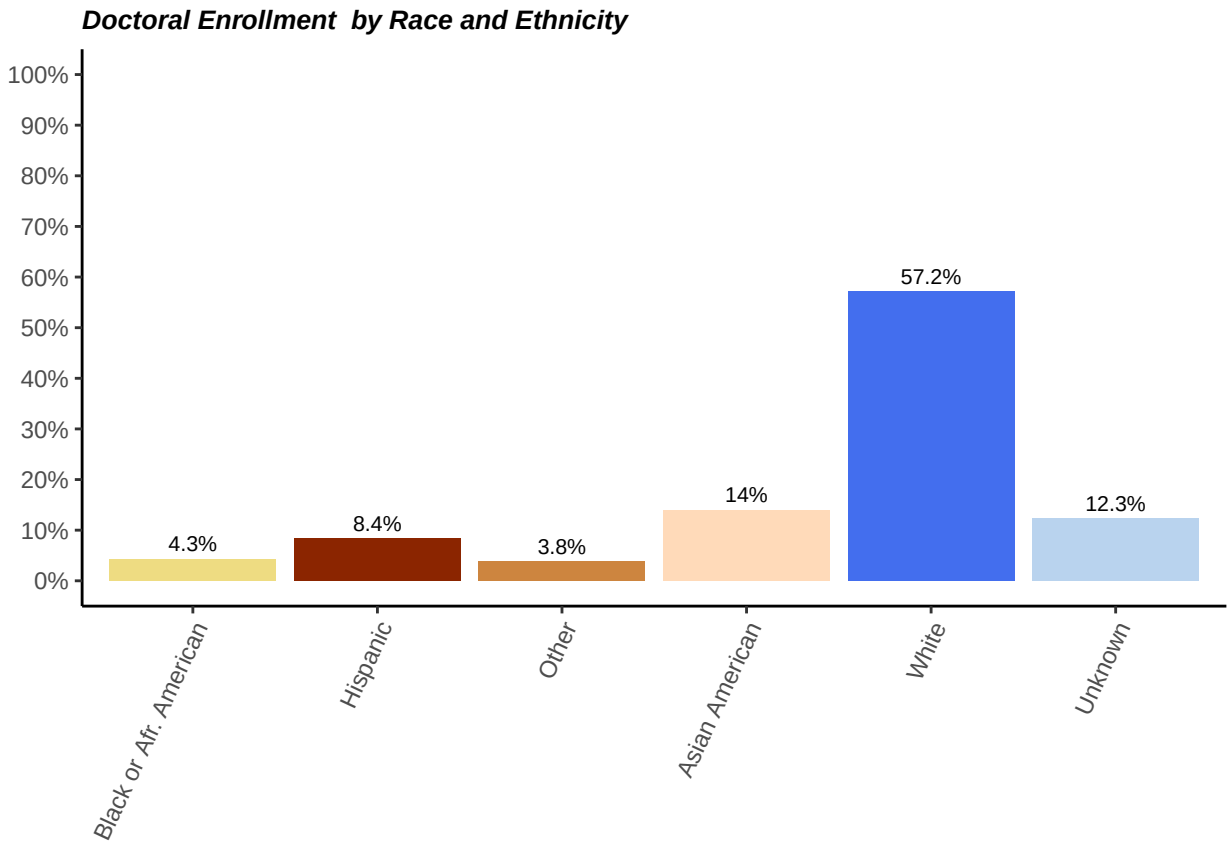
Gender	Percentage
Female	26.8%
Male	73.2%



4.2.4 Doctoral Enrollment by Race and Ethnicity

Table 77: Doctoral Enrollment by Race and Ethnicity*

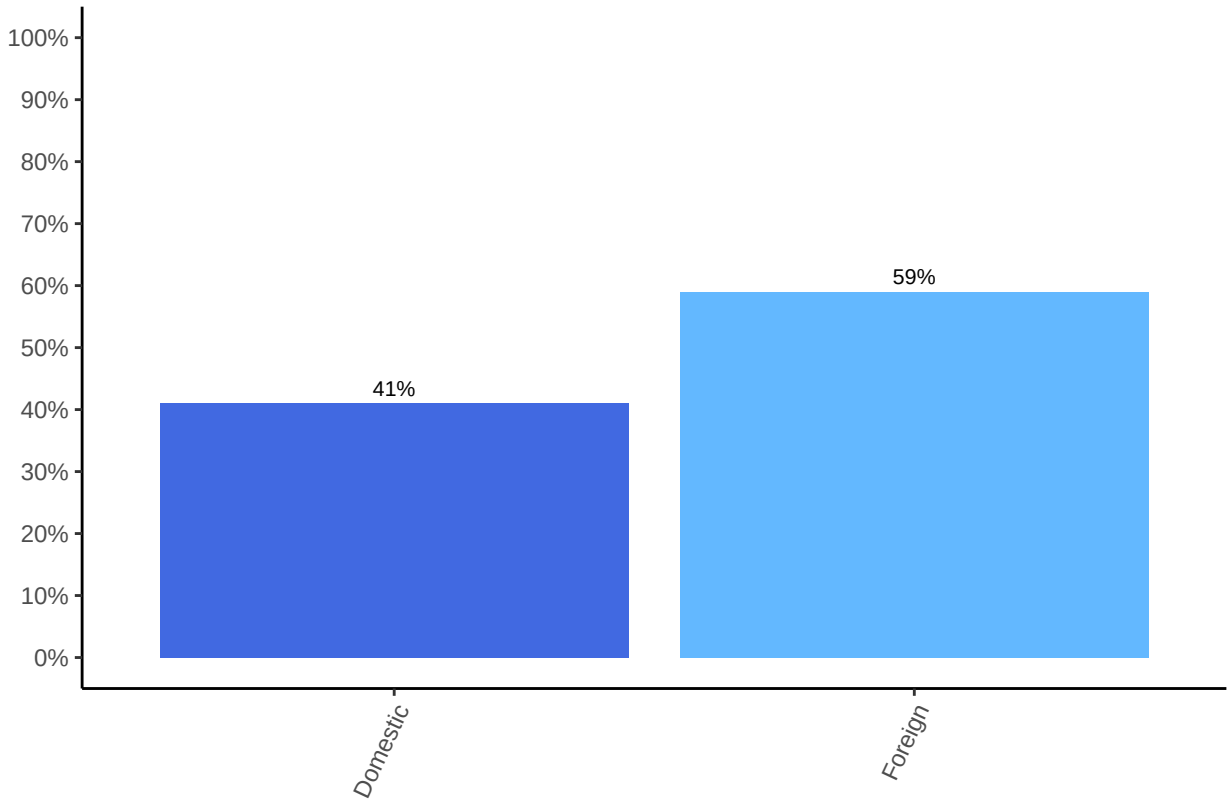
Ethnicity	Percentage
Black or Afr. American	4.3%
Hispanic	8.4%
Other	3.8%
Asian American	14%
White	57.2%
Unknown	12.3%



4.2.5 Doctoral Enrollment by Residency

Table 78: Doctoral Enrollment by Residency

Nationality	Percentage
Foreign	59%
Domestic	41%



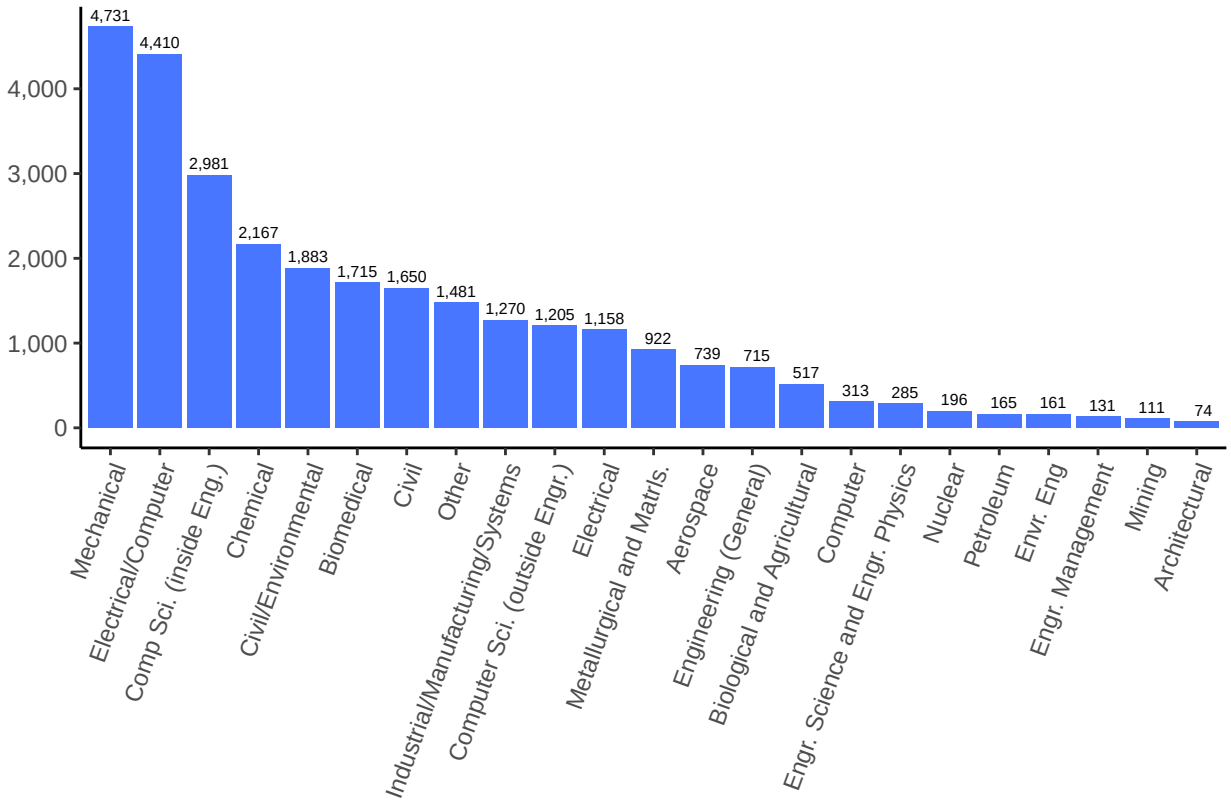
5 ENGINEERING FACULTY , FALL 2019

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

Table 79: Number of Tenured/Tenure-Track Faculty by Engineering Discipline: 27,775

Discipline Name	Number of Faculty
Mechanical	4,731
Electrical/Computer	4,410
Comp Sci. (inside Eng.)	2,981
Chemical	2,167
Civil/Environmental	1,883
Biomedical	1,715
Civil	1,650
Other	1,481
Industrial/Manufacturing/Systems	1,270
Computer Sci. (outside Engr.)	1,205
Electrical	1,158
Metallurgical and Matrls.	922
Aerospace	739
Engineering (General)	715
Biological and Agricultural	517
Computer	313
Engr. Science and Engr. Physics	285
Nuclear	196
Petroleum	165
Envr. Eng	161
Engr. Management	131
Mining	111
Architectural	74

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



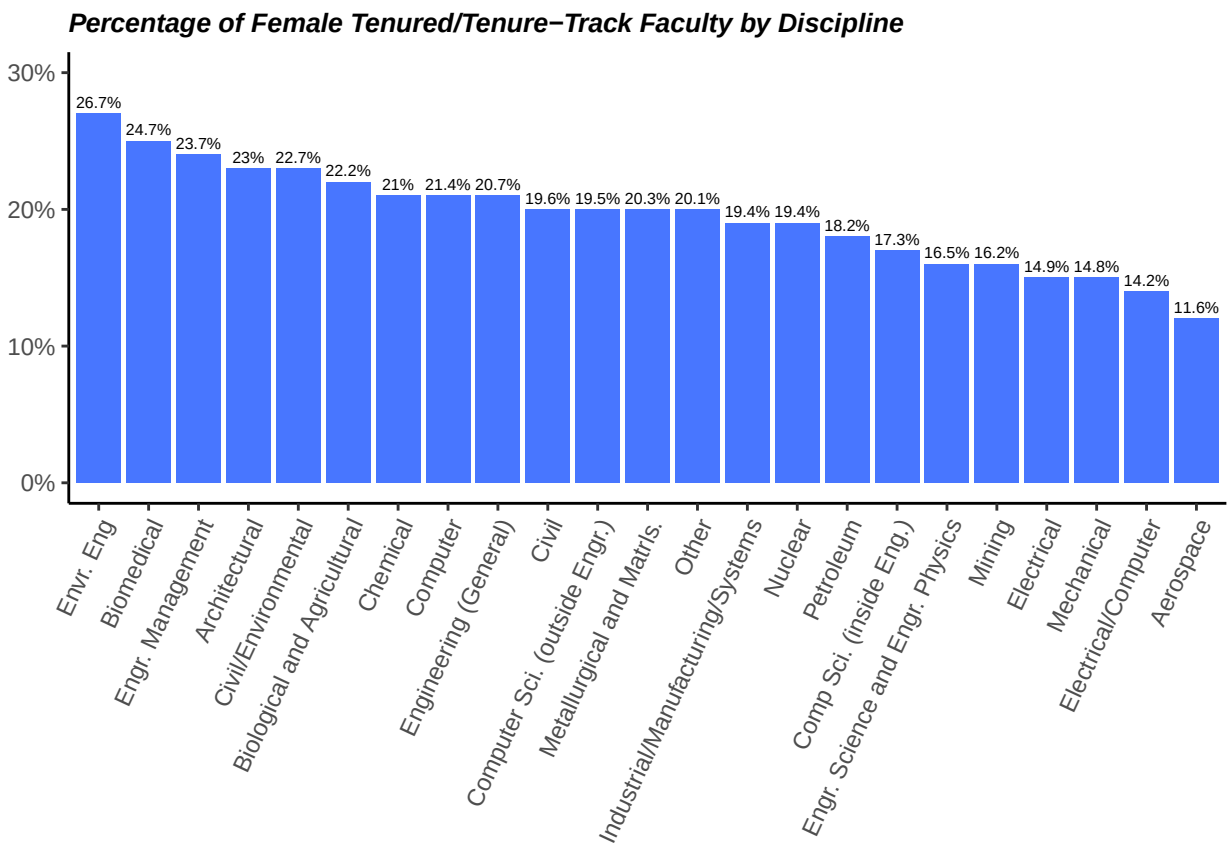
5.2 Percentage of Female Tenured/Tenure-Track Faculty by Discipline

Table 80: Percentage of Female Tenured/Tenure-Track Faculty by Discipline: 18.1 % of Total

Discipline Name	Percent Women
Envr. Eng	26.7%
Biomedical	24.7%
Engr. Management	23.7%
Architectural	23%
Civil/Environmental	22.7%
Biological and Agricultural	22.2%
Computer	21.4%
Chemical	21%
Engineering (General)	20.7%
Metallurgical and Matrls.	20.3%
Other	20.1%
Civil	19.6%

Table 80: Percentage of Female Tenured/Tenure-Track Faculty by Discipline: 18.1 % of Total *(continued)*

Discipline Name	Percent Women
Computer Sci. (outside Engr.)	19.5%
Industrial/Manufacturing/Systems	19.4%
Nuclear	19.4%
Petroleum	18.2%
Comp Sci. (inside Eng.)	17.3%
Engr. Science and Engr. Physics	16.5%
Mining	16.2%
Electrical	14.9%
Mechanical	14.8%
Electrical/Computer	14.2%
Aerospace	11.6%



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

Table 81: Top 50 Institutions by Number of Tenured/Tenure-Track Faculty

No	Institutions	Number of Faculty
1	Georgia Institute of Technology	574
2	**University of Illinois at Urbana-Champaign**	466
3	Texas A&M University	436
4	**University of Michigan**	428
5	Virginia Polytechnic Institute and State University	395
6	**Purdue University**	391
7	Massachusetts Institute of Technology	390
8	**The Pennsylvania State University**	381
9	North Carolina State University	370
10	**Arizona State University**	325
11	The University of Texas at Austin	315
12	**University of Florida**	309
13	The Ohio State University	298
14	**Carnegie Mellon University**	297
15	Stanford University	278
16	**Cornell University**	276
17	University of Washington in Seattle	274
18	**University of Wisconsin-Madison**	261
19	University of California, Berkeley	258
19	**University of Maryland, College Park**	258
21	Iowa State University	255
22	**University of Minnesota -Twin Cities**	245
23	University of California, San Diego	237
24	**Clemson University**	236
25	University of California, Irvine	225
26	**University of Utah**	221
27	Northeastern University	215
28	**The Johns Hopkins University**	212
28	University of California, Davis	212
30	**Michigan State University**	210
30	Oregon State University	210
32	**Colorado School of Mines**	209

Table 81: Top 50 Institutions by Number of Tenured/Tenure-Track Faculty *(continued)*

No	Institutions	Number of Faculty
33	Northwestern University	207
34	**University of Nebraska, Lincoln**	199
35	University at Buffalo, SUNY	196
36	**University of Massachusetts Amherst**	195
37	University of Southern California	191
38	**Drexel University**	187
39	University of Tennessee, Knoxville	186
40	**University of Colorado Boulder**	184
41	University of California, Los Angeles	183
42	**University of Arizona**	181
43	Columbia University	178
44	**Auburn University**	175
45	University of Central Florida	172
45	**University of Virginia**	172
47	University of Kentucky	167
48	**University of Puerto Rico, Mayaguez Campus**	166
49	Stony Brook University	164
49	**University of Houston**	164

* 301 Institutions included

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

Table 82: 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**	45
3	Georgia Institute of Technology	39
4	**University of Florida**	35
5	Massachusetts Institute of Technology	32
6	**Purdue University**	30
6	Virginia Polytechnic Institute and State University	30
8	**The University of Texas at El Paso**	29
9	University of Illinois at Urbana-Champaign	28
10	**Howard University**	26
11	University of Michigan	24
12	**University of California, Berkeley**	21
12	University of California, San Diego	21
14	**Stanford University**	20
14	University of California, Irvine	20
16	**Arizona State University**	19
16	Florida Institute of Technology	19
16	**North Carolina A&T State University**	19
16	The Pennsylvania State University	19
16	**The University of Texas at Austin**	19

