

TABLE 55

Higher education R&D expenditures in engineering subfields, ranked by all FY 2020 engineering R&D: FYs 2018–20 and by subfield for FY 2020

(Dollars in thousands)

Institution	Rank	2018	2019	2020									
				All engineering	Aerospace, aeronautical, and astronautical engineering	Bioengineering and biomedical engineering	Chemical engineering	Civil engineering	Electrical, electronic, and communications engineering	Industrial and manufacturing engineering	Mechanical engineering	Metallurgical and materials engineering	Engineering nec
All institutions	-	12,363,782	13,216,209	13,692,756	1,295,759	1,468,229	999,312	1,422,418	3,048,420	588,127	1,812,916	816,610	2,240,965
Johns Hopkins U. ^a	1	1,087,478	1,147,335	1,205,632	132,651	59,419	22,153	16,831	547,044	99,394	224,716	29,331	74,093
Georgia Institute of Technology	2	613,650	664,695	695,176	180,295	18,681	20,486	38,363	259,745	99,952	49,705	14,517	13,432
Massachusetts Institute of Technology	3	431,927	450,915	419,636	29,160	104,805	47,150	14,924	55,447	117	53,616	42,431	71,986
Pennsylvania State U., University Park and Hershey Medical Center	4	325,002	350,391	367,730	32,250	19,563	18,370	12,155	101,850	23,296	109,852	50,394	0
Texas A&M U., College Station and Health Science Center	5	300,956	321,373	357,559	31,963	20,933	20,730	98,444	29,379	8,381	42,100	14,068	91,561
SUNY, Polytechnic Institute	6	255,033	350,793	353,542	0	0	0	48	5	0	33	0	353,456
U. Michigan, Ann Arbor	7	299,072	291,887	283,329	14,793	21,413	14,152	20,833	81,952	4,631	43,824	11,432	70,299
Purdue U., West Lafayette	8	229,967	270,525	280,592	24,463	20,748	19,587	28,429	50,109	15,847	49,198	19,668	52,543
Virginia Polytechnic Institute and State U.	9	245,755	258,213	263,711	18,219	22,519	5,494	31,117	62,349	34,468	31,040	19,216	39,289
U. Texas, Austin	10	242,963	249,788	259,935	12,615	12,543	37,569	35,537	63,425	141	49,202	21,465	27,438
Utah State U.	11	140,407	202,345	226,616	204,547	1,087	0	11,050	4,692	0	3,853	0	1,387
U. California, Berkeley	12	200,668	200,122	209,293	0	228	7,665	33,921	129,736	89	24	0	37,630
U. Illinois, Urbana-Champaign	13	195,413	201,028	203,564	10,210	13,055	17,451	20,674	60,400	0	32,041	16,575	33,158
U. California, San Diego	14	150,596	172,919	182,495	0	53,586	0	0	83,383	0	14,973	0	30,553
Ohio State U.	15	183,646	177,518	175,109	406	5,461	12,621	7,144	28,085	6,521	71,587	22,487	20,797
North Carolina State U.	16	166,680	174,590	174,740	1,632	14,969	31,878	19,313	41,712	9,520	10,736	22,414	22,566
U. Colorado Boulder	17	171,965	152,391	160,423	97,881	10,069	10,701	12,731	12,491	0	11,878	1,190	3,482
Arizona State U.	18	142,175	152,395	155,015	0	12,067	6,998	26,738	52,719	3,092	11,303	6,100	35,998

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U. Maryland ^b	19	na	158,814	153,109	13,740	20,034	5,367	35,931	20,393	0	17,561	12,927	27,156
U. Dayton	20	139,036	157,016	153,082	13,746	0	9,840	490	8,499	28,274	7,667	68,755	15,811
U. Washington, Seattle	21	149,931	155,076	152,919	8,328	28,542	9,057	19,942	41,430	1,874	14,436	5,907	23,403
Wichita State U.	22	63,328	109,248	134,848	131,285	48	0	0	518	311	323	0	2,363
U. Wisconsin-Madison	23	118,576	126,587	133,600	0	15,701	12,549	13,952	16,300	4,798	12,790	11,362	46,148
Stanford U.	24	146,504	134,585	130,950	15,157	26,083	17,176	15,130	18,285	0	24,302	9,972	4,845
U. Tennessee, Knoxville ^c	25	128,675	116,528	128,542	20,649	2,629	6,273	12,133	21,008	34,275	0	13,830	17,745
Cornell U.	26	92,590	110,545	123,703	3,050	18,636	12,915	8,567	25,517	4,657	20,086	19,421	10,854
U. Minnesota, Twin Cities	27	124,637	120,976	120,929	12,046	25,028	24,803	13,513	19,080	2,281	18,088	6,090	0
U. Florida	28	93,580	107,598	119,066	9,587	23,017	5,453	2,316	28,069	1,949	7,119	15,764	25,792
SUNY, U. Buffalo	29	95,234	95,040	112,843	16,026	15,771	16,072	10,690	5,146	12,273	20,311	2,245	14,309
Iowa State U.	30	99,214	104,798	109,473	5,301	8,679	6,746	21,348	12,327	0	13,685	4,870	36,517
Carnegie Mellon U.	31	99,201	95,496	102,955	1,549	10,273	12,813	6,651	25,294	0	21,286	10,117	14,972
New York U.	32	85,767	99,711	100,207	0	107	1,874	1,394	15,280	0	2,888	0	78,664
U. California, Davis	33	89,128	92,277	97,951	0	22,983	2,488	44,957	12,137	0	10,049	0	5,337
Harvard U.	34	96,786	95,651	97,884	0	60,486	382	3,646	11,132	0	815	19,888	1,535
Duke U.	35	92,715	100,379	95,657	0	43,021	0	9,763	31,499	0	8,266	2,282	826
Vanderbilt U. and Vanderbilt U. Medical Center	36	87,250	94,340	94,674	0	16,001	13,064	17,127	34,296	0	11,033	0	3,153
U. California, Los Angeles	37	91,799	95,797	93,520	0	10,244	8,111	7,469	33,642	0	16,512	6,140	11,402
Rice U.	38	67,934	77,299	91,913	0	37,712	8,133	9,307	21,554	0	4,535	7,864	2,808
Northeastern U.	39	65,147	79,836	89,954	0	7,429	4,312	11,595	31,541	12,807	17,181	0	5,089
U. California, Santa Barbara	40	77,535	67,395	87,681	0	15,226	9,585	2,527	41,250	0	7,700	10,902	491
Boston U.	41	83,013	78,154	85,651	1,746	35,868	188	0	22,851	2,635	10,916	1,020	10,427
U. Notre Dame	42	77,243	89,702	84,478	31,277	0	14,730	14,901	22,234	0	0	52	1,284

TABLE 55

Higher education R&D expenditures in engineering subfields, ranked by all FY 2020 engineering R&D: FYs 2018–20 and by subfield for FY 2020

(Dollars in thousands)

