

TABLE 48

Higher education R&D expenditures in the physical sciences, ranked by all FY 2022 physical sciences: FYs 2019–22 and by subfield for FY 2022

(Dollars in thousands)

Institution	Rank	2019	2020	2021	2022					
					All physical sciences	Astronomy and astrophysics	Chemistry	Materials science	Physics	Physical sciences nec
All institutions	-	5,550,678	5,672,442	5,737,169	6,167,583	813,900	2,126,741	286,461	2,669,076	271,405
Johns Hopkins U. ^a	1	323,619 i	390,245 i	338,454 i	317,282 i	31,863 i	25,673 i	4,402 i	234,921 i	20,423 i
California Institute of Technology	2	188,041	217,581	212,265 i	227,465	64,902	36,223	25,614	100,726	0
U. California, Berkeley	3	130,895	141,434	156,896	196,281	98,376	49,390	104	37,089	11,322
Michigan State U.	4	151,159	154,318	167,520	183,514	69	15,669	0	167,776	0
Massachusetts Institute of Technology	5	136,601	153,044	170,494	174,813	37,890	35,819	6,436	68,994	25,674
U. Colorado Boulder	6	107,416	115,340	120,677	143,342	43,602	12,345	0	79,823	7,572
U. Arizona	7	139,315	149,138	140,655	142,519	123,039	9,869	3,663	5,890	58
Cornell U.	8	122,968	121,218	120,151	120,697	11,667	30,250	3,515	51,692	23,573
Harvard U.	9	94,515	100,654	109,606	118,530	12,087	37,601	52	66,873	1,917
U. Rochester	10	111,388	101,004	99,556	112,275	0	6,758	0	105,517	0
U. Maryland ^b	11	102,720	105,718	101,322	110,607	40,049	8,290	4,780	45,925	11,563
Stanford U.	12	95,084	94,954	98,672	101,529	4,101	29,681	16,916	48,088	2,743
Princeton U.	13	88,235	94,815	99,326	101,461	29,410	28,604	4,663	37,325	1,459
U. California, San Diego	14	85,322	94,124	86,893	97,804	3,159	33,116	0	58,691	2,838
U. Wisconsin-Madison	15	75,231	83,687	87,587	97,161	6,382	36,183	0	33,045	21,551
U. Texas, Austin	16	81,357	81,380	85,250	93,232	13,903	20,895	34,726	23,264	444
Northwestern U.	17	82,072	78,168	83,618	90,194	6,681	40,697	18,052	19,886	4,878
U. Illinois, Urbana-Champaign	18	69,531	72,360	78,698	77,419	7,833	30,955	0	38,628	3
Pennsylvania State U., University Park and Hershey Medical Center	19	99,485	94,201	89,035	73,580	14,227	15,578	22,202	21,573	0
U. California, Santa Barbara	20	65,929	58,534	54,435	72,934	3,921	8,424	19,301	32,704	8,584
U. California, San Francisco	21	65,942	69,662	69,817	71,611	0	70,707	0	904	0
U. Chicago	22	52,656	51,122	55,032	70,483	13,872	31,158	5,118	19,896	439
U. Pennsylvania	23	60,150	58,157	59,246	67,341	1,664	25,511	15,712	24,454	0
Florida State U.	24	61,706	68,454	63,481	65,661	664	20,685	3,682	40,478	152
U. Michigan, Ann Arbor	25	61,017	60,824	66,041	65,018	6,216	32,418	0	26,384	0
U. Washington, Seattle	26	58,166	60,477	58,664	62,596	9,529	25,922	2,162	21,238	3,745
U. Houston	27	43,378	50,164	52,230	60,462	0	50,262	0	9,044	1,156
Yale U.	28	62,247	56,046	56,847	57,627	5,324	23,376	0	28,927	0
Texas A&M U., College Station and Health Science Center	29	55,920	54,574	56,029	56,540	4,023	25,693	5,896	19,252	1,676
U. California, Los Angeles	30	60,067	54,697	56,624	55,159	0	21,680	0	30,682	2,797
U. Iowa	31	24,300	23,226	32,013	55,128	486	6,339	0	48,303	0
Columbia U. in the City of New York	32	35,369	37,384	46,386	52,767	7,985	17,944	5,800	21,038	0
U. Delaware	33	27,410	25,192	26,015	50,077	2,938	19,259	15,899	11,981	0