* 301 Institutions included

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

Table 83: Top 20 Institutions by Percentage of Underrepresented Minorities Tenured/Tenure-Track Faculty

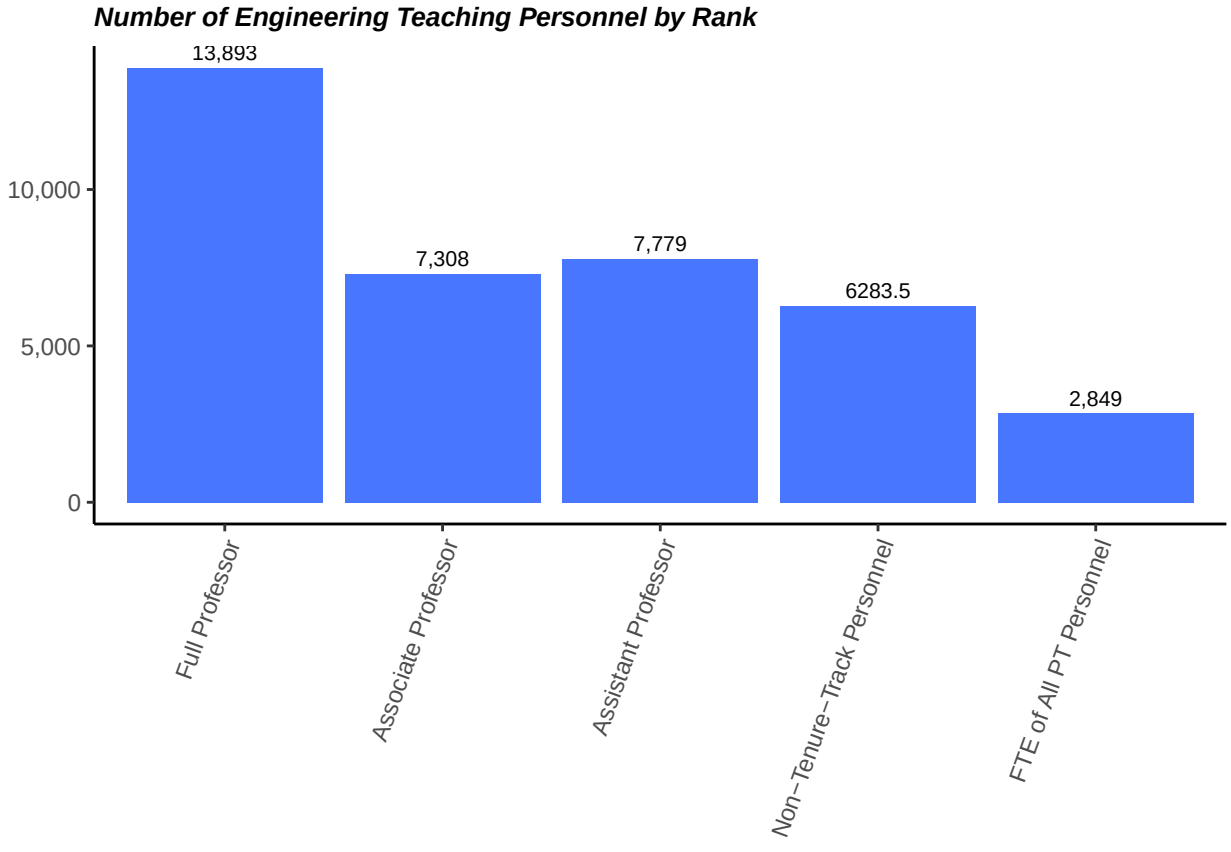
No	Institutions	Percent Underrepresented Minorities
1	University of Puerto Rico, Mayaguez Campus	87.3%
2	**Virginia State University**	60%
3	Howard University	57.8%
4	**Morgan State University**	50%
5	Abilene Christian University	37.8%
6	**The University of Texas at El Paso**	35.8%
7	Jackson State University	31.2%
8	**St. Mary's University**	28.6%
9	Tuskegee University	25.8%
10	**North Carolina A&T State University**	25.7%
11	James Madison University	25%
12	**University of Tennessee-Chattanooga**	22.7%
13	Texas State University	22.2%
14	**Florida Institute of Technology**	21.1%
15	John Brown University	20%
15	**Winona State University**	20%
17	The University of Texas Rio Grande Valley	19%
18	**University of California, Merced**	16.4%
19	FAMU-FSU College of Engineering	15.9%
20	**The Catholic University of America**	15.4%

* 301 Institutions included

5.6 Number of Engineering Teaching Personnel by Rank

Table 84: Number of Engineering Teaching Personnel by Rank 38,112

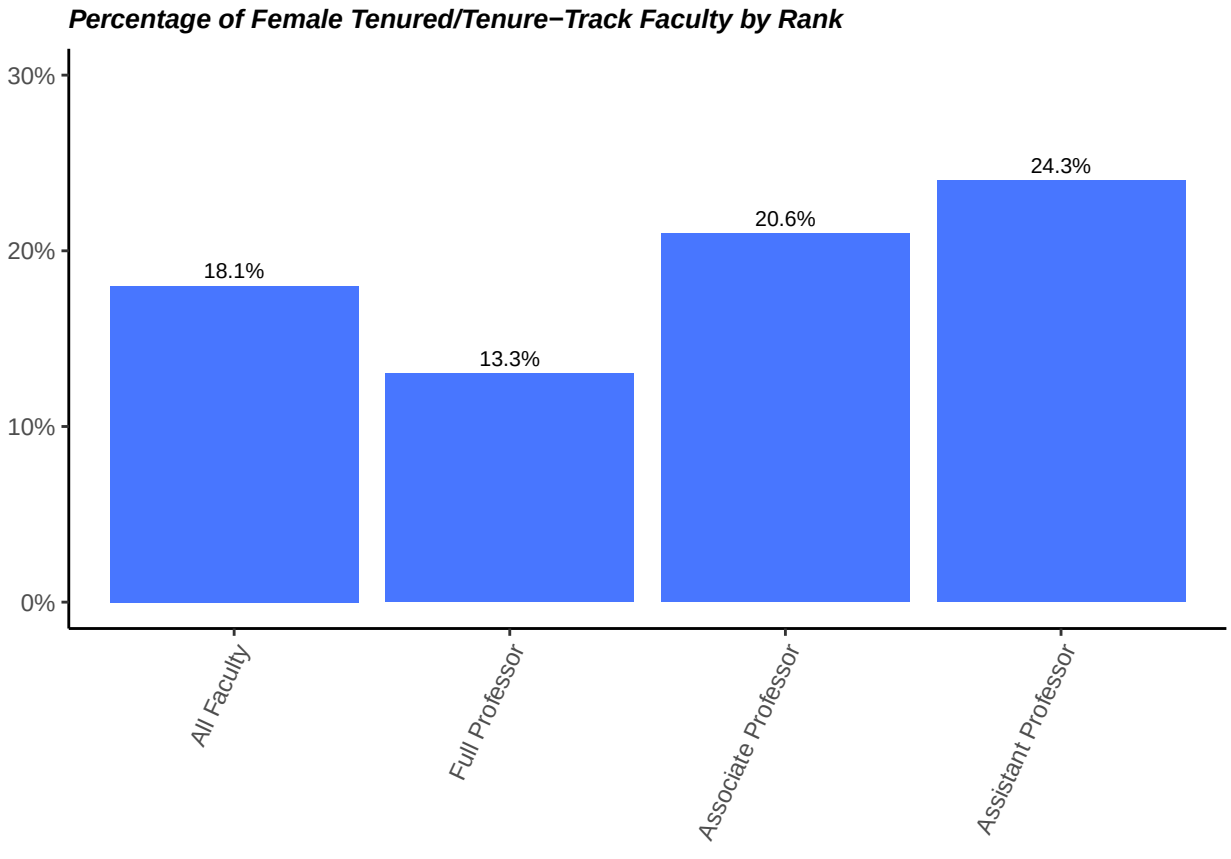
Rank	Number of Faculty
Full Professor	13,893
Associate Professor	7,308
Assistant Professor	7,779
Non-Tenure-Track Personnel	6283.5
FTE of All PT Personnel	2,849



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

Table 85: Percentage of Female Tenured/Tenure-Track Faculty by Rank

Rank	Percent
All Faculty	18.1%
Full Professor	13.3%
Associate Professor	20.6%
Assistant Professor	24.3%



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

Table 86: Top 50 Institutions with Highest Percentage of Female Tenured Tenure Track Faculty

No	Institutions	Percent Women
1	Smith College	70%
2	**Humboldt State University**	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	Lafayette College	31.6%
16	**University of Saint Thomas**	31.4%
17	California State University, Long Beach	30.3%
18	**Abilene Christian University**	29.7%
19	Roger Williams University	29.4%
19	**University of Washington-Tacoma**	29.4%
21	University of Portland	29.2%
22	**Gonzaga University**	28.6%
22	Texas Christian University	28.6%
24	**California Baptist University**	27.8%
24	California State Polytechnic University, Pomona	27.8%
26	**University of Massachusetts Dartmouth**	27.5%
27	Fairfield University	27.3%
27	**Union College**	27.3%
29	Montana State University	27.2%
30	**New York Institute of Technology**	27%
31	Gannon University	26.9%
31	**Trine University**	26.9%
31	University of San Diego	26.9%
34	**Bucknell University**	26.9%
35	University of Wisconsin, Platteville	26.8%
36	**University of Massachusetts Lowell**	26.5%
37	Tufts University	26.4%
38	**University of Washington in Seattle**	26.3%
39	Rowan University	26.2%
40	**Harvey Mudd College**	26.1%
41	Oregon Institute of Technology	25.6%
41	**University of Arkansas at Little Rock**	25.6%
43	The George Washington University	25.3%
44	**Oregon State University**	25.2%
45	Baker College	25%
45	**James Madison University**	25%
45	Stevens Institute of Technology	25%
45	**University of Detroit Mercy**	25%
45	University of Maryland, Baltimore County	25%
45	**University of the District of Columbia**	25%

* 301 Institutions included

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

Table 87: Top 20 Institutions with Highest Number of Female Tenured/Tenure-Track Faculty

No	Institutions	Number of Faculty
1	Georgia Institute of Technology	122
2	**University of Michigan**	91
3	University of Illinois at Urbana-Champaign	90
4	**Massachusetts Institute of Technology**	80
5	Virginia Polytechnic Institute and State University	78
6	**Arizona State University**	74
7	Purdue University	73
8	**University of Washington in Seattle**	72
9	The Pennsylvania State University	70
10	**Carnegie Mellon University**	69
10	University of Florida	69
12	**Texas A&M University**	68
13	North Carolina State University	66
14	**The Ohio State University**	64
15	Cornell University	60
16	**The University of Texas at Austin**	59
17	Stanford University	55
18	**Oregon State University**	53
18	University of California, Berkeley	53
20	**University of California, Irvine**	52

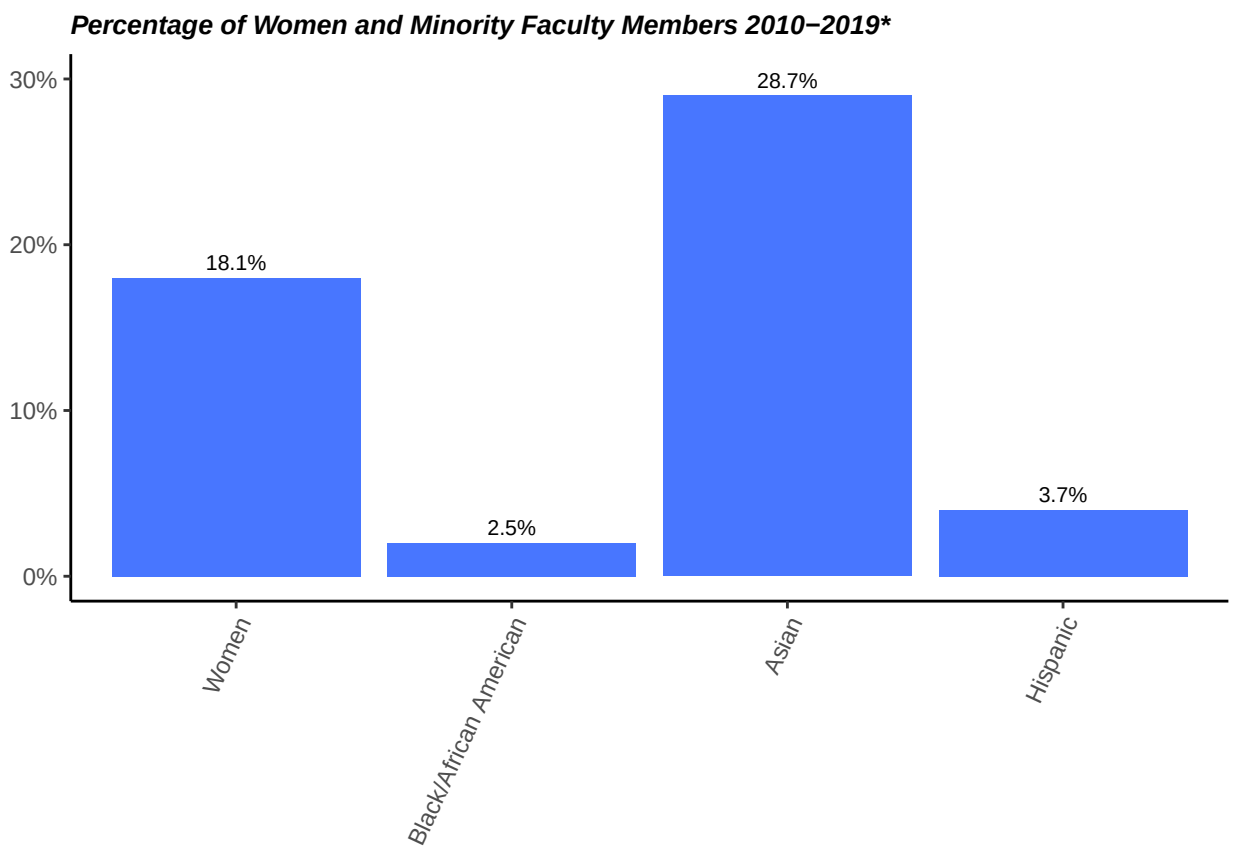
* 301 Institutions included

5.10 Percentage of Women and Minority Faculty Members

Table 88: 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%	18.1%
Black or Afr. American	2.5%	2.7%	2.6%	2.5%	2.5%	2.3%	3.1%	2.4%	2.5%
Asian	24.1%	24.6%	25.2%	25.6%	26.9%	27.6%	26.0%	28.3%	28.7%
Hispanic	3.7%	3.9%	3.6%	3.9%	3.9%	3.7%	5.1%	3.8%	3.7%

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



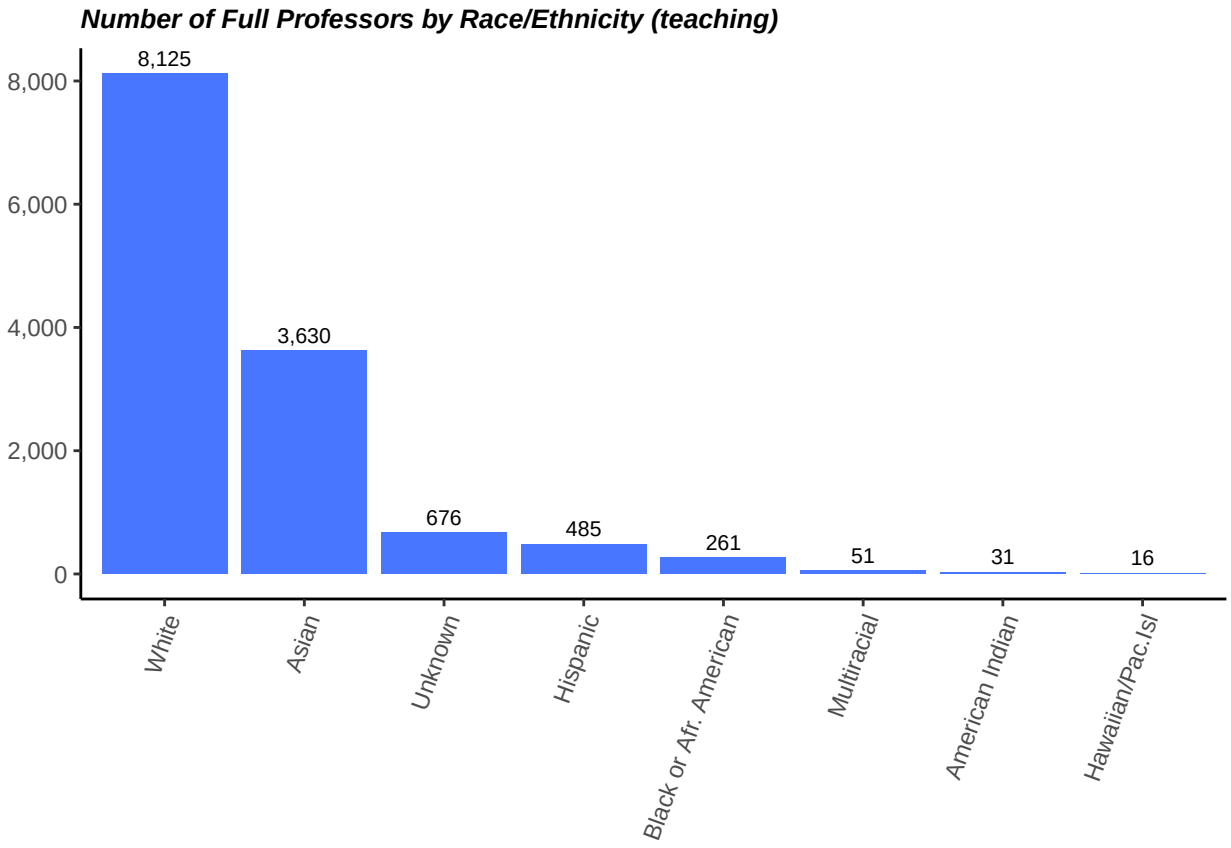
5.11 Number of Full Professors by Race/Ethnicity

Table 89: Number of Full Professors by Race/Ethnicity: 13,275

Ethnicity	Number of Faculty
White	8,125
Asian	3,630
Unknown	676
Hispanic	485
Black or Afr. American	261
Multiracial	51
American Indian	31
Hawaiian/Pac.Isl	16

* Includes 114 Faculty from Institutions in Puertio Rico.