Institution	Rank	2018	2019	2020										
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Woods Hole Oceanographic Institution	43	61,221	83,974	84,333	0	0	0	0	0	0	0	0	0	84,333
Michigan State U.	44	77,165	79,638	82,690	0	22,392	14,650	7,482	18,763	0	12,106	0	7,297	
U. Pennsylvania	45	67,574	78,444	82,299	0	20,457	9,194	0	16,788	0	22,352	0	13,508	
New Jersey Institute of Technology	46	69,735	78,455	82,047	0	12,232	7,274	20,610	3,859	0	2,274	0	35,798	
U. Arizona	47	70,100	75,555	79,463	1,601	8,552	5,811	2,914	39,690	4,178	5,097	7,902	3,718	
U. Southern California	48	72,961	76,180	78,005	1,523	8,416	3,205	7,048	42,612	2,425	6,665	0	6,111	
Northwestern U.	49	81,662	80,413	77,150	0	14,678	14,434	5,619	7,501	3,948	6,525	15,415	9,030	
Clemson U.	50	73,506	76,739	76,971	0	12,996	5,904	14,483	9,687	2,637	14,581	11,759	4,924	
U. Delaware	51	52,932	66,447	74,258	0	5,239	41,292	8,565	11,012	0	6,898	0	1,252	
Columbia U. in the City of New York	52	72,301	72,596	72,758	2,088	19,807	6,151	2,143	4,606	821	5,696	0	31,446	
U. Virginia, Charlottesville	53	70,000	83,072	72,602	0	16,398	4,574	1,549	16,824	0	9,288	10,680	13,289	
Auburn U., Auburn	54	56,233	59,742	70,593	3,723	1,206	7,466	9,482	9,695	4,338	19,199	522	14,962	
Mississippi State U.	55	48,399	60,183	69,220	12,558	1,368	6,372	5,317	8,023	6,252	17,936	299	11,095	
Princeton U.	56	67,450	65,000	67,014	2,799	6,731	5,921	5,014	17,156	2,810	7,421	11,788	7,374	
U. Central Florida	57	62,734	62,258	62,071	14,549	882	0	7,022	11,432	5,284	8,784	4,929	9,189	
U. California, Irvine	58	70,449	55,995	59,695	0	10,443	6,490	9,983	14,476	0	12,313	4,603	1,387	
U. Texas, Arlington	59	48,513	54,450	59,395	4,444	5,453	0	11,785	6,625	12,438	4,451	0	14,199	
U. Massachusetts, Amherst	60	54,219	49,745	58,804	0	1,111	21,952	14,209	10,658	0	8,915	0	1,959	
Rensselaer Polytechnic Institute	61	57,190	59,831	57,923	0	5,241	9,362	4,797	12,815	498	16,872	4,393	3,945	
U. Utah	62	42,053	55,478	57,608	0	10,656	9,364	4,901	13,230	0	12,796	3,945	2,716	
Florida State U.	63	56,281	56,352	56,493	2,776	4,015	3,193	6,512	13,819	2,397	20,996	2,138	647	
Rutgers, State U. New Jersey, New Brunswick	64	104,371	92,937	55,880	0	5,209	4,166	2,131	6,067	509	6,927	3,113	27,758	
U. Houston	65	50,047	51,806	55,210	2,244	11,839	12,273	6,515	8,165	722	6,834	603	6,015	

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U. Pittsburgh, Pittsburgh	66	44,995	46,075	53,586	0	14,129	10,975	3,983	8,768	2,291	9,752	0	3,688
U. Missouri, Columbia	67	44,864	48,028	53,343	587	3,107	674	5,955	6,429	680	2,617	85	33,209
U. Alabama, Birmingham	68	48,102	47,555	53,030	8,271	6,470	3,507	693	5,960	0	7,356	18,086	2,687
U. North Dakota	69	52,960	54,760	52,511	0	0	1,055	36,181	1,899	0	906	827	11,643
George Mason U.	70	15,785	36,101	52,423	0	6,016	0	5,129	20,341	18,591	1,705	389	252
California Institute of Technology	71	45,494	46,972	51,693	9,139	3,051	7,955	12,202	4,877	0	307	12	14,150
U. Nebraska, Lincoln	72	49,434	53,932	51,685	0	9,481	3,662	15,613	9,457	38	5,476	6,267	1,691
U. Alabama, Huntsville	73	34,105	40,733	51,198	30,622	254	1,031	3,390	5,450	3,602	5,612	465	772
Oregon State U.	74	49,271	49,587	50,900	0	2,773	1,832	11,468	13,571	3,645	7,683	519	9,409
U. Texas, Dallas	75	43,363	48,666	50,812	0	14,739	0	0	12,239	1,464	7,611	4,821	9,938
U. Iowa	76	50,848	50,377	48,433	0	588	1,529	21,652	3,616	757	1,946	0	18,345
U. Kentucky	77	47,821	50,743	46,976	1,169	1,756	3,512	8,775	2,510	206	3,462	4,557	21,029
U. Connecticut	78	39,907	44,044	46,751	0	3,677	6,131	14,913	8,364	0	5,456	6,583	1,627
Colorado School of Mines	79	35,504	44,195	46,694	369	1,627	5,512	7,318	476	0	7,364	15,810	8,218
Michigan Technological U.	80	45,745	47,435	45,263	0	2,350	2,325	3,777	8,273	0	20,255	3,936	4,347
U. Cincinnati	81	44,588	46,889	43,098	6,836	1,886	3,844	7,668	9,508	0	10,998	0	2,358
Texas Tech U.	82	40,249	44,057	42,856	0	0	8,952	9,653	10,124	2,090	5,229	0	6,808
Colorado State U., Fort Collins	83	38,919	42,609	42,839	0	814	2,513	15,082	8,951	213	13,995	0	1,271
U. South Carolina, Columbia	84	31,294	31,748	42,804	243	0	7,329	3,523	4,944	0	18,846	0	7,919
U. New Mexico	85	35,067	37,950	42,739	7,567	684	5,399	6,911	10,458	829	1,408	900	8,583
U. California, Santa Cruz	86	29,724	39,111	41,752	0	1,549	0	0	3,918	0	0	0	36,285
West Virginia U.	87	37,520	42,516	40,786	60	0	5,613	4,569	5,879	5,086	11,021	1,824	6,734
Louisiana State U., Baton Rouge	88	44,604	45,803	40,084	0	0	6,543	10,772	2,195	444	4,160	4,667	11,303