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					All physical sciences	Astronomy and astrophysics	Chemistry	Materials science	Physics	Physical sciences nec
Purdue U., West Lafayette	34	38,081	42,370	42,663	49,938	0	30,984	0	18,954	0
U. North Carolina, Chapel Hill	35	37,055	39,979	38,809	49,368	1,923	31,221	0	10,374	5,850
U. Notre Dame	36	45,062	44,855	47,332	47,516	0	29,610	0	17,906	0
Ohio State U.	37	46,223	57,083	40,010	47,143	6,351	13,382	1,979	25,431	0
SUNY, Stony Brook U.	38	41,679	41,224	43,101	45,541	1,943	13,302	0	30,296	0
U. Minnesota, Twin Cities	39	45,573	43,946	41,812	42,715	2,409	19,860	0	20,446	0
U. California, Irvine	40	40,872	40,964	38,794	40,171	0	21,156	0	18,914	101
U. Florida	41	26,341	25,532	28,005	39,928	2,050	22,973	0	14,892	13
U. Central Florida	42	30,415	34,493	37,144	39,361	0	4,808	0	34,327	226
Boston U.	43	30,805	30,909	35,094	38,445	3,237	17,896	0	17,312	0
U. California, Santa Cruz	44	32,576	36,262	35,606	37,808	19,752	11,059	0	6,876	121
U. California, Davis	45	26,589	26,495	27,906	35,319	0	15,996	0	11,138	8,185
Georgia Institute of Technology	46	38,229	34,215	33,914	33,858	0	22,397	0	11,461	0
Florida International U.	47	24,968	27,354	27,997	33,613	0	28,705	0	4,440	468
Rutgers, State U. New Jersey, New Brunswick	48	29,660	25,703	23,111	32,108	2,559	7,903	3,749	15,686	2,211
Rice U.	49	34,759	33,656	33,015	31,638	1,307	13,489	1,191	15,651	0
Indiana U., Bloomington	50	31,099	33,608	30,322	31,360	1,512	18,778	0	11,070	0
Louisiana State U., Baton Rouge	51	23,944	22,366	23,438	30,594	0	12,606	0	17,419	569
U. Pittsburgh, Pittsburgh	52	30,196	27,652	27,919	30,591	4,175	15,366	0	11,050	0
Iowa State U.	53	40,040	27,216	26,696	30,440	0	14,302	0	16,138	0
U. Nebraska, Lincoln	54	26,100	25,853	26,365	29,612	0	10,884	489	18,237	2
Vanderbilt U. and Vanderbilt U. Medical Center	55	28,951	28,017	30,077	28,937	0	17,734	0	11,203	0
Emory U.	56	23,150	22,505	25,676	28,576	0	24,772	0	3,804	0
Arizona State U.	57	26,050	25,619	26,742	27,777	0	10,253	0	15,121	2,403
U. Virginia, Charlottesville	58	26,742	27,628	27,304	27,721	3,875	12,214	0	11,632	0
North Carolina State U.	59	22,753	23,464	28,455	27,486	0	12,623	0	11,091	3,772
Northeastern U.	60	19,445	20,709	24,279	27,207	0	9,761	0	16,743	703
New York U.	61	26,098	26,698	26,417	26,391	0	13,103	0	13,288	0
Washington U., Saint Louis	62	24,852	23,401	24,320	25,954	0	12,044	7,406	6,504	0
Washington State U.	63	32,628	24,243	26,256	25,553	191	12,821	2,887	9,653	1
Dartmouth C. and Dartmouth Hitchcock Medical Center	64	18,757	21,219	26,312	24,806	0	11,434	45	13,327	0
Carnegie Mellon U.	65	19,508	21,580	21,109	23,841	347	10,492	1,204	11,547	251
Virginia Polytechnic Institute and State U.	66	26,835	24,214	24,374	23,394	19	13,810	1,292	7,798	475
Catholic U. of America	67	17,660	17,669	19,708	23,353	0	18	0	19,597	3,738