* Computer Science(Outside Engineering) has been removed

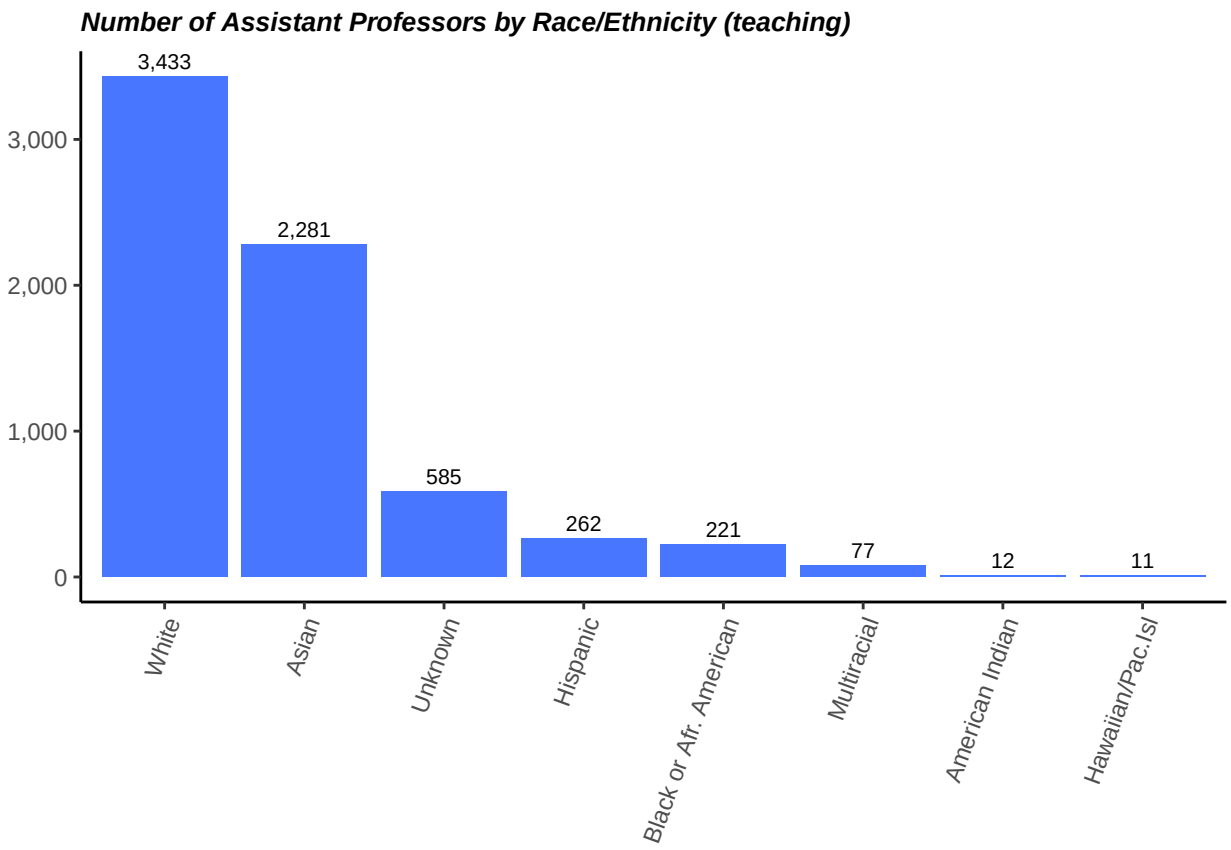


5.12 Number of Assistant Professors by Race/Ethnicity

Table 90: Number of Assistant Professors by Race/Ethnicity: 6,882

Ethnicity	Number of Faculty
White	3,433
Asian	2,281
Unknown	585
Hispanic	262
Black or Afr. American	221
Multiracial	77
American Indian	12
Hawaiian/Pac.Isl	11

* Includes 20 Faculty from Institutions in Puertio Rico.
* Computer Science(Outside Engineering) has been removed



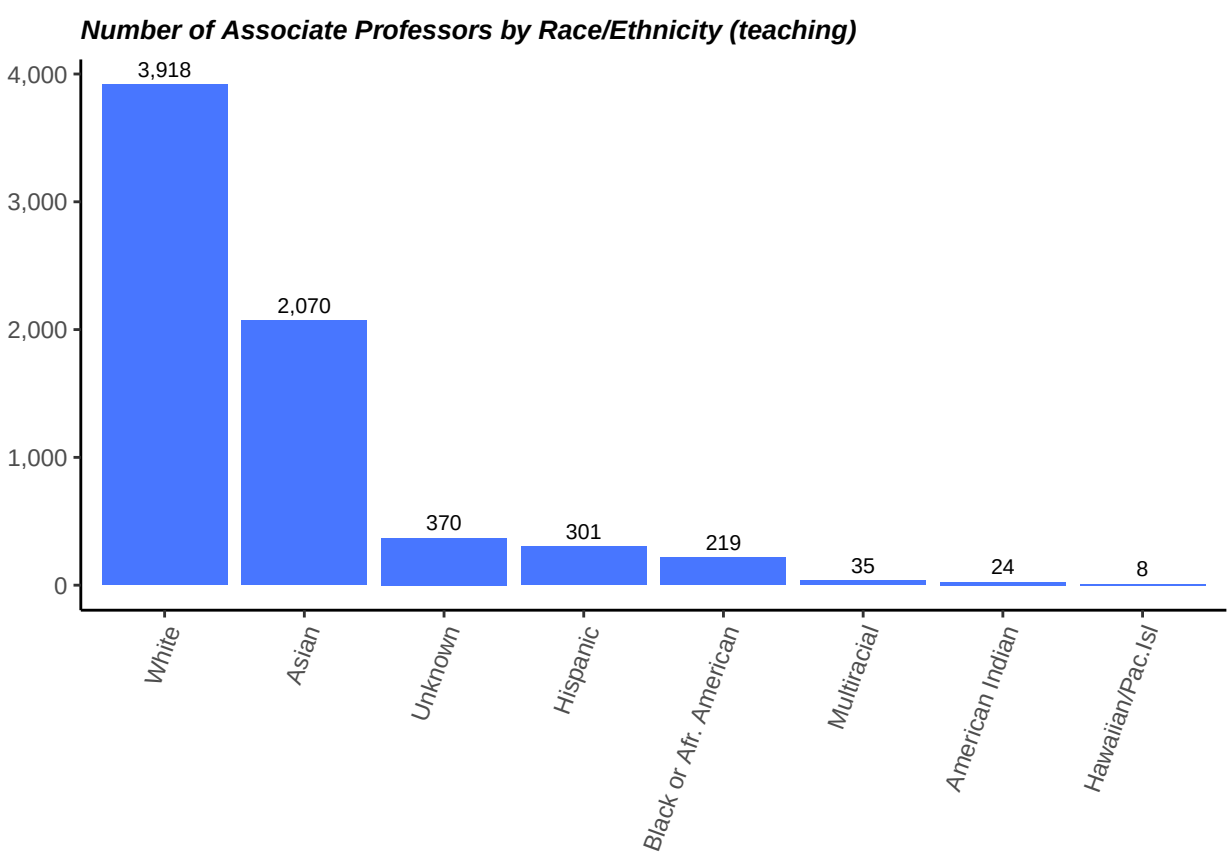
5.13 Number of Associate Professors by Race/Ethnicity

Table 91: Number of Associate Professors by Race/Ethnicity: 6,945

Ethnicity	Number of Faculty
White	3,918
Asian	2,070
Unknown	370
Hispanic	301
Black or Afr. American	219
Multiracial	35
American Indian	24
Hawaiian/Pac.Isl	8

* Includes 32 Faculty from Institutions in Puertio Rico.

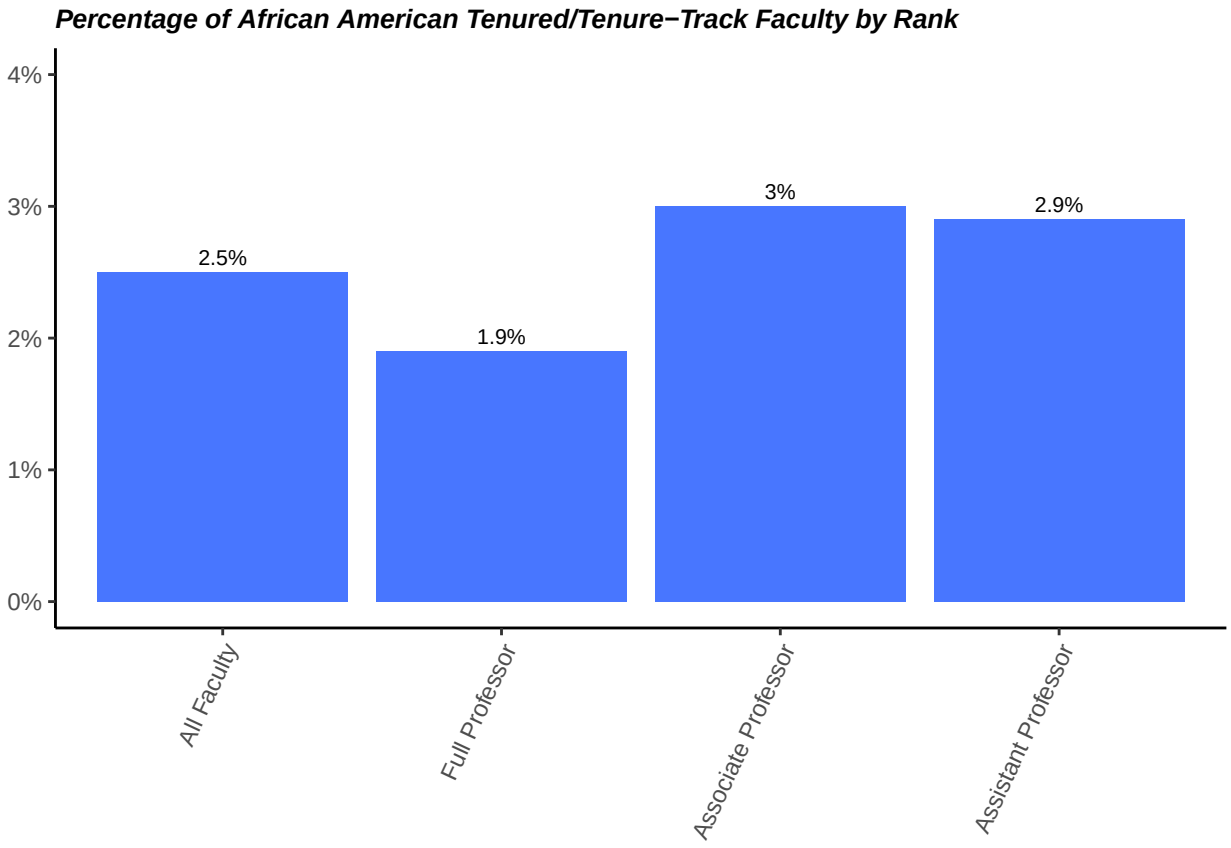
* Computer Science(Outside Engineering) has been removed



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

Table 92: Percentage of Black/African American Tenured/Tenure-Track Faculty by Rank

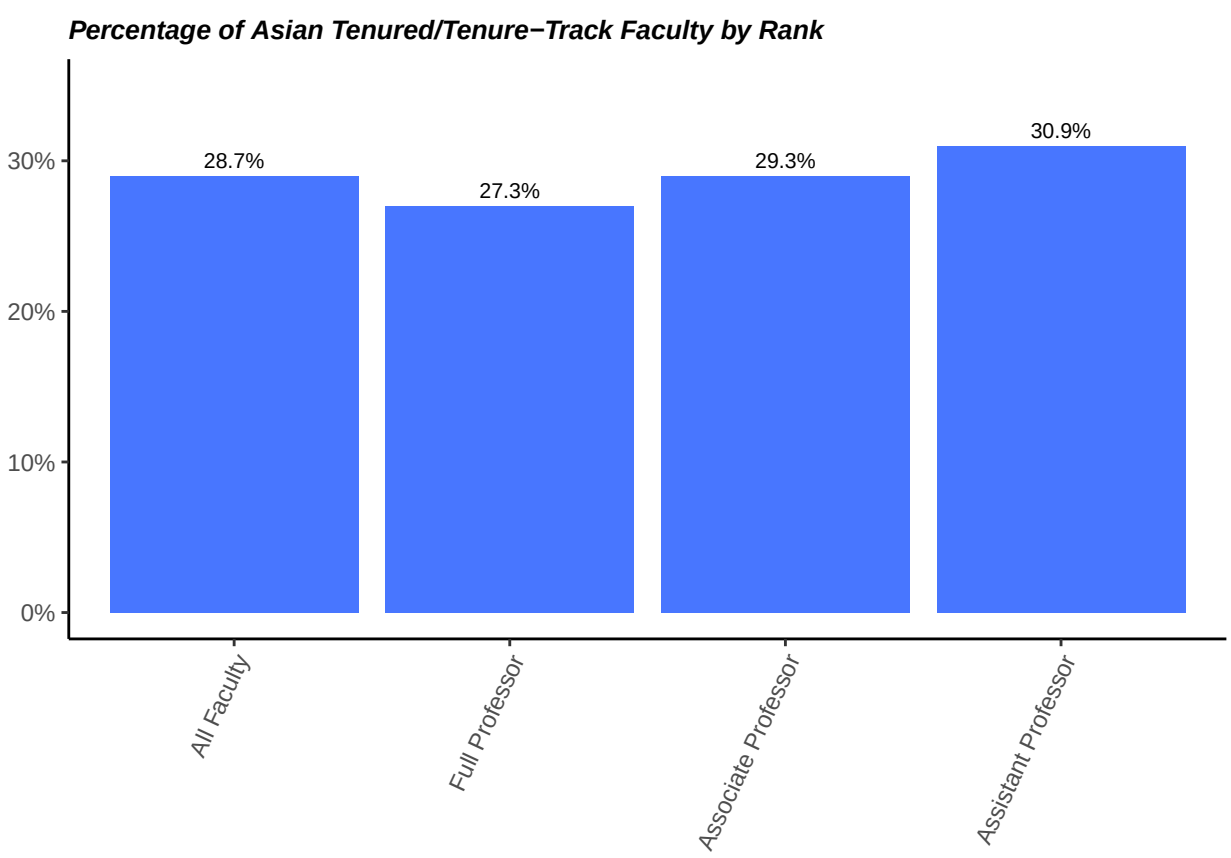
Rank	Percent
All Faculty	2.5%
Full Professor	1.9%
Associate Professor	3%
Assistant Professor	2.9%



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

Table 93: Percentage of Asian Tenured/Tenure-Track Faculty by Rank

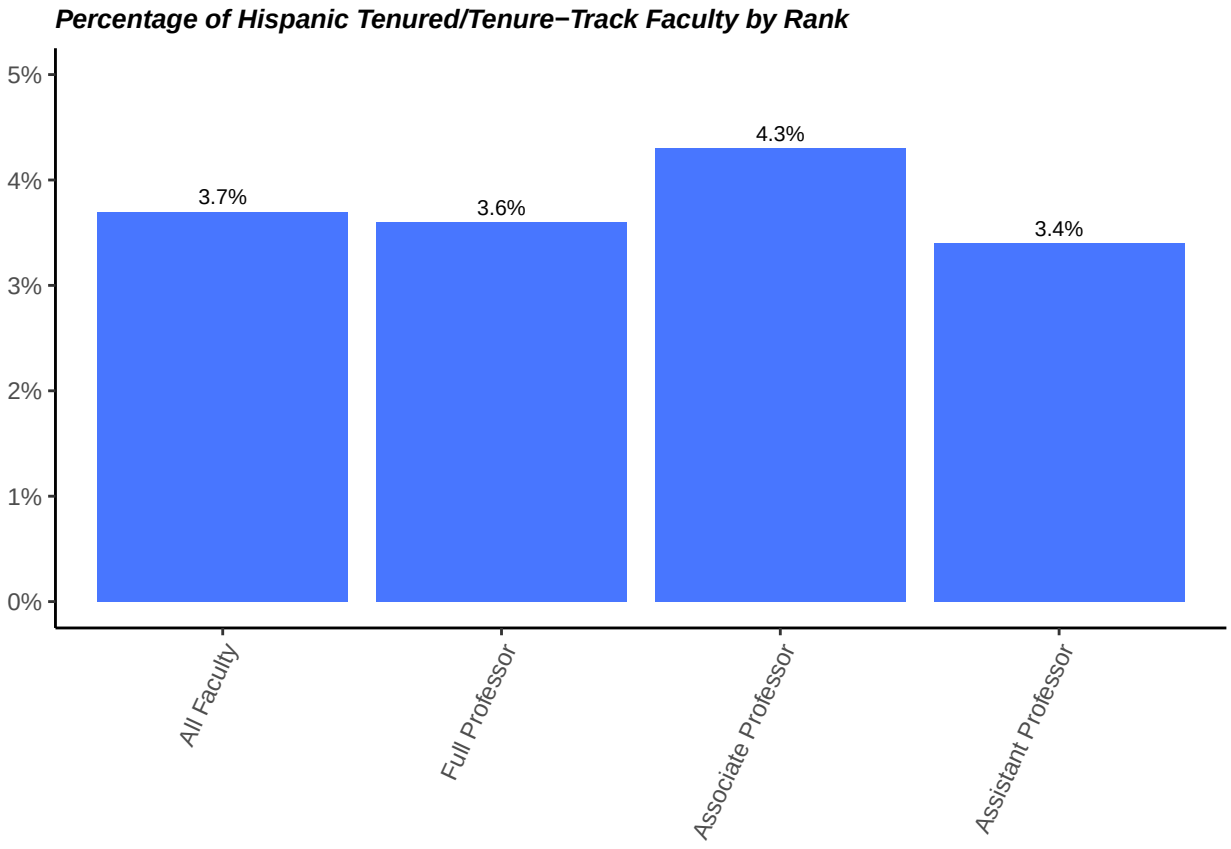
Rank	Percent
All Faculty	28.7%
Full Professor	27.3%
Associate Professor	29.3%
Assistant Professor	30.9%