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Florida International U.	89	31,410	35,138	39,826	0	5,219	0	13,669	11,045	77	3,662	1,254	4,900
Washington State U.	90	43,674	39,578	39,533	15	4,061	5,290	7,608	7,580	64	7,150	4,580	3,185
Montana State U., Bozeman	91	25,643	36,521	38,833	0	5,056	1,169	6,597	2,987	16	5,113	0	17,895
Case Western Reserve U.	92	46,184	41,228	37,911	0	15,944	6,537	837	6,909	0	6,932	554	198
U. Arkansas, Fayetteville	93	36,132	34,590	37,758	0	8,320	4,314	4,737	11,510	3,315	3,489	0	2,073
Mercer U.	94	23,532	32,624	37,450	12,953	0	0	3	404	0	14,423	9,143	524
U. South Florida, Tampa	95	45,487	45,508	37,162	36	3,394	3,732	17,467	5,761	955	4,575	0	1,242
Yale U.	96	35,939	36,591	36,806	0	12,158	5,222	0	10,978	0	7,619	0	829
U. Maine	97	27,459	32,368	36,760	0	20	8,189	1,153	1,616	1,291	2,610	20,974	907
U. Oklahoma, Norman and Health Science Center	98	23,293	26,569	36,643	5,362	3,079	3,174	6,323	12,454	1,614	0	0	4,637
Missouri U. of Science and Technology	99	33,241	37,912	36,447	1,777	5	1,059	5,878	7,368	521	4,937	13,454	1,448
U. Massachusetts, Lowell	100	27,676	33,128	35,847	0	3,078	12,982	2,457	7,443	0	7,714	0	2,173
Oklahoma State U., Stillwater	101	37,003	32,947	33,983	10,485	0	6,802	4,854	3,434	1,706	115	1,389	5,198
Stevens Institute of Technology	102	22,396	25,832	33,103	47	1,590	1,353	492	2,248	0	1,862	40	25,471
U. Alabama, Tuscaloosa	103	24,667	31,845	33,019	1,324	49	2,592	9,222	9,242	0	5,397	4,342	851
SUNY, Binghamton U.	104	35,406	30,434	32,668	0	4,015	0	0	6,012	13,523	6,436	0	2,682
U. California, Riverside	105	29,206	29,020	31,937	0	2,336	5,855	10,158	7,790	0	3,694	845	1,259
U. Illinois, Chicago	106	25,079	28,226	31,496	0	12,534	1,754	3,922	4,262	0	8,580	376	68
Drexel U.	107	31,625	31,330	31,230	0	6,042	6,032	2,819	4,267	0	2,879	7,112	2,079

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Dartmouth C. and Dartmouth Hitchcock Medical Center	108	31,903	31,110	31,140	0	13,253	3,605	655	3,738	38	6,330	0	3,521
U. North Carolina, Chapel Hill	109	28,509	31,825	30,774	0	9,572	0	19,618	0	1,584	0	0	0
SUNY, Stony Brook U.	110	28,015	28,632	30,180	0	7,091	0	1,995	8,286	0	3,130	7,127	2,551
U.S. Air Force Academy	111	28,645	28,489	29,812	4,358	0	0	0	325	0	25,073	0	56
Virginia Commonwealth U.	112	20,262	26,072	29,811	0	5,114	13,136	0	1,947	0	4,327	0	5,287
Wright State U.	113	43,039	39,164	29,519	4,082	14,741	0	0	6,752	1,517	1,161	1	1,265
Kansas State U.	114	26,577	27,439	28,155	1,736	0	3,438	3,581	4,212	1,516	7,748	0	5,924
U. Louisiana, Lafayette	115	13,188	28,397	27,878	0	0	8,182	3,758	3,925	9	8,238	2,277	1,489
Tufts U.	116	27,130	31,630	26,662	294	13,766	3,193	3,875	2,842	0	2,382	0	310
Old Dominion U.	117	17,074	19,294	25,869	2,153	0	0	1,315	5,403	9,614	2,566	0	4,818
U. Hawaii, Manoa	118	21,367	17,089	25,423	0	864	0	6,815	9,159	0	2,197	0	6,388
U. Texas, El Paso	119	27,260	26,586	25,172	15	1,016	0	4,397	4,729	1,645	10,955	1,175	1,240
New Mexico State U.	120	23,067	25,892	25,030	5,666	1	1,761	3,995	2,956	154	1,600	145	8,752
U. Chicago	121	16,388	23,773	24,468	0	0	0	0	0	0	0	0	24,468
Syracuse U.	122	22,145	25,412	24,272	381	5,352	0	2,468	7,937	0	5,563	0	2,571
Lehigh U.	123	24,564	23,447	24,054	0	710	3,565	5,025	3,801	1,913	4,845	4,169	26
Brown U.	124	28,149	23,448	23,965	0	7,678	2,832	0	2,941	0	2,885	3,256	4,373
Air Force Institute of Technology	125	22,908	20,525	23,947	6,577	0	0	327	5,372	9,957	0	1,714	0
U. Nevada, Reno	126	19,373	23,568	23,939	388	1,847	2,251	9,204	1,493	0	2,127	2,854	3,775
Washington U., Saint Louis	127	24,238	23,090	23,821	0	8,668	5,890	712	4,844	0	0	2,952	755
Worcester Polytechnic Institute	128	20,617	21,029	23,758	97	3,980	3,044	732	2,236	0	10,747	2,252	670
U. New Hampshire	129	19,239	23,861	23,457	0	0	1,638	8,007	9,776	0	4,036	0	0
CUNY, City C.	130	28,252	28,337	23,140	0	4,878	2,278	9,672	2,967	0	3,172	0	173

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Naval Postgraduate School	131	19,675	22,498	22,933	6,710	493	0	178	3,481	141	2,334	487	9,109
U. Texas, San Antonio	132	17,781	19,928	22,922	0	3,887	0	4,856	3,701	584	3,591	0	6,303
George Washington U.	133	17,136	21,712	22,682	2,651	6,722	0	2,909	6,296	1,450	1,287	7	1,360
Rochester Institute of Technology	134	18,611	20,264	20,910	0	1,064	574	14	5,196	2,322	1,604	0	10,136
U. Wyoming	135	36,672	19,550	20,317	0	39	5,488	2,794	454	0	1,455	0	10,087
U. Kansas	136	17,481	20,869	19,830	896	5,398	3,005	3,125	4,759	0	782	18	1,847
U. North Carolina, Charlotte	137	11,933	16,000	19,781	0	0	0	6,228	3,486	48	4,943	0	5,076
U. Georgia	138	21,346	18,444	19,273	0	2,090	5,308	6,325	3,990	0	0	0	1,560
U. Louisville	139	17,321	16,302	18,105	2	4,476	781	1,956	4,368	1,605	1,140	0	3,777
U. Alaska, Fairbanks	140	14,027	14,922	17,843	616	0	49	6,410	8,186	0	96	417	2,069
U. Idaho	141	17,190	17,497	17,035	1,031	1,473	725	3,114	1,644	8	610	727	7,703
U. Puerto Rico, Mayaguez	142	13,704	16,446	16,903	0	6	5,510	3,205	2,882	735	1,205	1,841	1,519
Ohio U.	143	21,226	19,502	16,291	2,781	0	6,854	886	561	124	418	608	4,059
Cleveland State U.	144	15,184	17,278	16,225	0	10,598	1,184	651	1,041	89	2,478	0	184
U. Rochester	145	13,418	14,872	16,116	0	6,329	1,062	0	4,431	0	3,367	0	927
Brigham Young U., Provo	146	14,827	14,001	15,943	0	0	2,647	1,510	4,637	777	6,372	0	0
U. North Texas, Denton	147	13,114	15,773	15,205	0	970	0	0	1,484	0	1,337	10,184	1,230
U. California, Merced	148	12,912	13,852	15,191	0	1,316	0	6,763	888	0	5,126	0	1,098
Indiana U., Bloomington	149	7,928	11,265	14,294	0	2,928	0	0	0	11,366	0	0	0
North Dakota State U.	150	11,555	12,030	14,007	0	0	0	3,228	2,196	720	3,168	0	4,695
Boise State U.	151	11,907	11,688	13,956	128	2,855	97	864	3,047	728	139	3,741	2,357
U. Mississippi	152	5,462	8,821	13,661	850	281	657	692	1,628	764	912	52	7,825
U. Tulsa	153	14,054	13,213	13,182	0	0	760	0	714	0	2,632	0	9,076