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					All physical sciences	Astronomy and astrophysics	Chemistry	Materials science	Physics	Physical sciences nec
U. Hawaii, Manoa	68	27,285	29,491	26,381	23,293	17,659	1,488	0	4,063	83
U. Massachusetts, Amherst	69	31,623	28,757	22,250	23,286	5,117	9,387	0	8,782	0
Duke U.	70	21,176	22,396	22,131	23,281	0	12,672	0	10,609	0
U. Tennessee, Knoxville ^c	71	25,677	21,239	20,809	23,139	0	8,643	0	14,496	0
U. Illinois, Chicago	72	14,456	15,752	17,718	21,497	0	10,467	0	11,030	0
Wayne State U.	73	20,013	16,895	19,885	20,880	0	13,568	0	4,872	2,440
U. Maryland, Baltimore County	74	17,039	18,278	19,202	20,806	12,573	2,934	613	4,686	0
Montana State U., Bozeman	75	15,021	17,990	23,329	19,778	0	8,821	0	10,957	0
U. Texas M. D. Anderson Cancer Center	76	19,017	19,060	17,572	19,651	0	0	0	19,651	0
U. Texas, Arlington	77	15,590	17,257	16,864	18,905	0	5,006	0	12,897	1,002
U. Oklahoma, Norman and Health Science Center	78	15,362	18,739	16,497	18,730	0	10,525	0	8,205	0
U. Utah	79	54,131 i	30,170 i	30,441 i	18,579	9,145	9,434	0	0	0
Brown U.	80	19,259	17,745	17,072	18,299	0	6,019	0	9,155	3,125
Georgia State U.	81	17,836	19,395	17,588	18,277	5,246	8,645	0	4,220	166
U. Massachusetts, Lowell	82	17,976	19,144	18,308	18,186	0	5,369	0	12,817	0
U. California, Riverside	83	16,166	17,037	17,559	17,938	0	10,604	0	7,334	0
U. Alabama, Huntsville	84	12,963	13,353	15,071	17,852	13,777	1,023	0	2,957	95
U. Southern California	85	20,109	23,644	21,413	17,696	6,221	11,475	0	0	0
Temple U.	86	16,205	18,447	17,979	17,215	0	7,756	0	6,046	3,413
New Jersey Institute of Technology	87	15,338	16,781	15,415	17,202	8,500	3,690	846	4,166	0
Auburn U., Auburn	88	13,220	15,247	15,214	17,011	500	7,242	213	8,907	149
Brandeis U.	89	9,838	13,701	12,459	16,778	3,826	6,801	313	5,693	145
U. Texas, Dallas	90	15,515	17,759	16,444	16,709	3,762	6,100	0	4,911	1,936
U. Kansas	91	8,686	7,502	15,492	16,123	746	11,717	0	3,660	0
Rensselaer Polytechnic Institute	92	15,038	12,143	12,251	15,894	0	7,599	702	4,177	3,416
Texas Tech U.	93	14,408	15,103	15,784	15,739	0	8,441	559	6,739	0
U. Oregon	94	14,773	12,984	13,881	15,315	0	6,752	1,916	3,502	3,145
Georgetown U.	95	7,281	9,151	10,525	15,192	0	3,761	0	9,852	1,579
Rochester Institute of Technology	96	18,059	13,830	12,388	14,979	0	494	0	4,681	9,804
Colorado State U., Fort Collins	97	14,464	11,356	12,947	14,885	0	9,951	1,050	3,551	333
Kansas State U.	98	14,413	12,583	12,736	14,709	0	3,367	0	11,342	0
SUNY, Binghamton U.	99	14,920	18,586	14,568	14,636	0	10,066	0	4,570	0
Syracuse U.	100	15,894	13,905	13,926	14,286	0	4,893	0	9,393	0
U. Southern Mississippi	101	15,682	13,422	14,672	14,071	0	11,978	0	0	2,093