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

Table 94: Percentage of Hispanic Tenured/Tenure-Track Faculty by Rank

Rank	Percent
All Faculty	3.7%
Full Professor	3.6%
Associate Professor	4.3%
Assistant Professor	3.4%



5.17 African American Tenured/ Tenure Track Faculty by Institutions

Table 95: African American Tenured/ Tenure Track Faculty by Institutions

No	Institutions	Number of Faculty
1	Howard University	24
2	**Georgia Institute of Technology**	21
3	University of Florida	19
4	**North Carolina A&T State University**	18
5	Morgan State University	16
6	**University of Tennessee-Chattanooga**	15
7	Abilene Christian University	14
7	**FAMU-FSU College of Engineering**	14
7	University of Michigan	14
10	**Massachusetts Institute of Technology**	12
10	Virginia Polytechnic Institute and State University	12
12	**Cornell University**	10
12	The Johns Hopkins University	10
12	**University of Illinois at Urbana-Champaign**	10
12	University of Maryland, College Park	10
16	**Clemson University**	9
17	North Carolina State University	8
17	**Purdue University**	8
17	Stanford University	8
17	**Texas A&M University**	8

* 301 Institutions included

5.18 Asian Tenured/ Tenure Track Faculty by Institutions

Table 96: 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

* 301 Institutions included

5.19 Hispanic Tenured/ Tenure Track Faculty by Institutions

Table 97: Hispanic Tenured/ Tenure Track Faculty by Institutions

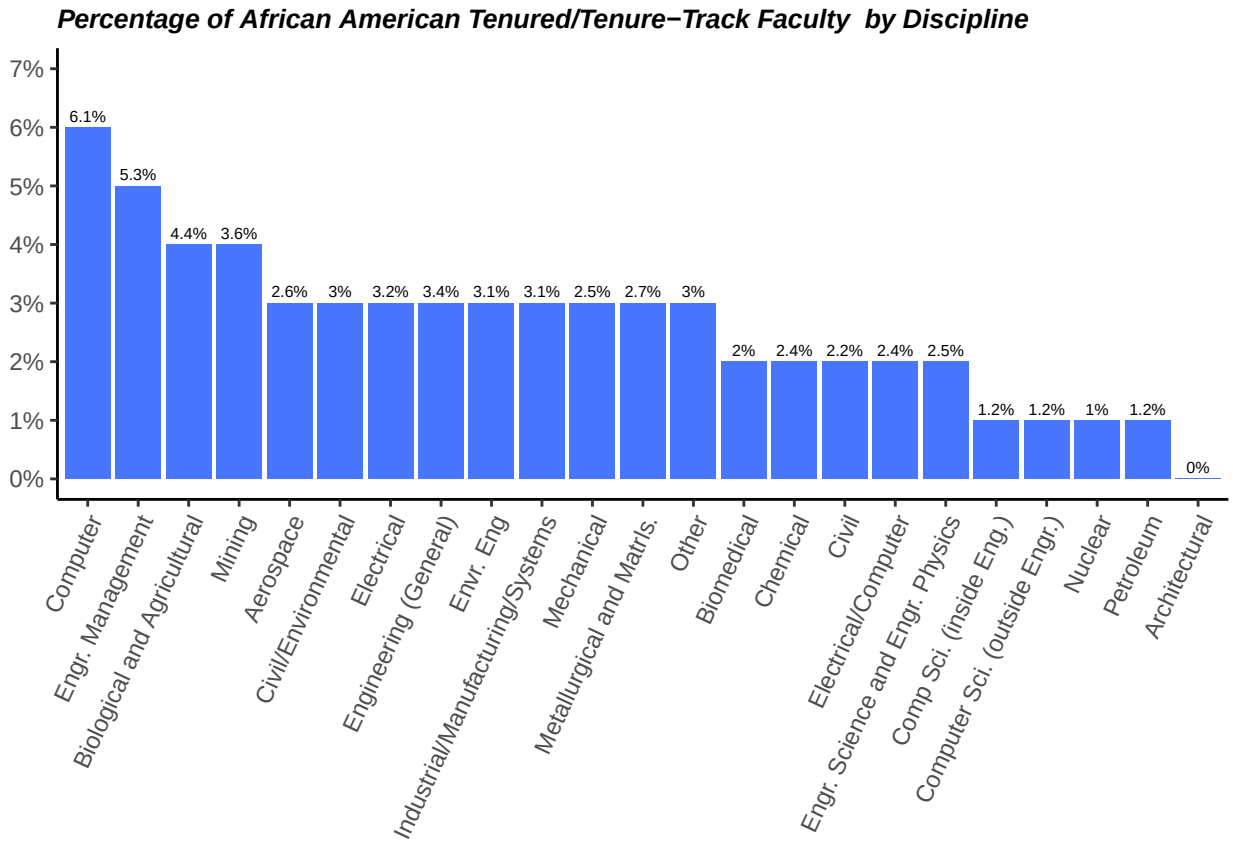
No	Institutions	Number of Faculty
1	University of Puerto Rico, Mayaguez Campus	142
2	**Texas A&M University**	34
3	The University of Texas at El Paso	24
4	**Purdue University**	21
5	Massachusetts Institute of Technology	20
6	**Georgia Institute of Technology**	18
6	University of Illinois at Urbana-Champaign	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	**Stanford University**	12
16	University of California, Irvine	12
18	**The Pennsylvania State University**	11
18	The University of Texas at San Antonio	11
20	**Auburn University**	10

* 301 Institutions included

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

Table 98: Percentage of African American Tenured/Tenure-Track Faculty by Discipline: 2.5 % of Total

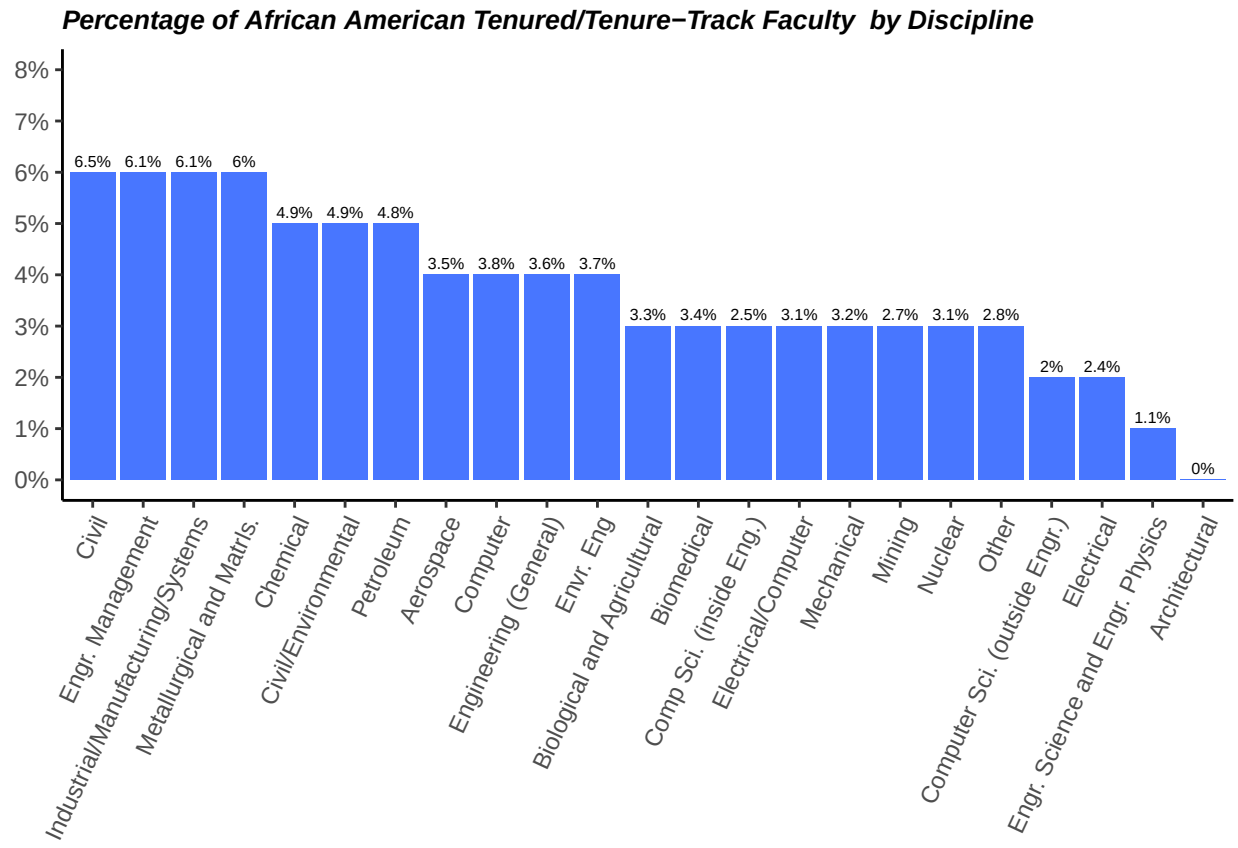
Discipline Name	Percentage
Computer	6.1%
Engr. Management	5.3%
Biological and Agricultural	4.4%
Mining	3.6%
Engineering (General)	3.4%
Electrical	3.2%
Envr. Eng	3.1%
Industrial/Manufacturing/Systems	3.1%
Civil/Environmental	3%
Other	3%
Metallurgical and Matrls.	2.7%
Aerospace	2.6%
Engr. Science and Engr. Physics	2.5%
Mechanical	2.5%
Chemical	2.4%
Electrical/Computer	2.4%
Civil	2.2%
Biomedical	2%
Comp Sci. (inside Eng.)	1.2%
Computer Sci. (outside Engr.)	1.2%
Petroleum	1.2%
Nuclear	1%
Architectural	0%



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

Table 99: Percentage of Hispanic Tenured/Tenure-Track Faculty by Discipline: 3.7 % of Total

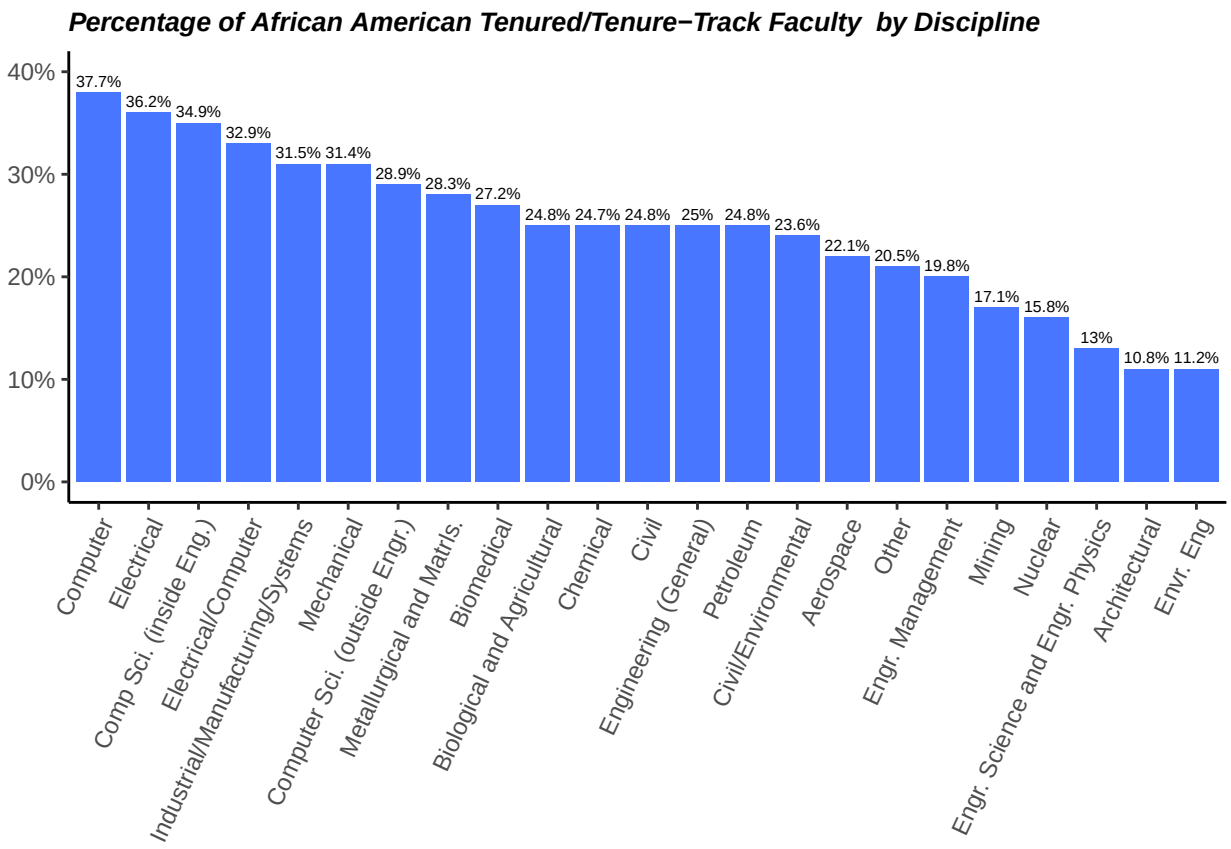
Discipline Name	Percentage
Civil	6.5%
Engr. Management	6.1%
Industrial/Manufacturing/Systems	6.1%
Metallurgical and Matrls.	6%
Chemical	4.9%
Civil/Environmental	4.9%
Petroleum	4.8%
Computer	3.8%
Envr. Eng	3.7%
Engineering (General)	3.6%
Aerospace	3.5%
Biomedical	3.4%
Biological and Agricultural	3.3%
Mechanical	3.2%
Electrical/Computer	3.1%
Nuclear	3.1%
Other	2.8%
Mining	2.7%
Comp Sci. (inside Eng.)	2.5%
Electrical	2.4%
Computer Sci. (outside Engr.)	2%
Engr. Science and Engr. Physics	1.1%
Architectural	0%



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

Table 100: Percentage of Asian Tenured/Tenure-Track Faculty by Discipline: 28.7 % of Total

Discipline Name	Percentage
Computer	37.7%
Electrical	36.2%
Comp Sci. (inside Eng.)	34.9%
Electrical/Computer	32.9%
Industrial/Manufacturing/Systems	31.5%
Mechanical	31.4%
Computer Sci. (outside Engr.)	28.9%
Metallurgical and Matrls.	28.3%
Biomedical	27.2%
Engineering (General)	25%
Biological and Agricultural	24.8%
Civil	24.8%
Petroleum	24.8%
Chemical	24.7%
Civil/Environmental	23.6%
Aerospace	22.1%
Other	20.5%
Engr. Management	19.8%
Mining	17.1%
Nuclear	15.8%
Engr. Science and Engr. Physics	13%
Envr. Eng	11.2%
Architectural	10.8%


Percentage of African American Tenured/Tenure−Track Faculty by Discipline
40%
30%
20%
10%
0%
37.7%
36.2%
34.9%
32.9%
31.5%
31.4%
28.9%
28.3%
27.2%
24.8%
24.7%
24.8%
25%
24.8%
23.6%
22.1%
20.5%
19.8%
17.1%
15.8%
13%
10.8%
11.2%
Computer
Electrical
Comp Sci. (inside Eng.)
Electrical/Computer
Industrial/Manufacturing/Systems
Mechanical
Computer Sci. (outside Engr.)
Metallurgical and Matrls.
Biomedical
Biological and Agricultural
Chemical
Civil
Engineering (General)
Petroleum
Civil/Environmental
Aerospace
Other
Engr. Management
Mining
Nuclear
Engr. Science and Engr. Physics
Architectural
Envr. Eng