TABLE 55

Higher education R&D expenditures in engineering subfields, ranked by all FY 2020 engineering R&D: FYs 2018–20 and by subfield for FY 2020

(Dollars in thousands)

Institution	Rank	2018	2019	2020									
				All engineering	Aerospace, aeronautical, and astronautical engineering	Bioengineering and biomedical engineering	Chemical engineering	Civil engineering	Electrical, electronic, and communications engineering	Industrial and manufacturing engineering	Mechanical engineering	Metallurgical and materials engineering	Engineering nec
New Mexico Institute of Mining and Technology	154	13,245	14,043	13,084	573	0	4,688	522	296	0	1,343	332	5,330
Oregon Health and Science U.	155	11,941	12,134	12,856	0	12,856	0	0	0	0	0	0	0
Wayne State U.	156	17,235	14,634	12,806	0	2,687	3,462	2,878	1,237	697	1,414	0	431
U. Nevada, Las Vegas	157	16,192	15,736	12,729	0	82	0	4,499	1,442	0	4,406	3	2,297
South Dakota School of Mines and Technology	158	13,111	11,226	12,677	0	0	4,817	1,211	663	24	522	2,256	3,184
Embry-Riddle Aeronautical U.	159	12,926	8,374	12,015	10,584	0	0	86	423	0	794	0	128
Illinois Institute of Technology	160	12,976	15,241	11,934	1,239	4,788	302	655	2,841	400	960	236	513
Rowan U.	161	5,541	8,447	11,784	0	2,160	2,647	4,058	938	0	193	0	1,788
Louisiana Tech U.	162	10,333	11,513	11,459	0	2,832	1,045	1,290	1,004	30	1,839	781	2,638
Emory U.	163	6,000	9,614	11,349	0	11,349	0	0	0	0	0	0	0
U. Akron	164	18,878	16,650	11,345	0	1,151	4,381	1,487	931	0	3,142	0	253
U. Vermont	165	7,712	7,864	11,209	1,894	0	0	3,559	3,164	0	2,197	0	395
U. Memphis	166	9,806	9,464	10,741	0	2,298	0	5,836	803	0	1,109	28	667
Florida Atlantic U.	167	12,099	11,450	10,574	98	0	50	2,788	73	0	0	0	7,565
North Carolina Agricultural and Technical State U.	168	13,123	11,766	10,393	0	745	21	1,377	1,945	1,128	2,768	0	2,409
Missouri State U.	169	2,200	3,234	10,257	0	0	0	0	0	0	0	10,257	0
Villanova U.	170	9,293	9,612	10,193	0	0	1,003	3,468	1,340	0	1,222	0	3,160
U. Rhode Island	171	7,910	10,632	10,182	0	319	2,052	1,369	1,228	0	1,808	0	3,406
Marquette U.	172	7,898	8,988	10,059	0	4,159	0	1,050	1,788	0	867	0	2,195
U. Toledo	173	10,410	11,256	10,023	0	581	2,226	711	480	0	3,928	0	2,097
Southern Methodist U.	174	6,835	9,207	9,798	0	0	0	1,465	5,889	0	1,722	0	722
U. Wisconsin-Milwaukee	175	10,024	9,915	9,683	0	182	0	1,808	3,095	312	3,012	742	532

TABLE 55

Higher education R&D expenditures in engineering subfields, ranked by all FY 2020 engineering R&D: FYs 2018–20 and by subfield for FY 2020

(Dollars in thousands)

Institution	Rank	2018	2019	2020									
				All engineering	Aerospace, aeronautical, and astronautical engineering	Bioengineering and biomedical engineering	Chemical engineering	Civil engineering	Electrical, electronic, and communications engineering	Industrial and manufacturing engineering	Mechanical engineering	Metallurgical and materials engineering	Engineering nec
Clarkson U.	176	12,058	10,889	9,363	0	0	1,849	2,954	2,394	0	2,112	21	33
Temple U.	177	7,719	8,042	9,294	0	3,150	0	2,145	1,432	0	1,800	0	767
Medical C. Wisconsin	178	6,669	7,800	8,542	0	8,542	0	0	0	0	0	0	0
U. Missouri, Kansas City	179	4,385	7,089	8,351	0	0	0	660	7,400	0	291	0	0
U. Nebraska, central administration	180	2,800	1,687	8,340	0	3,748	0	176	138	339	556	292	3,091
Howard U.	181	9,112	8,401	8,336	360	0	466	1,419	3,298	0	1,179	0	1,614
U. Massachusetts, Dartmouth	182	7,404	7,764	7,944	0	1,214	0	2,267	2,796	0	1,667	0	0
San Diego State U.	183	8,534	8,197	7,934	630	277	0	2,471	1,842	0	2,249	0	465
California State U., Sacramento	184	7,196	7,507	7,744	0	0	0	7,583	14	0	147	0	0
Tennessee Technological U.	185	7,301	7,267	7,559	0	0	174	1,950	2,264	347	2,639	0	185
U.S. Naval Academy	186	7,823	7,482	7,376	497	0	0	0	1,315	0	2,097	0	3,467
Morgan State U.	187	3,002	3,990	7,228	193	0	0	2,006	3,216	240	0	0	1,573
Indiana U.-Purdue U., Indianapolis	188	6,034	6,730	7,179	0	2,062	0	27	1,575	0	3,192	0	323
U. Michigan, Dearborn	189	6,503	6,832	7,088	0	0	0	0	2,866	1,111	2,424	0	687
Texas A&M U.-Corpus Christi	190	7,089	7,193	7,064	5,018	37	8	238	136	66	326	0	1,235
Texas State U.	191	3,504	4,611	6,892	0	1	0	69	19	0	3	4,412	2,388
Tulane U.	192	7,435	8,416	6,881	0	3,827	3,015	0	0	0	0	0	39
Portland State U.	193	9,010	9,160	6,719	221	0	0	3,088	1,794	218	559	702	137
U. Maryland, Baltimore County	194	8,715	8,429	6,671	305	2,509	865	232	1,056	22	869	85	728
U. Colorado Denver and Anschutz Medical Campus	195	4,610	5,003	6,180	0	1,997	0	1,062	1,315	0	1,606	0	200
U. Southern Mississippi	196	1,214	3,371	5,999	0	0	0	0	0	0	0	0	5,999
Tuskegee U.	197	5,297	5,372	5,922	44	568	0	0	697	0	647	3,515	451

TABLE 55

Higher education R&D expenditures in engineering subfields, ranked by all FY 2020 engineering R&D: FYs 2018–20 and by subfield for FY 2020

(Dollars in thousands)