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U. Alaska, Fairbanks	102	13,534	15,551	16,441	13,832	13,488	67	0	263	14
New Mexico State U.	103	25,535	26,366	20,108	13,339	7,373	2,181	0	1,792	1,993
West Virginia U.	104	14,339	12,678	12,431	13,067	2,332	5,184	0	5,551	0
Colorado School of Mines	105	8,796	11,346	10,812	12,923	116	3,703	2,818	5,455	831
Boston C.	106	9,572	9,306	11,863	12,202	0	8,931	0	3,271	0
U. Texas, San Antonio	107	10,617	11,234	11,547	12,128	0	8,005	0	4,123	0
Mississippi State U.	108	11,312	10,381	10,755	12,061	384	5,159	2,196	4,123	199
SUNY, U. Buffalo	109	11,644	11,161	13,431	11,990	0	9,376	4	2,610	0
Air Force Institute of Technology	110	8,478	7,796	15,999	11,934	0	0	0	11,934	0
Clemson U.	111	11,401	10,823	10,139	11,923	0	4,367	342	6,199	1,015
U. Mississippi	112	14,617	11,652	10,803	11,784	0	3,218	0	8,566	0
Baylor U.	113	6,891	6,993	8,289	11,717	38	7,587	70	3,786	236
U. Toledo	114	7,438	7,445	10,594	11,637	1,641	3,783	0	6,033	180
CUNY, City C.	115	9,935	9,591	8,709	11,590	0	5,494	0	4,153	1,943
U. Connecticut	116	16,829	18,546	17,682	11,245	0	5,492	0	5,753	0
Tufts U.	117	11,377	15,438	9,212	11,206	236	8,074	0	2,686	210
U. South Florida ^d	118	14,060	11,433	9,900	10,866	0	5,933	0	4,127	806
U. Arkansas, Fayetteville	119	9,454	9,791	8,111	10,739	0	5,361	0	5,378	0
Case Western Reserve U.	120	10,756	8,063	9,007	10,694	200	2,992	4,424	1,940	1,138
U. Nevada, Reno	121	10,153	9,566	8,025	10,640	1,179	5,281	0	3,720	460
U. Cincinnati	122	9,641	8,874	9,189	10,335	0	7,085	0	3,250	0
U. Georgia	123	13,275	11,295	10,896	10,161	361	6,900	0	2,900	0
U. New Mexico	124	7,148	8,063	7,087	10,115	1,916	3,250	0	4,943	6
U. Wisconsin-Milwaukee	125	11,076	8,699	10,970	10,084	6,715	1,556	0	1,813	0
U. Texas, El Paso	126	7,587	6,775	9,092	10,021	0	6,399	0	3,622	0
CUNY, Advanced Science Research Center	127	2,983	4,154	6,107	9,558	0	2,563	0	6,640	355
U. Missouri, Columbia	128	10,286	9,173	8,722	9,469	0	6,050	221	3,198	0
North Dakota State U.	129	6,903	6,502	10,077	9,362	0	6,880	1,459	1,023	0
U. Kentucky	130	8,173	8,553	8,722	9,118	0	5,609	0	3,509	0
U. Nevada, Las Vegas	131	9,099	9,692	10,589	9,030	354	3,601	0	5,075	0
U. North Texas, Denton	132	7,586	9,275	8,710	8,762	0	5,788	0	2,974	0
U. California, Office of the President	133	7,973	8,123	7,905	8,725	8,725	0	0	0	0
U. Akron	134	9,643	8,576	6,703	8,690	0	8,686	0	4	0
Oklahoma State U., Stillwater	135	8,458	9,784	8,824	8,685	0	4,588	0	4,097	0

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Oakland U.	136	4,650	4,821	5,596	8,447	0	4,597	0	3,850	0
Old Dominion U.	137	7,547	7,028	7,021	8,410	0	3,241	0	5,169	0
Kent State U.	138	7,744	8,381	9,048	8,065	88	2,155	2,652	2,666	504
U. Montana, Missoula	139	7,749	7,592	8,615	7,724	49	2,183	0	283	5,209
Xavier U. Louisiana	140	5,879	7,186	8,440	7,578	0	7,491	0	87	0
U. Alabama, Tuscaloosa	141	5,815	6,471	7,991	7,524	198	4,643	0	2,683	0
San Diego State U.	142	6,333	6,402	6,681	7,435	835	5,180	0	1,420	0
Northern Arizona U.	143	5,643	7,064	8,120	7,427	3,946	287	573	633	1,988
SUNY, U. Albany	144	7,811	7,719	6,791	7,299	0	4,520	0	2,779	0
Jackson State U.	145	9,159	9,903	8,231	7,277	0	5,322	0	1,955	0
California State U., Northridge	146	3,225	5,407	7,447	7,084	360	514	0	1,605	4,605
U. California, Merced	147	7,307	7,593	5,753	6,863	0	3,759	0	2,663	441
Boise State U.	148	3,358	3,788	5,881	6,848	339	1,379	4,788	342	0
George Washington U.	149	7,634	8,313	7,033	6,840	0	2,735	0	4,105	0
Brigham Young U., Provo	150	5,854	5,268	6,357	6,726	0	3,638	502	2,586	0
U. Maine	151	7,628	6,427	6,803	6,427	0	762	0	5,637	28
William & Mary	152	6,554	5,781	5,985	6,411	0	990	0	5,421	0
Oregon State U.	153	6,247	4,814	4,727	6,297	85	2,537	729	2,856	90
U. Alabama, Birmingham	154	5,961	4,678	9,885	6,282	0	1,560	1,570	3,152	0
Northern Illinois U.	155	6,106	5,560	5,454	6,220	0	2,789	0	3,431	0
George Mason U.	156	6,295	5,586	4,786	6,154	2,702	1,211	1,416	671	154
Howard U.	157	5,277	5,308	5,720	6,125	0	5,348	0	777	0
U. Miami	158	5,567	5,150	5,000	5,939	0	1,605	0	4,334	0
Ohio U.	159	4,501	5,370	5,520	5,892	0	1,055	0	4,837	0
Embry-Riddle Aeronautical U.	160	2,332	2,744	3,853	5,852	0	0	0	1,508	4,344
Abilene Christian U.	161	ne	ne	4,209	5,831	0	85	0	5,746	0
California State U., Los Angeles	162	6,385	5,241	5,165	5,776	0	5,055	0	721	0
Georgia Southern U.	163	692	5,465	5,400	5,740	131	1,691	3,496	421	1
Rockefeller U.	164	7,577	7,184	6,835	5,693	0	4,727	0	966	0
Southern Methodist U.	165	3,591	3,847	4,598	5,607	0	2,480	0	3,127	0
U. Puerto Rico, Rio Piedras	166	5,127	4,429	4,886	5,456	0	3,842	0	1,614	0
Utah State U.	167	6,756	6,606	5,111	5,408	0	3,098	0	2,275	35
California Polytechnic State U., San Luis Obispo	168	7,589	5,672	4,953	5,294	0	622	0	2,142	2,530
U. North Carolina, Greensboro	169	3,521	3,505	4,250	5,251	0	2,756	2,021	0	474