6 ENGINEERING RESEARCH EXPENDITURES, FISCAL 2019

6.1 Top 50 Research Expenditure By Institutions

Table 101: Top 50 Research Expenditure By Institution

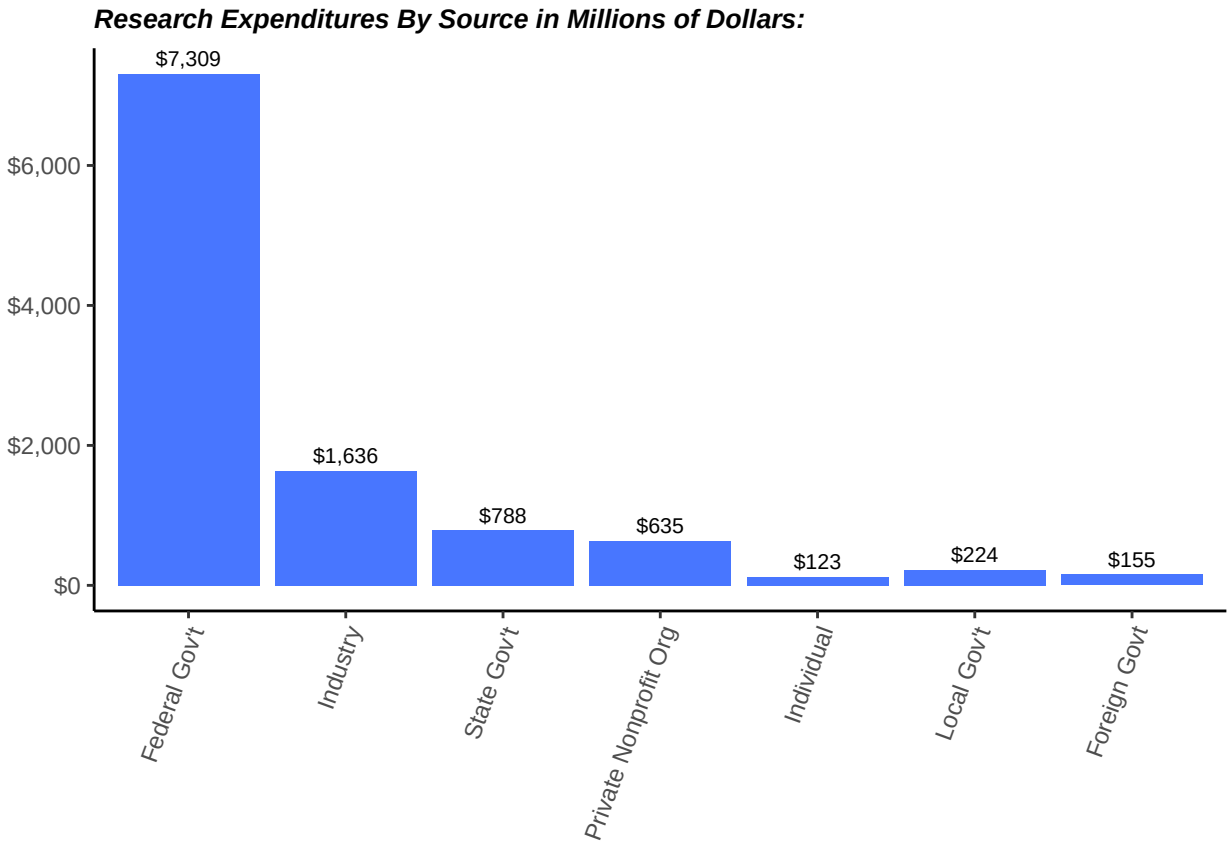
No	Institution	Expenditure(IN MILLIONS)
1	Massachusetts Institute of Technology	$455.2
2	**Texas A&M University**	$318.9
3	University of Michigan	$307.1
4	**Purdue University**	$301.8
5	Georgia Institute of Technology	$269.5
6	**Carnegie Mellon University**	$238.1
7	University of California, Berkeley	$232.3
8	**University of Illinois at Urbana-Champaign**	$228.5
9	Stanford University	$226.4
10	**The University of Texas at Austin**	$217.9
11	University of California, San Diego	$212.5
12	**University of Southern California**	$208.3
13	North Carolina State University	$196.7
14	**Wichita State University**	$193.9
15	The Johns Hopkins University	$193.5
16	**University of Maryland, College Park**	$186.6
17	Virginia Polytechnic Institute and State University	$178.1
18	**University of Washington in Seattle**	$173.1
19	University of Dayton	$160.3
20	**University of Colorado Boulder**	$149
21	Cornell University	$148.6
22	**The Ohio State University**	$145.1
23	Northwestern University	$131.9
24	**University of Wisconsin-Madison**	$130.7
25	University of Rochester	$123.6
26	**Arizona State University**	$119.3
27	Duke University	$118.5
28	**The Pennsylvania State University**	$116.9
29	University of Utah	$111.7
30	**Iowa State University**	$110.7
31	University of Pennsylvania	$110.5
32	**University of Delaware**	$101.3
33	University of California, Santa Barbara	$99.3
34	**The University of Alabama in Huntsville**	$98.9
35	University of California, Irvine	$98.1
36	**University of California, Los Angeles**	$97.8
37	Boston University	$97
38	**University of Minnesota -Twin Cities**	$96.2
39	University of California, Davis	$94.1
40	**University of Pittsburgh**	$93
41	Rutgers, The State University of New Jersey, School of Engineering	$87.9
42	**Auburn University**	$87.3
43	Northeastern University	$87.2
44	**The University of Texas at Arlington**	$84.5
45	Colorado State University	$79.8
46	**University of Virginia**	$79
47	New Jersey Institute of Technology	$78.9
48	**University at Buffalo, SUNY**	$78.3
49	University of Florida	$78.2
50	**University of Tennessee, Knoxville**	$77.4

* 208 Institutions included

6.2 Research Expenditures By Source in Millions of Dollars

Table 102: Research Expenditures By Source in Millions of Dollars: $10,871

Expenditure	Amount
Federal Gov't	$7,309
Industry	$1,636
State Gov't	$788
Private Nonprofit Org	$635
Individual	$123
Local Gov't	$224
Foreign Govt	$155



6.3 Computer Science Research Expenditures Located Outside of Engineering By Institutions

Table 103: Computer Science Research Expenditures Located Outside of Engineering By Institution

No	Institution	Expenditure(IN MILLIONS)
1	Carnegie Mellon University	$125.5
2	**Georgia Institute of Technology**	$36
3	The University of Texas at Austin	$29.1
4	**University of California, Irvine**	$22.2
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	**Brown University**	$7.8
11	University of Maryland, College Park	$5.7
12	**Worcester Polytechnic Institute**	$5.7
13	Duke University	$5.4
14	**University of Massachusetts Lowell**	$4.8
15	The University of Texas at San Antonio	$4.5
16	**The University of Memphis**	$4.4
17	University of Arizona	$4.2
18	**New Jersey Institute of Technology**	$3.9
19	FAMU-FSU College of Engineering	$3.9
20	**Boston University**	$3.4

* 36 Institutions included

7 CANADIAN ENGINEERING

7.1 Engineering Bachelor's Degree by Canadian Institutions

Table 104: 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 105: 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	373
6	**McMaster University**	306
7	University of Calgary	245
8	**University of Alberta**	240

7.3 Engineering Doctoral Degree by Canadian Institutions

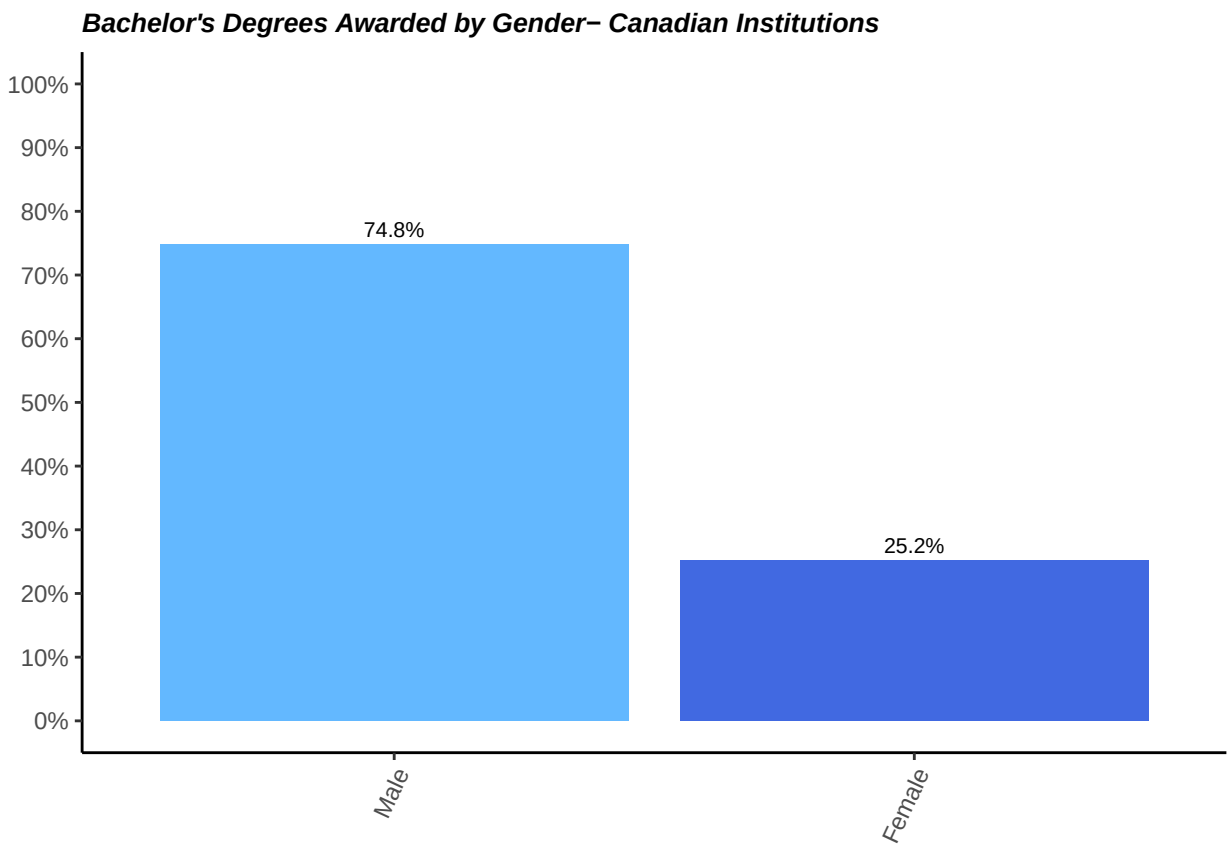
Table 106: Engineering Doctoral Degree by Canadian Institutions

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	79
8	**McMaster University**	61

7.4 Bachelor's Degrees Awarded by Gender- Canadian Institutions

Table 107: Bachelor's Degrees Awarded by Gender- Canadian Institutions

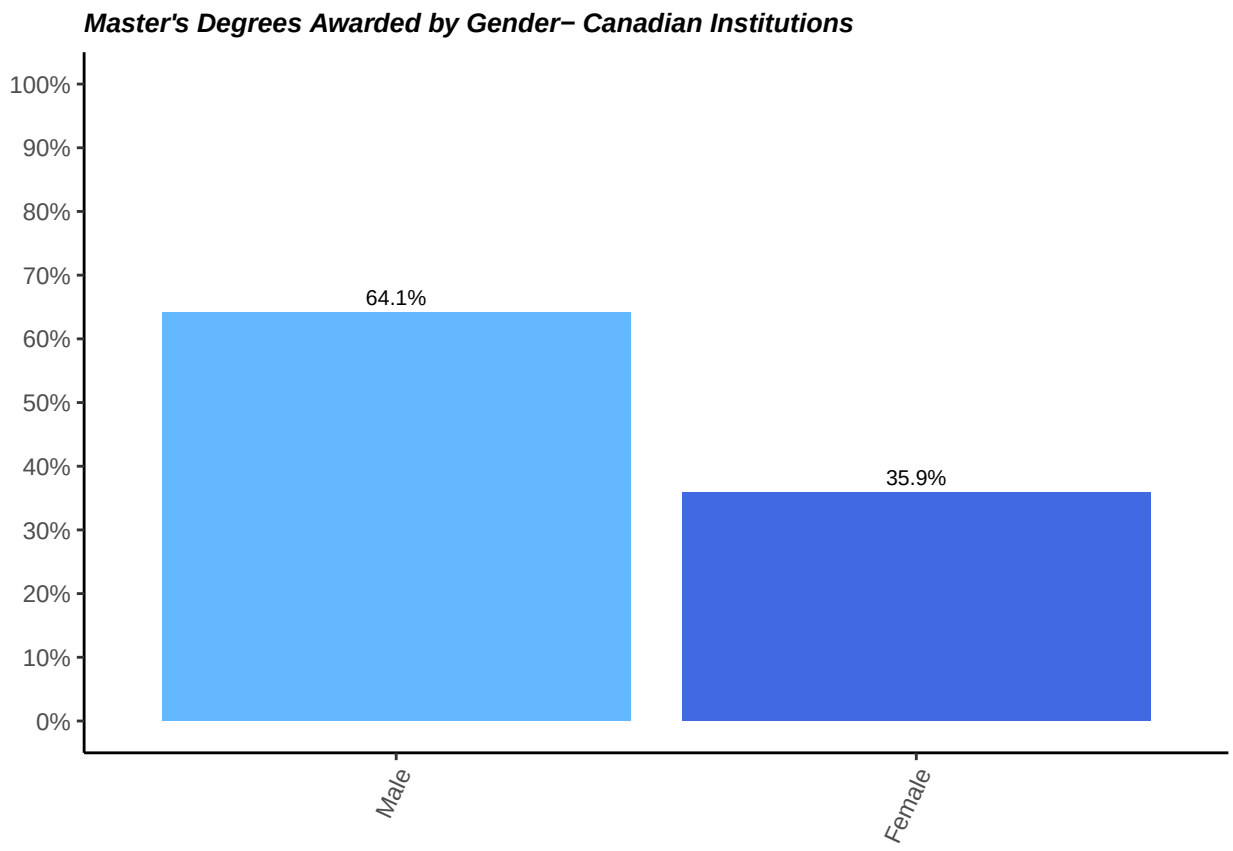
Gender	Percentage
Female	25.2%
Male	74.8%



7.5 Master's Degrees Awarded by Gender- Canadian

Table 108: Master's Degrees Awarded by Gender- Canadian Institutions

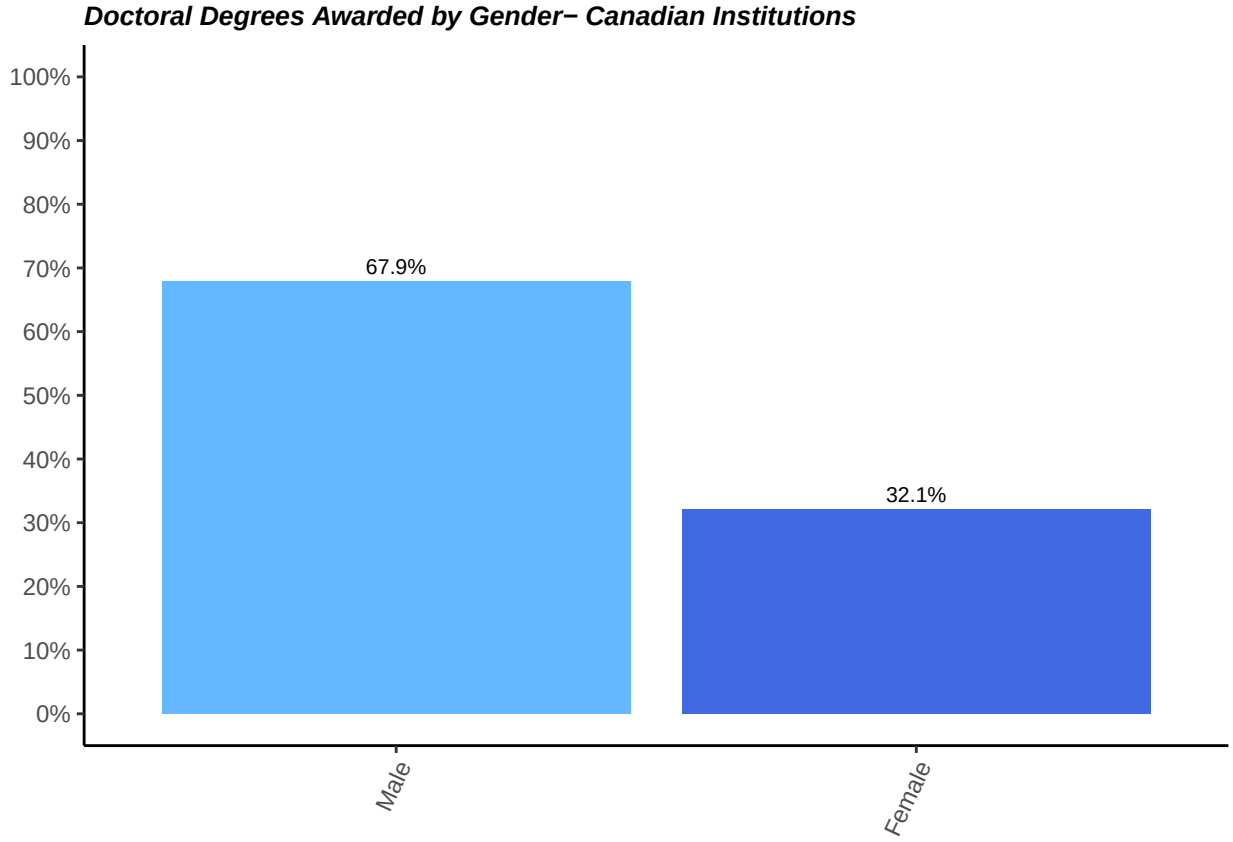
Gender	Percentage
Female	35.9%
Male	64.1%