Institution	Rank	2018	2019	2020									
				All engineering	Aerospace, aeronautical, and astronautical engineering	Bioengineering and biomedical engineering	Chemical engineering	Civil engineering	Electrical, electronic, and communications engineering	Industrial and manufacturing engineering	Mechanical engineering	Metallurgical and materials engineering	Engineering nec
South Dakota State U.	198	5,391	5,516	5,490	0	0	0	769	885	0	319	0	3,517
Florida Institute of Technology	199	5,427	4,782	5,362	1,200	447	274	757	99	16	1,280	30	1,259
U.S. Military Academy	200	3,020	3,799	5,297	17	0	106	211	528	1,473	2,240	0	722
Prairie View A&M U.	201	3,835	5,121	5,222	0	350	73	295	3,046	0	442	48	968
Western Michigan U. and Homer Stryker M.D. School of Medicine	202	5,810	5,595	5,091	463	733	1,138	740	447	121	527	379	543
U. Miami	203	5,201	5,400	5,060	0	820	0	2,619	167	0	626	0	828
Idaho State U.	204	4,725	4,039	5,014	0	0	0	141	106	0	195	0	4,572
Northern Arizona U.	205	4,454	2,613	4,996	0	1,566	27	231	2,172	0	376	41	583
Florida A&M U.	206	2,844	4,477	4,796	0	0	1,523	1,641	199	366	399	0	668
California State U., Long Beach	207	5,150	4,223	4,733	59	712	357	1,127	877	0	913	0	688
California Polytechnic State U., San Luis Obispo	208	3,542	4,117	4,646	274	66	0	1,444	30	81	746	0	2,005
Baylor U.	209	4,494	3,720	4,515	117	283	64	0	2,127	0	1,924	0	0
U. Denver	210	3,992	4,010	4,461	0	2,108	0	242	1,152	0	0	959	0
Montana Technological U.	211	4,464	4,428	4,331	0	0	58	204	290	0	152	3,617	10
Humboldt State U.	212	4,118	5,232	4,261	0	41	0	1,135	2,603	209	0	3	270
U. Texas Rio Grande Valley	213	4,226	3,573	4,018	1	165	0	470	461	717	979	0	1,225
Miami U.	214	2,271	3,070	3,783	0	1,069	944	0	1,094	0	492	0	184
U. South Alabama	215	1,956	2,411	3,640	0	0	2,003	921	306	4	322	0	84
Catholic U. of America	216	1,973	2,587	3,518	0	1,034	0	314	1,212	0	958	0	0
Youngstown State U.	217	4,044	3,993	3,491	0	0	104	189	375	263	2,517	43	0
SUNY, U. Albany	218	1,941	3,087	3,319	0	0	0	0	2,280	0	0	0	1,039
U. Tennessee, Chattanooga	218	1,674	2,460	3,319	0	0	100	574	447	0	156	0	2,042

TABLE 55

Higher education R&D expenditures in engineering subfields, ranked by all FY 2020 engineering R&D: FYs 2018–20 and by subfield for FY 2020

(Dollars in thousands)

Institution	Rank	2018	2019	2020											
				All engineering	Aerospace, aeronautical, and astronautical engineering	Bioengineering and biomedical engineering	Chemical engineering	Civil engineering	Electrical, electronic, and communications engineering	Industrial and manufacturing engineering	Mechanical engineering	Metallurgical and materials engineering	Engineering nec		
New School	220	1,797	2,828	3,205	0	7	1,167	404	60	18	1,531	0	18		
California State U., Maritime Academy	221	2,924	2,959	3,202	0	0	81	0	0	65	91	0	2,965		
Milwaukee School of Engineering	222	2,936	3,825	3,105	0	150	0	1,302	4	0	1,146	0	503		
East Carolina U.	223	1,276	2,015	3,053	0	0	0	402	0	0	0	0	2,651		
San Jose State U.	224	1,451	1,864	2,863	0	5	868	0	794	304	245	0	647		
Kent State U.	225	1,857	2,330	2,743	521	506	534	0	341	40	65	0	736		
Alfred U.	226	3,599	5,032	2,720	0	0	0	0	0	0	0	2,720	0		
North Carolina Central U.	227	0	1,212	2,675	0	2,675	0	0	0	0	0	0	0		
Texas A&M U.-Kingsville	228	1,906	1,827	2,653	0	0	131	24	630	0	900	5	963		
Saint Louis U.	229	1,346	2,344	2,621	852	1,085	0	488	0	0	193	0	3		
Purdue U., Northwest	230	2,307	1,352	2,521	0	0	0	32	131	1,542	678	0	138		
U. North Carolina, general administration	231	2,311	2,239	2,467	0	583	737	0	544	0	0	595	8		
U. North Florida	232	2,832	2,392	2,433	0	0	0	930	96	34	1,018	0	355		
California State U., San Marcos	233	344	797	2,408	0	0	0	0	0	0	0	0	2,408		
Southern Illinois U., Carbondale	234	3,381	2,905	2,333	0	0	0	55	642	0	419	153	1,064		
Delaware State U.	235	1,807	2,248	2,332	i	2,332	i	0	i	0	i	0	i	0	i
CUNY, Advanced Science Research Center	236	1,564	1,379	2,289	0	335	423	913	0	0	0	0	618		
U. New Orleans	237	2,447	2,376	2,282	0	0	0	247	848	0	689	0	498		
U. Minnesota, Duluth	238	2,570	2,399	2,186	0	0	181	953	168	451	0	0	433		
Georgia Southern U.	239	1,110	1,257	1,929	0	0	0	580	231	202	713	0	203		
California State Polytechnic U., Pomona	240	1,248	1,085	1,875	192	0	923	568	0	5	121	31	35		

TABLE 55

Higher education R&D expenditures in engineering subfields, ranked by all FY 2020 engineering R&D: FYs 2018–20 and by subfield for FY 2020

(Dollars in thousands)

Institution	Rank	2018	2019	2020									
				All engineering	Aerospace, aeronautical, and astronautical engineering	Bioengineering and biomedical engineering	Chemical engineering	Civil engineering	Electrical, electronic, and communications engineering	Industrial and manufacturing engineering	Mechanical engineering	Metallurgical and materials engineering	Engineering nec
Lamar U.	241	2,280	1,609	1,825	0	0	960	68	87	533	177	0	0
U. Oklahoma, Tulsa	242	1,432	1,549	1,816	0	39	0	0	1,777	0	0	0	0
California State U., Fresno	243	1,520	1,492	1,748	0	0	0	854	631	53	124	0	86
Pittsburg State U.	244	1,978	1,990	1,659	12	94	1,553	0	0	0	0	0	0
U. Arkansas, Little Rock	245	1,921	2,116	1,627	1,347	1	33	0	0	0	187	0	59
Alabama A&M U.	246	3,122	2,354	1,603	0	0	0	429	745	0	429	0	0
California State U., San Bernardino	247	1,133	2,434	1,598	0	0	0	1,598	0	0	0	0	0
Bucknell U.	248	1,733	1,632	1,550	0	92	311	304	91	0	333	0	419
Minnesota State U., Mankato	249	1,204	1,472	1,486	0	0	0	0	564	0	294	0	628
Tennessee State U.	250	1,467	1,207	1,480	0	0	0	78	822	0	578	0	2
Kennesaw State U.	251	549	2,044	1,478	0	0	0	96	269	135	588	0	390
Jackson State U.	252	3,385	3,354	1,468	0	0	0	1,208	227	0	0	0	33
Northern Illinois U.	253	1,072	1,418	1,467	0	0	0	0	3	1,107	253	0	104
California State U., Bakersfield	254	1,271	2,050	1,449	0	0	0	0	218	0	0	0	1,231
Southern Illinois U., Edwardsville	255	2,666	2,348	1,424	0	269	0	761	97	108	186	0	3
Southern U. and A&M C., Baton Rouge	255	1,523	1,905	1,424	0	0	0	7	86	0	1,331	0	0
U. of the District of Columbia	257	721	708	1,388	0	0	0	554	0	0	515	0	319
U. South Dakota	258	3,198	3,243	1,385	0	1,385	0	0	0	0	0	0	0
U. Colorado Colorado Springs	259	763	694	1,367	0	0	0	0	705	0	487	0	175
U. South Carolina, Aiken	260	1,490	1,520	1,331	0	0	0	0	0	0	0	0	1,331
San Francisco State U.	261	1,492	1,284	1,330	0	100	0	394	515	0	321	0	0
Norfolk State U.	262	1,501	1,940	1,312	0	0	0	0	32	0	0	0	1,280

TABLE 55

Higher education R&D expenditures in engineering subfields, ranked by all FY 2020 engineering R&D: FYs 2018–20 and by subfield for FY 2020

(Dollars in thousands)

Institution	Rank	2018	2019	2020									
				All engineering	Aerospace, aeronautical, and astronautical engineering	Bioengineering and biomedical engineering	Chemical engineering	Civil engineering	Electrical, electronic, and communications engineering	Industrial and manufacturing engineering	Mechanical engineering	Metallurgical and materials engineering	Engineering nec
West Texas A&M U.	263	1,058	1,178	1,277	0	0	404	229	1	83	0	0	560
Morehead State U.	264	1,592	806	1,271	824	414	0	0	33	0	0	0	0
U. San Diego	265	898	776	1,252	0	0	0	0	0	0	67	0	1,185
Pennsylvania State U., Behrend	266	1,112	1,508	1,232	0	238	0	119	238	162	237	238	0
U. Massachusetts, Boston	267	1,220	1,255	1,206	0	0	0	0	937	0	0	0	269
U. Nebraska, Omaha	268	515	993	1,195	539	147	1	482	26	0	0	0	0
U. Texas Medical Branch	269	2,528	1,596	1,192	0	1,192	0	0	0	0	0	0	0
Marshall U.	270	1,011	1,158	1,137	0	4	0	870	0	0	26	181	56
CUNY, system office	271	2,245	1,001	1,132	0	0	0	0	0	0	0	0	1,132
California State U., Chico	272	305	567	1,120	0	0	0	472	357	0	291	0	0
California State U., Northridge	273	757	714	1,115	0	145	0	24	168	0	526	104	148
U. Alaska, Anchorage	274	2,196	1,393	1,101	0	0	58	241	71	0	128	0	603
Virginia State U.	275	951	793	1,058	847	0	0	0	0	118	0	0	93
Kettering U.	276	1,516	1,354	1,046	0	0	113	0	365	8	544	0	16
Oakland U.	277	3,709	3,836	1,041	0	0	0	0	0	308	733	0	0
U. Hartford	278	440	1,300	1,002	0	0	0	0	0	0	997	0	5
Western Washington U.	279	1,489	832	989	0	0	0	0	0	0	0	0	989
U. of St. Thomas (MN)	280	617	407	976	0	0	0	5	36	0	102	0	833
Smith C.	281	563	553	952	3	422	0	394	71	0	24	0	38
Santa Clara U.	282	535	876	948	0	139	0	33	5	0	771	0	0
California State U., Los Angeles	283	762	879	922	0	0	0	377	427	0	118	0	0
SUNY, C. of Environmental Science and Forestry	284	1,245	1,339	912	0	447	192	273	0	0	0	0	0

TABLE 55

Higher education R&D expenditures in engineering subfields, ranked by all FY 2020 engineering R&D: FYs 2018–20 and by subfield for FY 2020

(Dollars in thousands)

Institution	Rank	2018	2019	2020										
				All engineering	Aerospace, aeronautical, and astronautical engineering	Bioengineering and biomedical engineering	Chemical engineering	Civil engineering	Electrical, electronic, and communications engineering	Industrial and manufacturing engineering	Mechanical engineering	Metallurgical and materials engineering	Engineering nec	
U. of the Virgin Islands	285	87	61	902	848	0	0	0	0	44	0	0	0	10
U. Ana G. Mendez, Gurabo	286	501	2,324	884	0	0	0	62	175	66	131	0	450	
Hampton U.	287	1,296	1,049	866	10	0	35	0	821	0	0	0	0	
Wake Forest U.	288	49	385	859	0	0	0	0	0	0	0	0	859	
Liberty U.	289	ne	311	838	0	0	0	0	0	0	419	419	0	
Lawrence Technological U.	290	996	882	806	0	2	0	582	104	0	105	0	13	
Central Michigan U.	291	657	559	736	646	0	5	0	84	0	0	1	0	
Manhattan C.	292	ne	809	716	0	0	216	493	0	0	7	0	0	
Florida Polytechnic U.	293	ne	1,739	689	0	0	0	0	112	0	273	244	60	
Western Kentucky U.	293	783	597	689	0	0	79	83	99	0	354	0	74	
South Carolina State U.	295	239 i	662	687 i	0 i	0 i	218 i	0 i	0 i	0 i	0 i	0 i	469 i	
Oregon Institute of Technology	296	2,760 i	798 i	679 i	0 i	0 i	0 i	138 i	150 i	147 i	39 i	0 i	205 i	
U. Tennessee, Health Science Center	297	598	610	648	0	648	0	0	0	0	0	0	0	
U. North Carolina, Wilmington	298	1,659	1,226	640	266	0	0	22	115	237	0	0	0	
Savannah State U.	299	429	526	639	0	242	293	0	0	0	0	0	104	
Wellesley C.	300	0	0	633	633	0	0	0	0	0	0	0	0	
Harvey Mudd C.	301	596	884	628	6 i	21 i	22 i	129 i	83 i	3 i	235 i	13 i	116 i	
Bradley U.	302	885	945	617	0	0	0	224	17	9	137	0	230	
California State U., Fullerton	303	563	609	616	0	0	0	82	111	0	119	0	304	
Christopher Newport U.	304	536	575	566	566	0	0	0	0	0	0	0	0	
Alabama State U.	305	0	0	533	0	0	0	0	533	0	0	0	0	
U. New Haven	305	906	1,013	533	11	68	10	132	3	264	45	0	0	
Pace U.	307	735	435	516	0	0	0	0	0	0	516	0	0	
Fort Lewis C.	308	ne	760	505	28	13	0	0	55	0	0	0	409	

TABLE 55

Higher education R&D expenditures in engineering subfields, ranked by all FY 2020 engineering R&D: FYs 2018–20 and by subfield for FY 2020

(Dollars in thousands)