7.6 Doctoral Degrees Awarded by Gender- Canadian Institutions

Table 109: Doctoral Degrees Awarded by Gender- Canadian Institutions

Gender	Percentage
Female	32.1%
Male	67.9%



7.7 Tenured/Tenure-Track Faculty Members by Institutions

Table 110: Tenured/Tenure-Track Faculty Members by Institutions

No	Institutions	Degrees Awarded
1	University of Waterloo	278

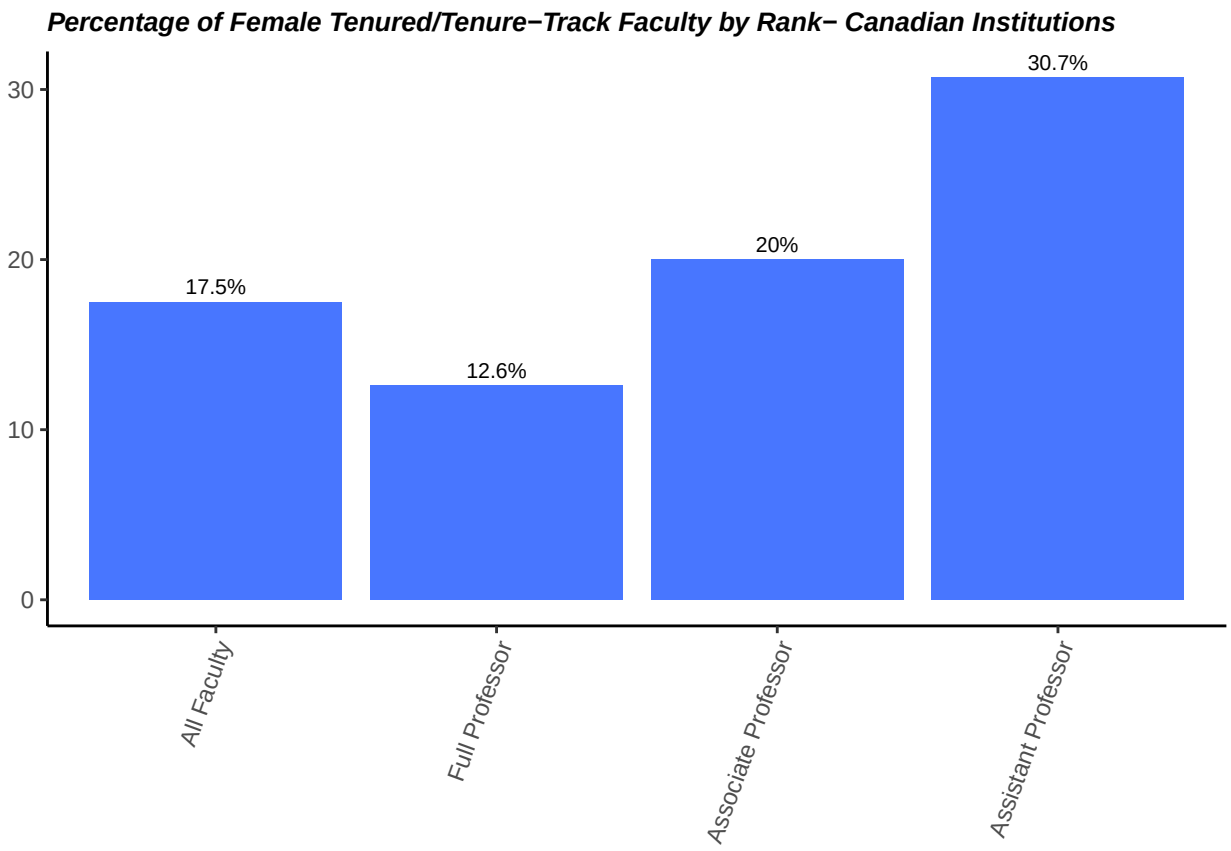
Table 110: Tenured/Tenure-Track Faculty Members by Institutions *(continued)*

No	Institutions	Degrees Awarded
2	**University of Toronto**	240
3	Concordia University, Montreal	222
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 111: 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

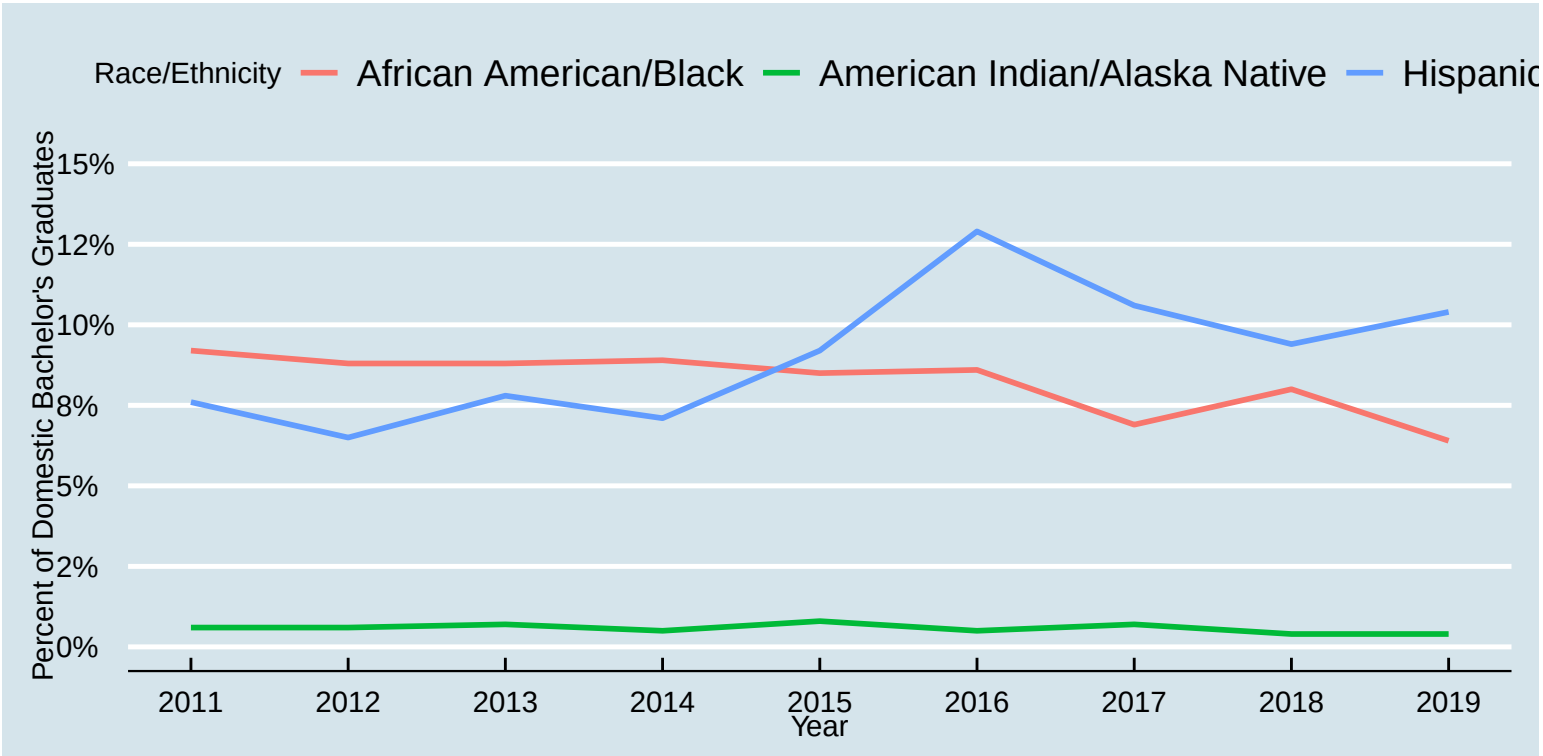
Joseph R. Roy, Ph.D.

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

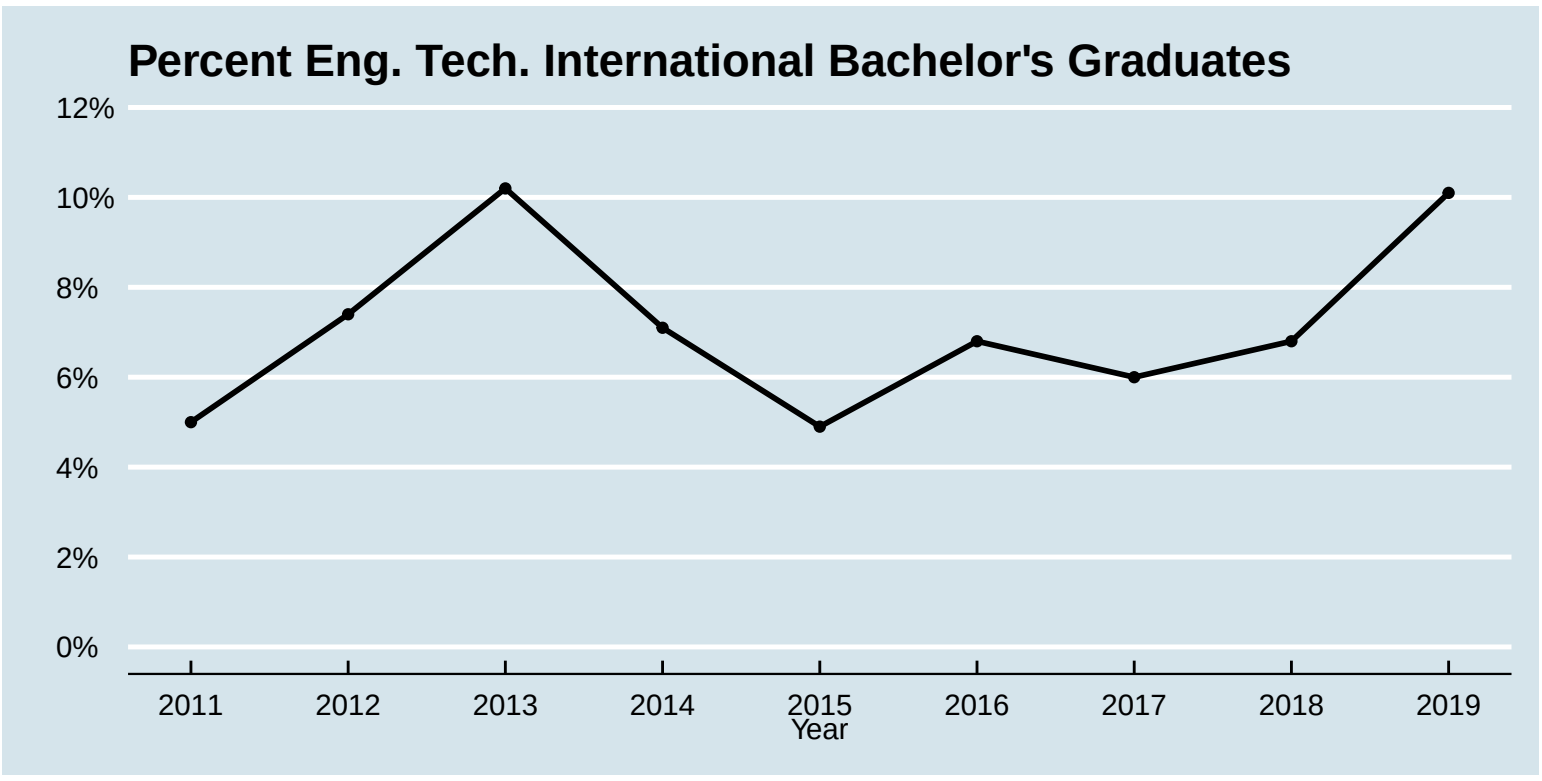
The ASEE Profiles data collection is in alignment with how the federal government collects race/ethnicity characteristics from institutions in order to ensure that institutions can report the data we are asking for. The full definition of each race/ethnicity is included in the methodology section. We 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.



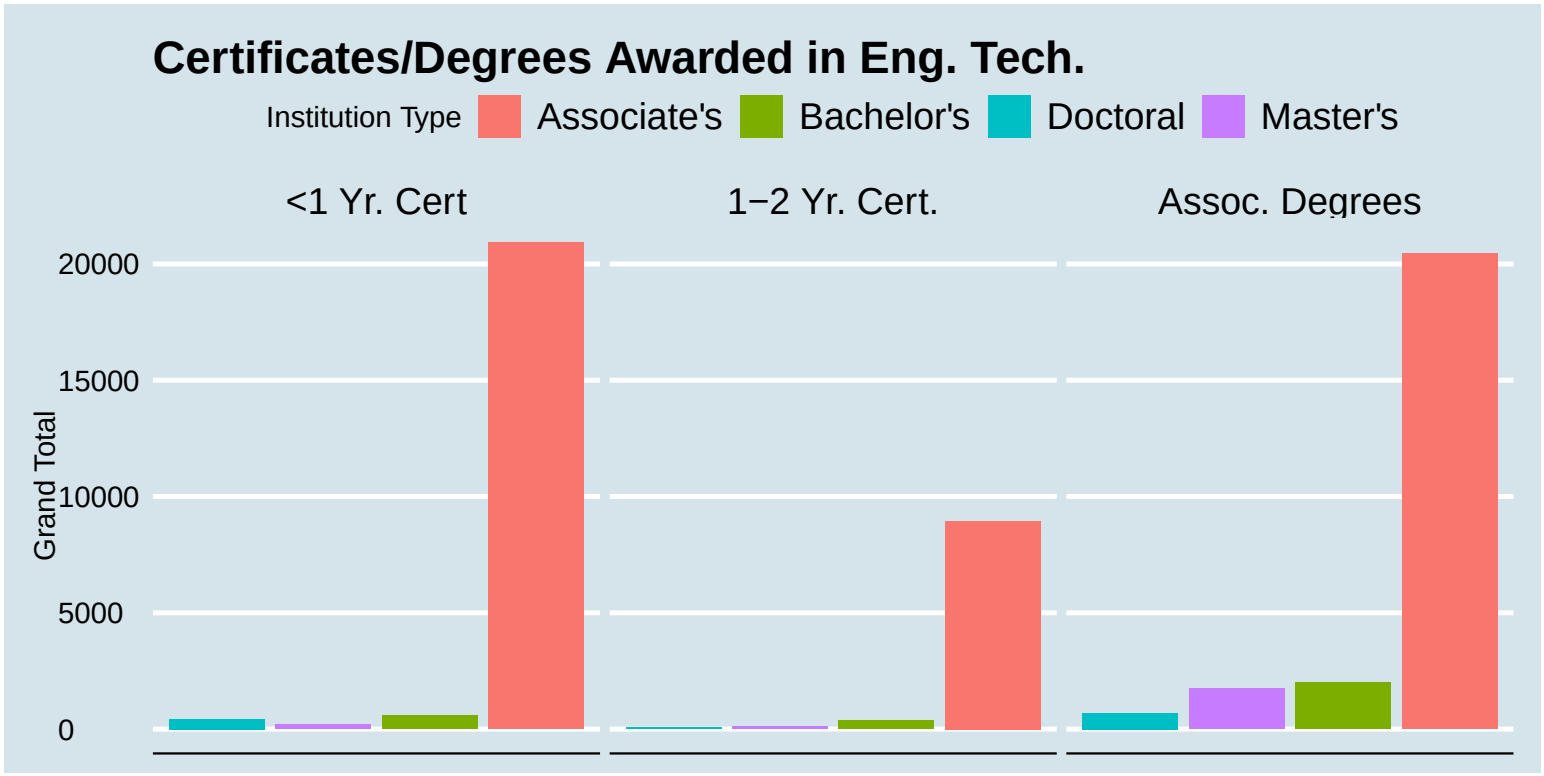
8.2 International Students in Engineering Technology

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.

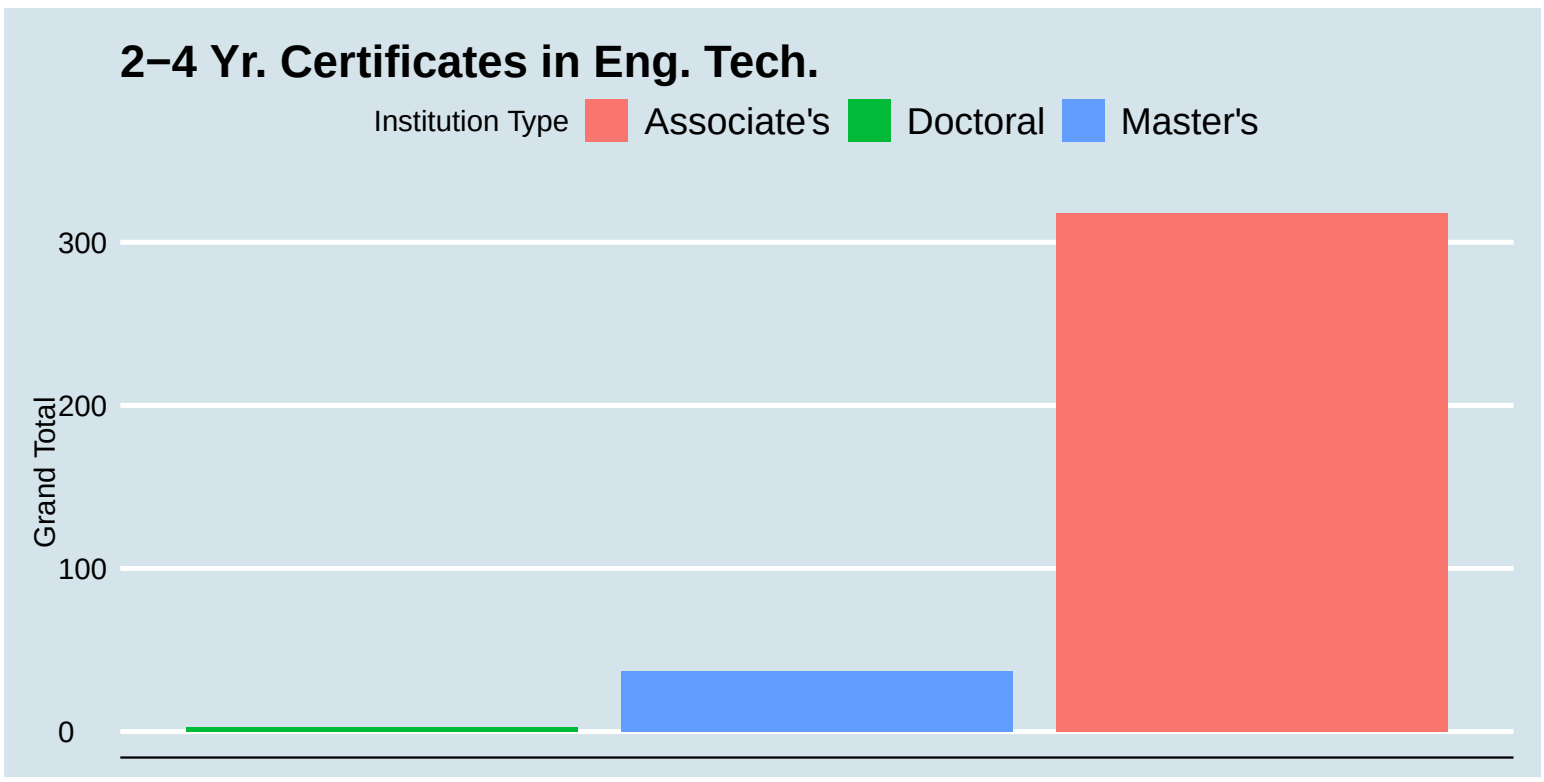


8.3 Engineering Technology Programs at 2-year Institutions

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 associates 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.