Institution	Rank	2018	2019	2020										
				All engineering	Aerospace, aeronautical, and astronautical engineering	Bioengineering and biomedical engineering	Chemical engineering	Civil engineering	Electrical, electronic, and communications engineering	Industrial and manufacturing engineering	Mechanical engineering	Metallurgical and materials engineering	Engineering nec	
Franklin W. Olin C. of Engineering	309	789	534	491	28	0	0	0	0	154	0	189	0	120
New York Institute of Technology	310	698	1,045	458	0	0	0	0	0	354	0	104	0	0
Purdue U., Fort Wayne	311	533	221	443	0	0	0	143	0	92	0	141	0	67
Eastern Michigan U.	312	156	304	402	0	0	37	211	0	62	27	22	0	43
U. Ana G. Mendez, Carolina	313	0	ne	387	0	0	0	0	0	0	0	0	0	387
U. Michigan, Flint	314	140	152	376	0	0	0	0	0	0	0	0	0	376
Duquesne U.	315	588	525	374	0	374	0	0	0	0	0	0	0	0
Arkansas State U., Jonesboro	316	490	553	371	0	0	0	217	0	5	0	149	0	0
Western Carolina U.	316	136	365	371	0	0	0	62	0	0	0	0	0	309
CUNY, New York City C. of Technology	318	601	478	367	0	0	0	85	0	0	282	0	0	0
Swarthmore C.	318	377	314	367	0	0	0	5	0	116	0	246	0	0
Johnson C. Smith U.	320	0	0	364	0	0	0	349	0	0	0	0	0	15
U. Texas, Tyler	321	405	394	344	0	0	0	121	0	90	0	133	0	0
U. Puerto Rico, Rio Piedras	322	326	37	341	0	341	0	0	0	0	0	0	0	0
U. Wisconsin-Green Bay	323	242	353	338	0	0	0	0	0	134	0	81	0	123
Keck Graduate Institute	324	293	326	336	0	336	0	0	0	0	0	0	0	0
U. Wisconsin-Oshkosh	325	275	300	312	0	0	0	0	0	200	0	112	0	0
James Madison U.	326	105	313	305	0	5	0	125	0	0	47	0	0	128
Hofstra U.	327	717	521	299	0	0	0	10	0	0	0	0	0	289
CUNY, C. Staten Island	328	1	1	294	0	0	133	34	0	0	0	0	0	127
U. West Florida	329	33	21	278	0	0	0	0	0	0	0	267	0	11
Saginaw Valley State U.	330	242	239	277	0	0	0	0	0	5	0	26	246	0

TABLE 55

Higher education R&D expenditures in engineering subfields, ranked by all FY 2020 engineering R&D: FYs 2018–20 and by subfield for FY 2020

(Dollars in thousands)

Institution	Rank	2018	2019	2020									
				All engineering	Aerospace, aeronautical, and astronautical engineering	Bioengineering and biomedical engineering	Chemical engineering	Civil engineering	Electrical, electronic, and communications engineering	Industrial and manufacturing engineering	Mechanical engineering	Metallurgical and materials engineering	Engineering nec
Oklahoma State U., Center for Health Sciences	331	0	309	258	0	180	78	0	0	0	0	0	0
Lafayette C.	332	183	184	251	0	12	101	93	5	0	20	0	20
Florida Gulf Coast U.	333	270	59	250	0	39	0	47	0	0	0	0	164
Benedict C.	334	364	252	248	0	0	0	0	248	0	0	0	0
Grand Valley State U.	335	40	400	236	0	216	0	0	3	0	14	0	3
U. Texas of the Permian Basin	336	50	ne	217	0	0	0	0	0	0	0	0	217
Colorado State U., Pueblo	337	ne	178	210	0	0	0	0	0	0	0	0	210
Union C., Schenectady	338	119	118	204	0	0	0	0	55	0	148	0	1
Middle Tennessee State U.	339	540	59	182	1	0	0	86	95	0	0	0	0
Hope C.	340	55	128	175	0	0	0	0	0	0	175	0	0
Claflin U.	341	56	145	170	1	43	0	0	4	0	0	122	0
Biola U.	342	153 i	162 i	167 i	0 i	0 i	0 i	0 i	0 i	0 i	0 i	0 i	167 i
Central State U.	343	100	340	166	0	0	0	154	0	0	0	0	12
Loyola Marymount U.	344	553	160	165	0	0	0	7	4	0	154	0	0
Clark Atlanta U.	345	347	214	158	0	0	0	0	0	0	0	0	158
Tarleton State U.	346	0	61	156	0	0	0	0	0	0	142	0	14
U. Wisconsin-Platteville	347	ne	145 i	145 i	0 i	0 i	0 i	12 i	28 i	10 i	52 i	3 i	40 i
Thomas Jefferson U.	348	0	0	143	0	0	0	0	0	0	0	0	143
Seattle U.	349	336	283	140	0	0	0	12	66	0	42	0	20
Lipscomb U.	350	ne	ne	139 i	0 i	0 i	0 i	0 i	139 i	0 i	0 i	0 i	0 i
Alcorn State U.	351	496	343	133	0	0	0	0	0	0	59	74	0
California State U., East Bay	352	ne	ne	132	0	0	0	0	77	14	41	0	0
U. Maryland, Eastern Shore	353	43	40	128	49	76	3	0	0	0	0	0	0
SUNY, Oswego	354	300	231	125	0	0	0	0	114	0	0	0	11

TABLE 55

Higher education R&D expenditures in engineering subfields, ranked by all FY 2020 engineering R&D: FYs 2018–20 and by subfield for FY 2020

(Dollars in thousands)

Institution	Rank	2018	2019	2020									
				All engineering	Aerospace, aeronautical, and astronautical engineering	Bioengineering and biomedical engineering	Chemical engineering	Civil engineering	Electrical, electronic, and communications engineering	Industrial and manufacturing engineering	Mechanical engineering	Metallurgical and materials engineering	Engineering nec
U. Maryland Center for Environmental Science	355	160	90	122	0	0	0	122	0	0	0	0	0
Bowling Green State U.	356	10	60	121	0	0	0	37	0	0	0	0	84
Central Connecticut State U.	357	ne	119	120	88	0	3	8	0	0	15	0	6
U. Detroit Mercy	358	103	227	119	0	0	0	0	83	0	26	0	10
CUNY, Brooklyn C.	359	0	116 i	118	0	0	0	0	0	118	0	0	0
Fairfield U.	360	375	60	117	0	5	0	0	0	0	1	0	111
West Virginia State U.	361	328	34	109	0	109	0	0	0	0	0	0	0
C. New Jersey	362	155	ne	105	0	4	0	54	6	0	38	0	3
Calvin U.	363	159	111	104 i	0 i	22 i	0 i	0 i	20 i	0 i	0 i	0 i	62 i
U. Wisconsin-River Falls	364	46	ne	103	0	0	0	0	0	0	0	0	103
Chapman U.	365	0	0	102	0	0	0	0	0	0	0	0	102
Texas Southern U.	366	98	130	93	0	0	0	0	0	0	0	0	93
U. of the Pacific	367	165	68	89	0	26	0	0	0	0	63	0	0
Fort Valley State U.	368	0	0	84	0	0	0	84	0	0	0	0	0
Trinity U.	369	108	103	80	0	80	0	0	0	0	0	0	0
Western Illinois U.	370	711	409	79	0	0	0	0	0	0	0	79	0
Merrimack C.	371	207	ne	78	62	0	0	16	0	0	0	0	0
Suffolk U.	372	ne	ne	76	76	0	0	0	0	0	0	0	0
Pennsylvania State U., Harrisburg	373	223	312	74	0	1	0	20	9	0	44	0	0
U. of the Incarnate Word	374	0	47	72	0	0	0	0	0	0	0	0	72
St. Cloud State U.	375	183	121	71	0	0	0	0	43	0	14	0	14
Texas A&M International U.	375	91	30	71	0	0	0	0	0	0	0	0	71
C. Charleston	377	0	0	67	0	0	67	0	0	0	0	0	0
East Tennessee State U.	378	0 i	2 i	65 i	0 i	0 i	0 i	63 i	0 i	2 i	0 i	0 i	0 i

TABLE 55

Higher education R&D expenditures in engineering subfields, ranked by all FY 2020 engineering R&D: FYs 2018–20 and by subfield for FY 2020

(Dollars in thousands)

Institution	Rank	2018	2019	2020										
				All engineering	Aerospace, aeronautical, and astronautical engineering	Bioengineering and biomedical engineering	Chemical engineering	Civil engineering	Electrical, electronic, and communications engineering	Industrial and manufacturing engineering	Mechanical engineering	Metallurgical and materials engineering	Engineering nec	
Xavier U. Louisiana	378	241	376	65	0	0	0	0	0	0	0	0	0	65
Central Washington U.	380	13	70	61	0	0	0	0	0	0	61	0	0	0
U. Wisconsin-Stevens Point	381	46	52	60	0	0	52	8	0	0	0	0	0	0
U. Washington, Tacoma	382	0	0	59	0	34	0	0	0	0	0	25	0	0
Eastern Kentucky U.	383	0	0	58	0	0	0	0	0	0	0	0	0	58
Trinity C., Hartford	384	86	86	49	0	0	0	0	0	0	0	0	0	49
Texas A&M U.-Commerce	385	5	28	48	0	0	0	0	0	0	2	0	0	46
Texas Christian U.	386	175	73	46	8	0	0	0	0	0	38	0	0	0
Elon U.	387	83	87	45	0	22	0	0	0	0	0	0	0	23
Andrews U.	388	ne	47	41	0	0	0	0	0	0	0	0	0	41
U. Houston-Downtown	389	7	42	36	0	28	0	8	0	0	0	0	0	0
Citadel Military C. South Carolina	390	ne	ne	34	0	0	0	33	1	0	0	0	0	0
Azusa Pacific U.	391	38	50	31	0	0	0	0	0	0	0	31	0	0
CUNY, Graduate Center	392	0	0	30	0	0	0	0	0	0	30	0	0	0
Roger Williams U.	392	94	36	30	0	0	0	15	0	0	0	0	0	15
U. Alaska, Southeast	392	38	0	30	0	0	0	0	0	0	0	0	0	30
U. Southern Maine	395	3	23	27	0	0	0	0	0	0	27	0	0	0
Midwestern State U.	396	ne	ne	25	0	0	0	0	0	0	0	25	0	0
Weber State U.	397	ne	ne	22	0	0	0	0	0	22	0	0	0	0
Sam Houston State U.	398	29	21	20	0	0	0	0	0	0	0	0	0	20
Montclair State U.	399	0	0	14	0	0	0	0	0	0	0	0	0	14
Hawaii Pacific U.	400	0	10	13	13	0	0	0	0	0	0	0	0	0
Jacksonville State U.	401	8	22	11	0	0	0	0	0	0	0	0	0	11
U. Wisconsin-Superior	402	0	4	9	9	0	0	0	0	0	0	0	0	0
Keene State C.	403	ne	8	8	0	0	0	0	0	0	8	0	0	0

TABLE 55

Higher education R&D expenditures in engineering subfields, ranked by all FY 2020 engineering R&D: FYs 2018–20 and by subfield for FY 2020

(Dollars in thousands)

Institution	Rank	2018	2019	2020										
				All engineering	Aerospace, aeronautical, and astronautical engineering	Bioengineering and biomedical engineering	Chemical engineering	Civil engineering	Electrical, electronic, and communications engineering	Industrial and manufacturing engineering	Mechanical engineering	Metallurgical and materials engineering	Engineering nec	
Stephen F. Austin State U.	404	14	15	6	0	0	0	0	0	0	0	0	0	6
U. San Francisco	404	0	0	6	0	0	0	6	0	0	0	0	0	0
Northwestern State U. Louisiana	406	0	0	5	0	0	0	0	0	0	5	0	0	0
Indiana State U.	407	2	1	4	0	0	0	3	0	0	0	0	0	1
Southeastern Louisiana U.	407	0	0	4	0	0	0	0	0	0	4	0	0	0
Albany State U.	409	3	16	3	3	0	0	0	0	0	0	0	0	0
U. Houston-Clear Lake	410	0	5	2	0	0	0	0	0	0	0	2	0	0
Doane U.	411	0	0	1 i	0 i	1 i	0 i	0 i	0 i	0 i	0 i	0 i	0 i	0 i
Sonoma State U.	411	ne	ne	1	0	0	0	0	0	1	0	0	0	0
U. Central Oklahoma	411	0	0	1 i	0 i	0 i	1 i	0 i	0 i	0 i	0 i	0 i	0 i	0 i
U. Nebraska, Kearney	411	0	0	1	0	0	0	1	0	0	0	0	0	0
U. North Carolina, Asheville	411	74	10	1	0	0	0	0	0	0	0	1	0	0
All other surveyed institutions	-	148,062	8,423	0	0	0	0	0	0	0	0	0	0	0

i = imputed. na = not applicable; institution did not exist or did not exist as a separate entity. ne = not eligible; institution did not meet the criteria for inclusion.

nec = not elsewhere classified.

^a Johns Hopkins University includes the Applied Physics Laboratory (APL), with \$1,098,625 thousand imputed for total R&D expenditures in engineering in FY 2020. Total expenditures by field for Johns Hopkins University are flagged as imputed because APL was unable to distribute a portion of institutionally funded R&D by field.

^b The University of Maryland includes expenditures from the University of Maryland, Baltimore and University of Maryland, College Park campuses. In FY 2019, the two campuses began reporting as one research unit to reflect their new strategic partnership. This relationship was codified through the University of Maryland Strategic Partnership Act passed by the Maryland General Assembly in 2016. Prior to FY 2019, both campuses reported to the survey as separate institutions.

^c The University of Tennessee, Knoxville includes expenditures from the University of Tennessee Institute of Agriculture. Due to a reorganization within the University of Tennessee system, the Institute of Agriculture now falls under the leadership of the University of Tennessee, Knoxville chancellor. Prior to FY 2020, the University of Tennessee, Knoxville, Institute of Agriculture reported to the survey separately.

Note(s):

Institutions reporting zero expenditures in ranked total for FY 2020 are not listed in this table. Tied institutions are ranked alphabetically. Ranked institutions are geographically separate campuses headed by a campus-level president or chancellor. Some campuses are part of large, multi-campus universities; some are part of state university systems. For a complete list of campuses that belong to a larger university or system and their aggregate R&D expenditures, see table 6.

Source(s):

National Center for Science and Engineering Statistics, Higher Education Research and Development Survey.