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.



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

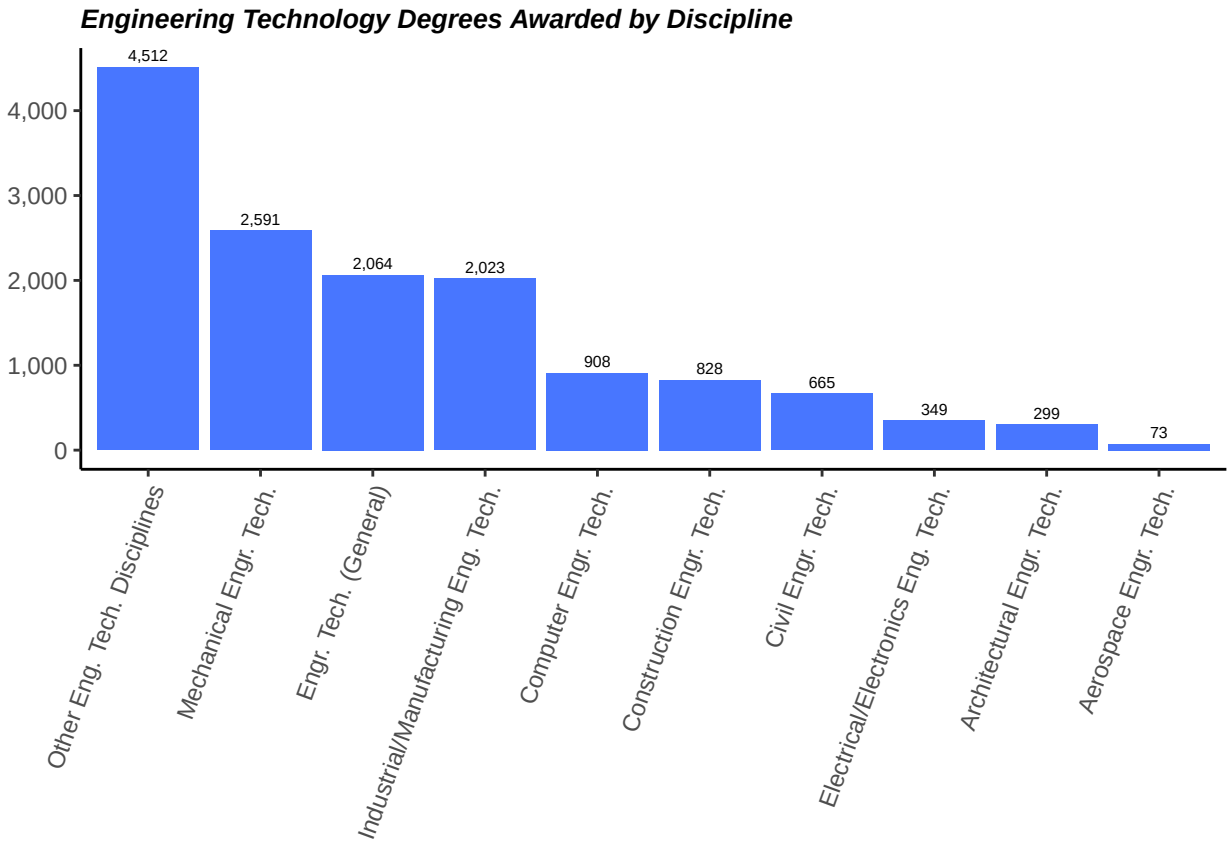
9 ENGINEERING TECHNOLOGY

9.1 ENGINEERING TECHNOLOGY DEGREES

9.1.1 Engineering Technology Degrees Awarded by Discipline

Table 112: Engineering Technology Degrees Awarded by Discipline : 14,312

Discipline Name	Degrees Awarded
Other Eng. Tech. Disciplines	4,512
Mechanical Engr. Tech.	2,591
Engr. Tech. (General)	2,064
Industrial/Manufacturing Eng. Tech.	2,023
Computer Engr. Tech.	908
Construction Engr. Tech.	828
Civil Engr. Tech.	665
Electrical/Electronics Eng. Tech.	349
Architectural Engr. Tech.	299
Aerospace Engr. Tech.	73



9.1.2 Engineering Technology Degrees Awarded to Underrepresented Minorities by Discipline

Table 113: Engineering Technology Degrees Awarded to Underrepresented Minorities by Engineering Discipline: 2,587

Discipline Name	Degrees Awarded
Other Eng. Tech. Disciplines	995
Engr. Tech. (General)	428
Mechanical Engr. Tech.	337
Industrial/Manufacturing Eng. Tech.	233
Computer Engr. Tech.	204
Construction Engr. Tech.	142
Civil Engr. Tech.	95
Electrical/Electronics Eng. Tech.	72
Architectural Engr. Tech.	68
Aerospace Engr. Tech.	13

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

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

Table 114: Percentage of Engineering Technology Degrees Awarded to Underrepresented Minorities by Discipline 17.9 % of Total

Discipline Name	Percent Women
Architectural Engr. Tech.	22.7%
Computer Engr. Tech.	22.5%
Other Eng. Tech. Disciplines	22.1%
Engr. Tech. (General)	20.7%
Electrical/Electronics Eng. Tech.	20.6%
Aerospace Engr. Tech.	17.8%
Construction Engr. Tech.	17.1%

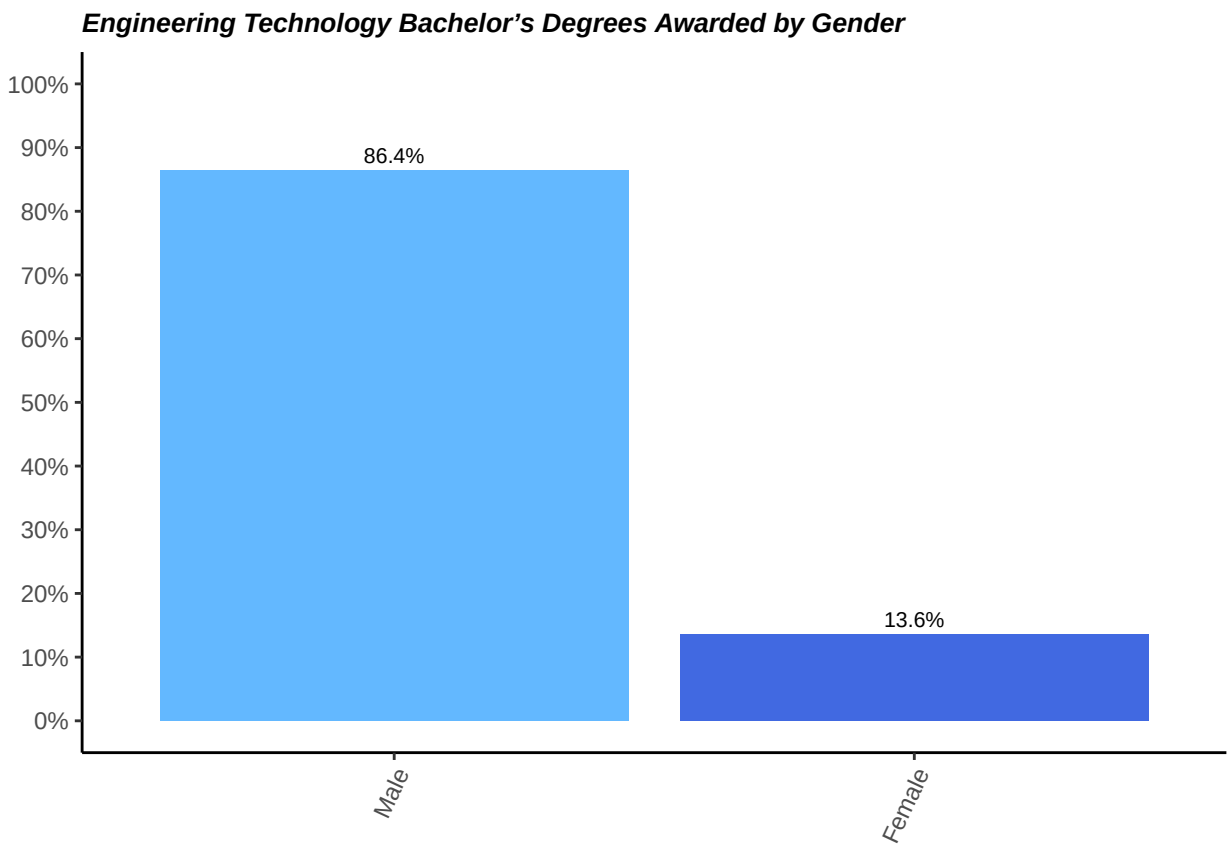
Table 114: Percentage of Engineering Technology Degrees Awarded to Underrepresented Minorities by Discipline 17.9 % of Total *(continued)*

Discipline Name	Percent Women
Civil Engr. Tech.	14.3%
Mechanical Engr. Tech.	13%
Industrial/Manufacturing Eng. Tech.	11.5%

9.1.4 Engineering Technology Bachelor's Degrees Awarded by Gender

Table 115: 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%	13.6%
Male	90.6%	90.5%	90.6%	89.8%	89.4%	87.2%	86.7%	85.5%	85.8%	86.4%



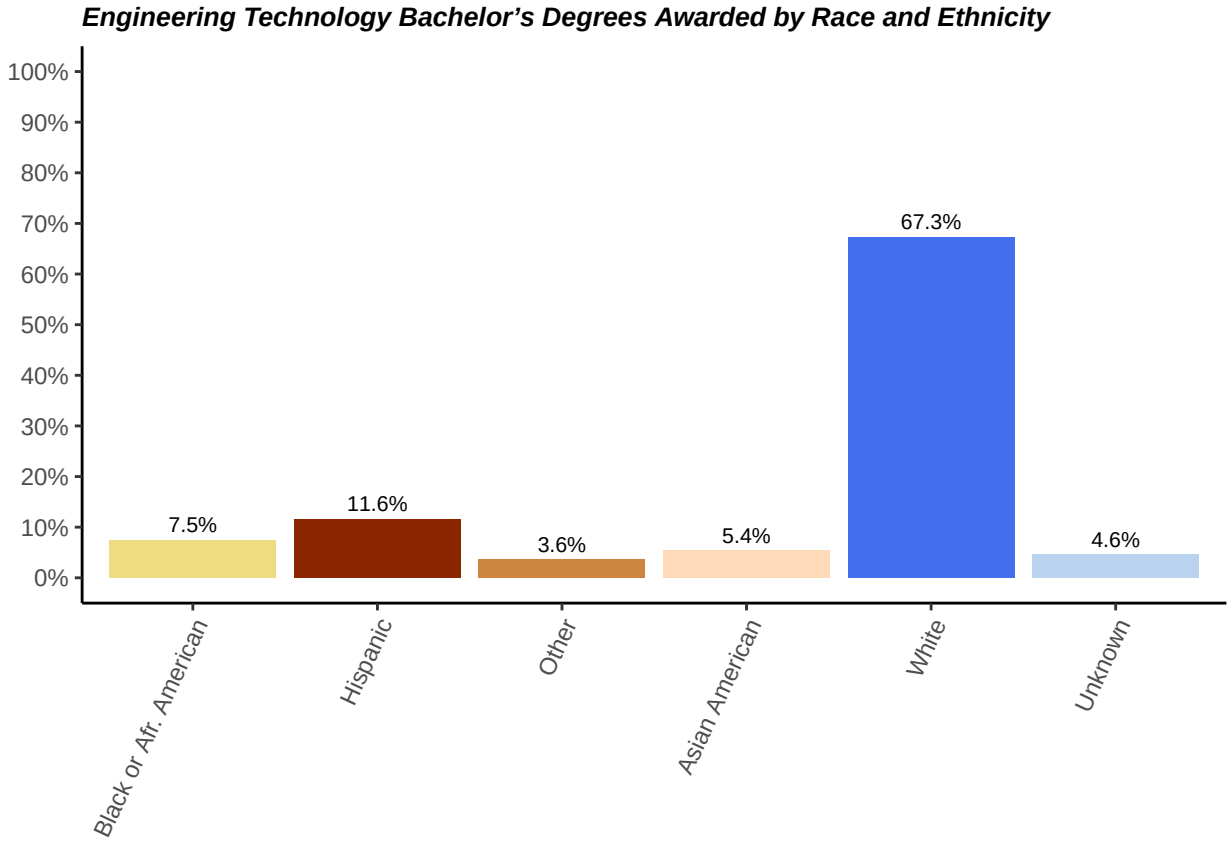
9.1.5 Engineering Technology Bachelor's Degrees Awarded by Race and Ethnicity

Table 116: 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%	7.5%
Hispanic	7.6%	6.5%	7.8%	7.1%	9.2%	12.9%	10.6%	11.4%	11.6%
Other	1.7%	1.5%	1.9%	1.7%	3.0%	4.1%	3.3%	3.5%	3.6%
Asian American	5.3%	5.0%	4.9%	5.1%	5.8%	6.8%	6.4%	14.7%	5.4%
White	70.4%	73.8%	72.4%	72.7%	68.7%	63.8%	68.4%	61.5%	67.3%
Unknown	5.8%	4.5%	4.3%	4.5%	4.8%	3.8%	4.4%	4.2%	4.6%

* American Indian/Alaska Native 0.4% Native Hawaiian/Other Pacific Islander 0.2% and Multiracial 3% are combined under other

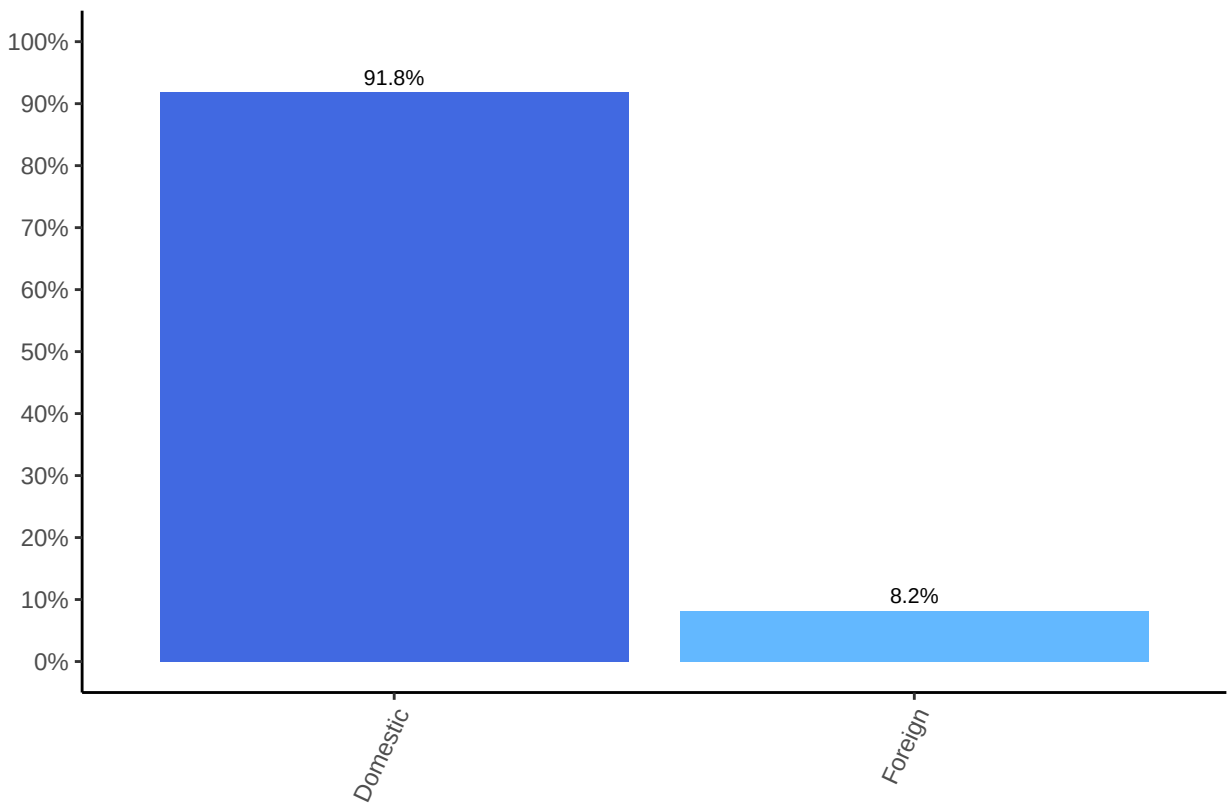
* Data on ethnicity does not include foreign nationals.



9.1.6 Engineering Technology Bachelor's Degrees Awarded by Residency

Table 117: 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%	8.2%
Domestic	94.8%	95.0%	92.6%	89.8%	92.9%	95.1%	93.2%	94.0%	93.2%	91.8%



9.1.7 Top 50 Institutions Awarding Highest Number of ET Degrees

Table 118: Top 50 Institutions Awarding Highest Number of ET Degrees

No	Institutions	Degrees Awarded
1	University of Houston, College of Technology	1,082
2	**Excelsior College**	726
3	Arizona State University	607
4	**Ferris State University**	592
5	Texas A&M University	555
6	**Farmingdale State College (SUNY)**	479
7	Pennsylvania College of Technology	380
8	**Old Dominion University**	348
9	Indiana University-Purdue University Indianapolis	346
10	**Indiana State University**	332
11	Purdue University Northwest, Technology	313
12	**Pittsburg State University**	290

Table 118: Top 50 Institutions Awarding Highest Number of ET Degrees *(continued)*

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

* 111 Institutions included

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

Table 119: 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)**	150
3	Arizona State University	144
4	**Texas A&M University**	134
5	Excelsior College	126
6	**New Jersey Institute of Technology**	95
7	Old Dominion University	78
8	**Savannah State University**	62
9	University of Southern Mississippi	58
10	**Virginia State University**	56
11	Indiana University-Purdue University Indianapolis	45
12	**Kennesaw State University**	44
13	Indiana State University	42
13	**University of Hartford**	42
15	Texas Southern University	40
16	**Rochester Institute of Technology**	37
17	Eastern Michigan University	36
17	**Metropolitan State University of Denver**	36
19	University of North Carolina at Charlotte	31
20	**Ferris State University**	30
21	New England Institute of Technology	28
21	**Northwestern State University of Louisiana**	28
23	University of North Texas	27
24	**Pittsburg State University**	26
25	Purdue University Northwest, Technology	24
25	**University of Central Missouri**	24
27	Austin Peay State University	22
27	**Central Connecticut State University**	22
27	Colorado State University-Pueblo	22
27	**University of Louisiana at Lafayette**	22
31	Oklahoma State University	21
32	**California State University Maritime Academy**	20
32	Daytona State College	20
32	**Fort Valley State University**	20

Table 119: Top 50 Institutions by Engineering Technology Degrees awarded to Underrepresented Minorities *(continued)*

No	Institutions	Degrees Awarded
32	Grambling State University	20
32	**Vaughn College of Aeronautics and Technology**	20
32	Weber State University	20
38	**Central Washington University**	18
38	Pennsylvania College of Technology	18
40	**Elizabeth City State University**	16
40	Southeastern Louisiana University	16
42	**Grantham University**	14
42	Middle Tennessee State University	14
44	**Fairleigh Dickinson University-Metropolitan Campus**	12
44	Northern New Mexico College	12
44	**SUNY Polytechnic Institute**	12
44	Western Kentucky University	12
48	**Capitol Technology University**	10
48	Louisiana Tech University	10
48	**Missouri Western State University**	10

* 111 Institutions included

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

Table 120: 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	35.7%
14	**Vaughn College of Aeronautics and Technology**	33.3%
15	Farmingdale State College (SUNY)	31.3%
16	**University of North Texas**	30.7%
17	Daytona State College	30.3%
18	**Austin Peay State University**	28.9%
19	University of West Alabama	27.8%
20	**Kennesaw State University**	27.7%
21	Colorado State University-Pueblo	27.5%
22	**University of Southern Mississippi**	27.4%
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	23.7%
28	**Old Dominion University**	22.4%
29	New England Institute of Technology	21.5%
30	**Temple University**	20.9%
31	Metropolitan State University of Denver	20.5%
32	**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	Excelsior College	17.4%
38	**Louisiana Tech University**	16.9%
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%

* 111 Institutions included

9.1.10 Top 50 Institutions Awarding Engineering Technology Degrees to Women

Table 121: Top 50 Institutions Awarding Engineering Technology Degrees to Women

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

* 111 Institutions included

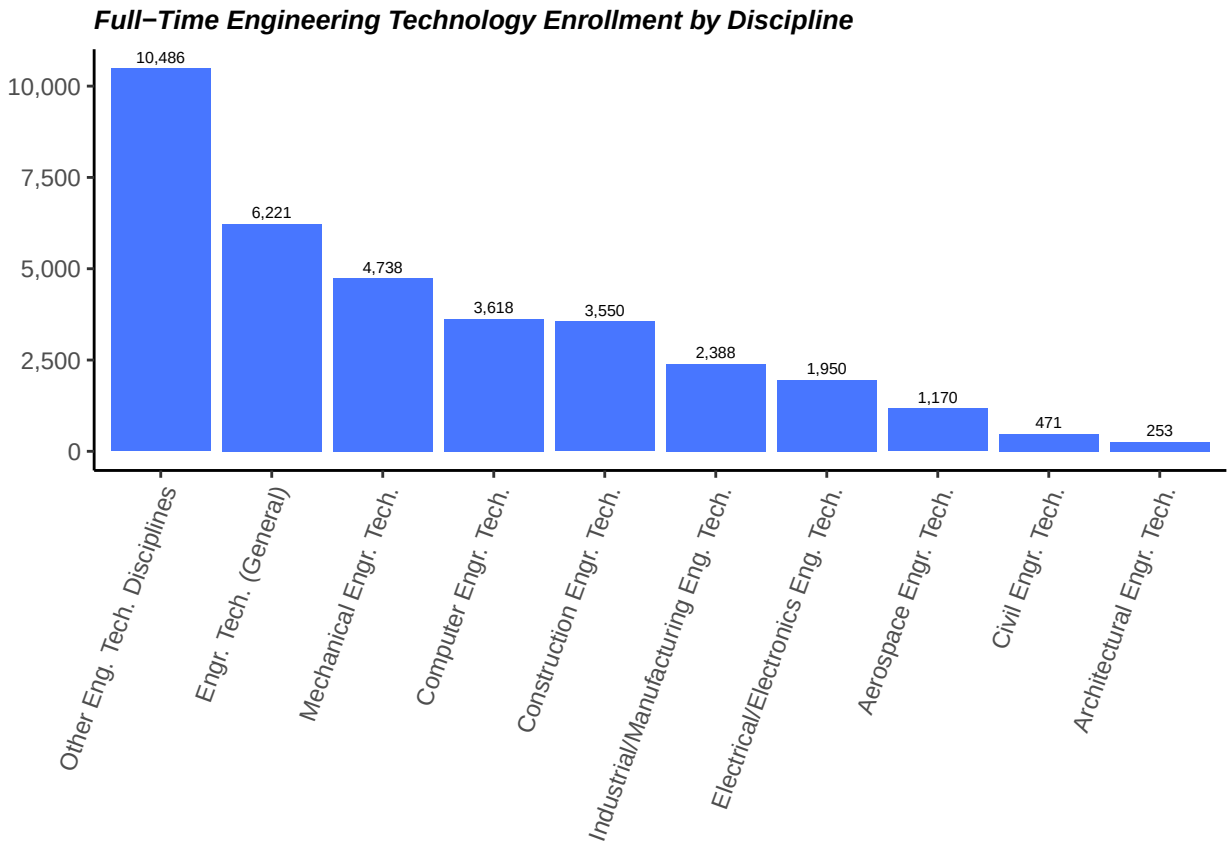
9.2 ENGINEERING TECHNOLOGY ENROLLMENT, FALL 2019

9.2.1 Full-Time Engineering Technology Enrollment by Discipline

Table 122: Full-Time Engineering Technology Enrollment by Discipline: 34,845

Discipline Name	Degrees Awarded
Other Eng. Tech. Disciplines	10,486
Engr. Tech. (General)	6,221
Mechanical Engr. Tech.	4,738
Computer Engr. Tech.	3,618
Construction Engr. Tech.	3,550
Industrial/Manufacturing Eng. Tech.	2,388
Electrical/Electronics Eng. Tech.	1,950
Aerospace Engr. Tech.	1,170
Civil Engr. Tech.	471
Architectural Engr. Tech.	253

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



9.2.2 Top 50 Institutions by Engineering Technology Enrollment

Table 123: Top 50 Institutions by Engineering Technology Enrollment

No	Institutions	Enrollments
1	University of Houston, College of Technology	6,030
2	**Arizona State University**	4,759
3	Purdue University Polytechnic Institute	4,754
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, Technology	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

Table 123: Top 50 Institutions by Engineering Technology Enrollment *(continued)*

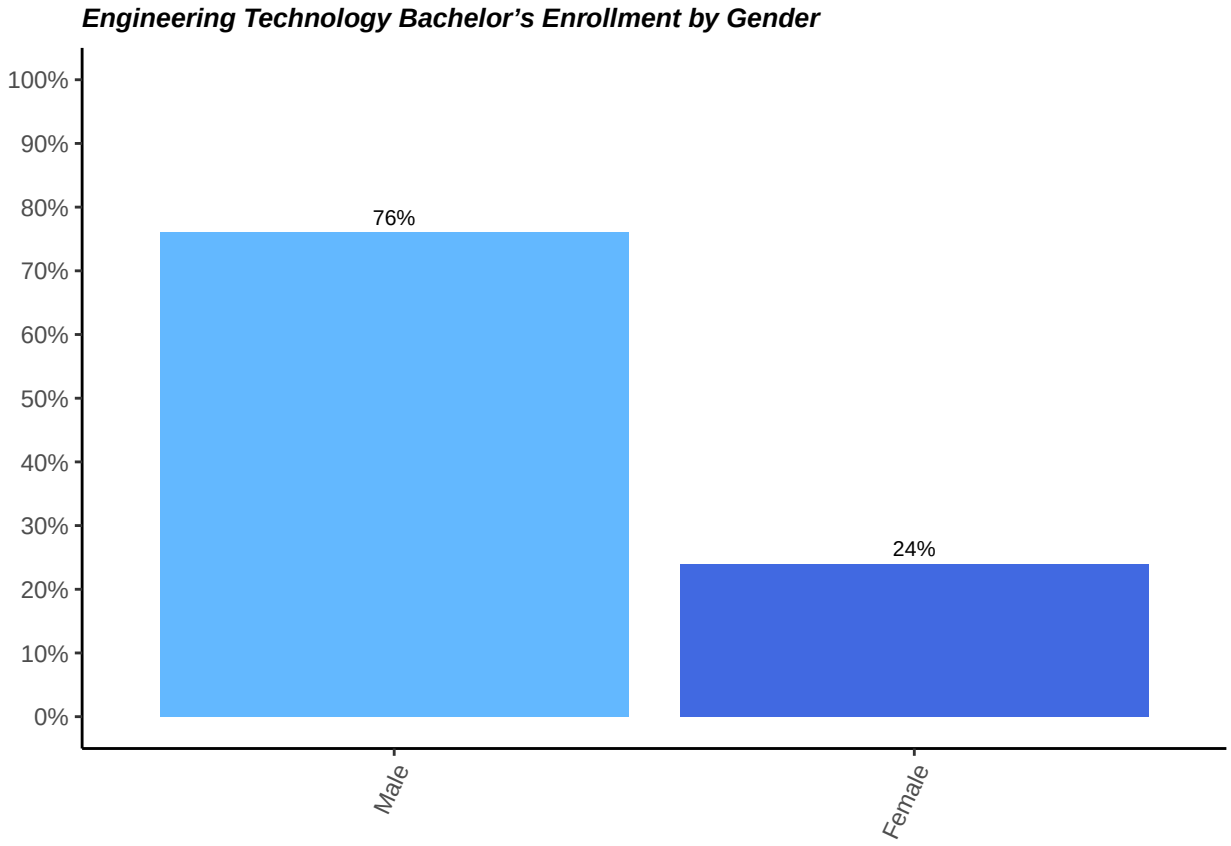
No	Institutions	Enrollments
47	University of Hartford	199
48	**University of Arkansas at Little Rock**	165
49	Trine University	164
50	**University of Massachusetts Lowell**	134

* 111 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 124: Engineering Technology Enrollment by Gender

Gender	Percentage
Female	24%
Male	76%



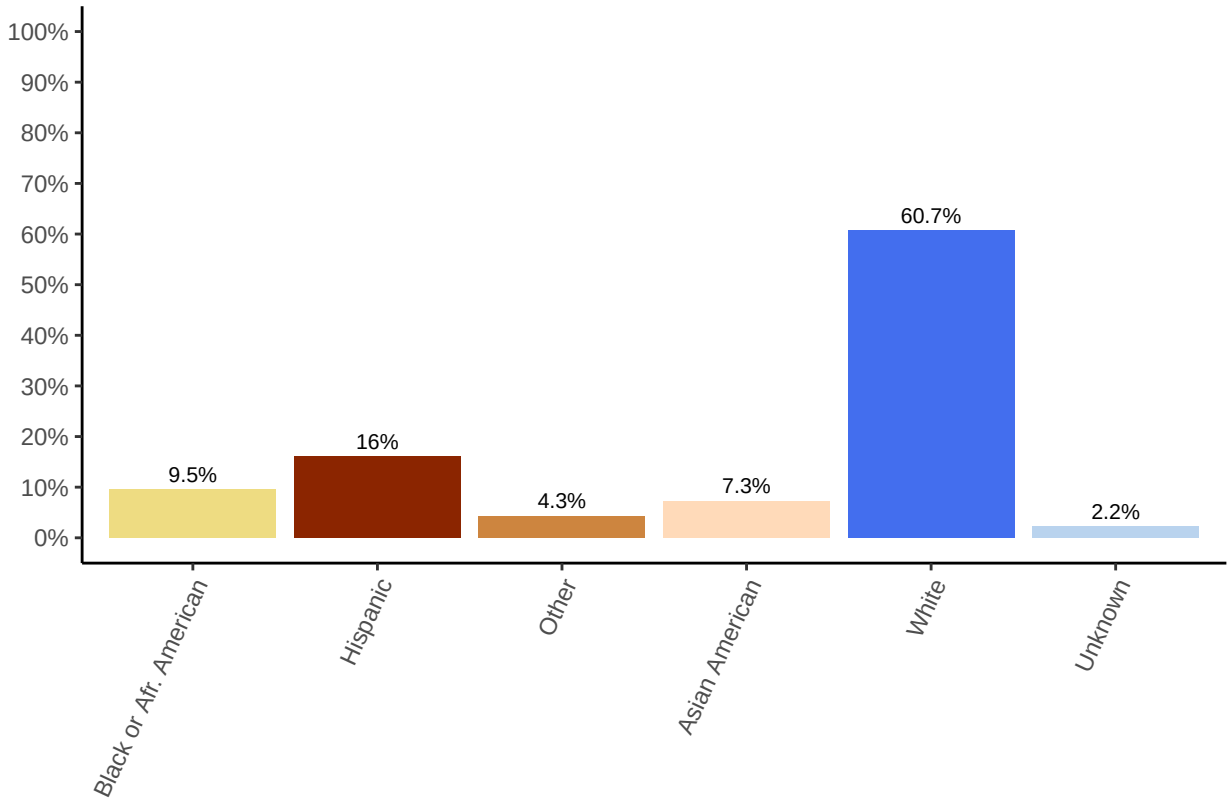
9.2.4 Engineering Technology Enrollment by Race and Ethnicity

Table 125: Engineering Technology Enrollment by Race and Ethnicity*

Ethnicity	Percentage
Black or Afr. American	9.5%
Hispanic	16%
Other	4.3%
Asian American	7.3%
White	60.7%
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



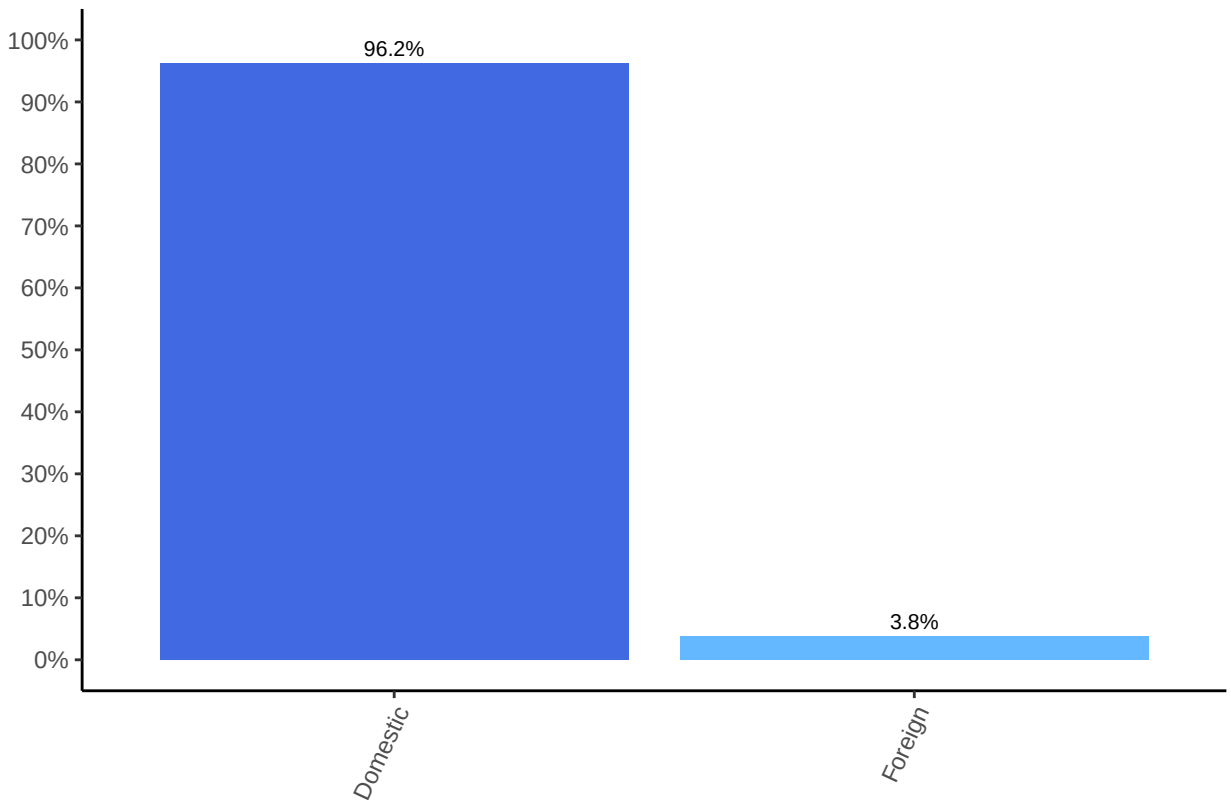
9.2.5 Engineering Technology Enrollment by Residency

Table 126: Doctoral Enrollment by Residency

Nationality	Percentage
Foreign	3.8%
Domestic	96.2%

* 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 that 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.

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