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Lehigh U.	170	3,396	3,495	3,642	5,157	0	2,679	0	2,478	0
Texas State U.	171	2,741	2,208	3,421	5,123	0	2,217	1,476	1,064	366
U. New Hampshire	172	3,521	4,425	4,957	5,090	0	1,966	0	3,124	0
North Carolina Central U.	173	2,774	3,027	3,257	4,976	0	481	0	4,495	0
CUNY, Hunter C.	174	4,739	4,197	5,489	4,838	0	3,392	0	1,446	0
U. South Carolina, Columbia	175	7,007	5,437	6,928	4,761	0	899	0	2,613	1,249
Naval Postgraduate School	176	8,797	9,161	5,927	4,745	0	379	148	2,751	1,467
Michigan Technological U.	177	3,722	4,094	4,085	4,600	0	2,382	0	2,218	0
Tulane U.	178	6,448	5,720	5,018	4,579	0	2,304	0	2,275	0
San Jose State U.	179	2,041	2,445	3,437	4,464	0	2,077	0	1,728	659
U. Denver	180	4,083	4,913	3,977	4,420	0	2,670	0	1,750	0
U. Vermont	181	3,235	4,877	4,354	4,354	140	2,951	0	1,199	64
American U.	182	5,167	4,714	4,404	4,351	0	983	0	3,368	0
Hampton U.	183	4,044	3,142	3,409	4,282	0	657	0	3,625	0
Texas Christian U.	184	690	695	398	4,131	0	732	0	1,612	1,787
U. Rhode Island	185	3,194	3,869	3,328	4,119	0	2,246	0	102	1,771
U. South Dakota	186	5,059	4,054	3,713	4,107	0	2,380	0	1,727	0
Rutgers, State U. New Jersey, Newark	187	1,978	2,384	2,667	4,099	0	2,414	0	1,685	0
U. Texas Rio Grande Valley	188	4,499	5,148	4,338	3,997	1,708	762	71	1,280	176
Delaware State U.	189	4,306	2,210	2,304	3,965	235	328	425	2,640	337
U. Louisiana, Lafayette	190	1,369	3,546	6,453	3,957	68	1,327	0	1,826	736
Clarkson U.	191	2,498	2,217	2,414	3,918	0	2,867	0	629	422
U. Louisville	192	3,058	2,954	3,254	3,872	52	2,879	187	297	457
Missouri U. of Science and Technology	193	3,463	6,107	4,478	3,734	0	2,572	0	1,162	0
Illinois Institute of Technology	194	3,609	3,143	3,483	3,705	0	353	0	3,352	0
U. North Dakota	195	3,607	3,489	2,964	3,641	0	2,972	0	669	0
San Francisco State U.	196	3,088	3,208	3,418	3,626	663	1,708	95	1,134	26
Saint Louis U.	197	2,384	1,942	2,131	3,579	0	3,510	0	69	0
California State U., Long Beach	198	4,363	2,670	2,723	3,494	284	3,191	1	0	18
Worcester Polytechnic Institute	199	4,991	2,773	3,852	3,487	0	1,523	0	1,964	0
U. North Carolina, Charlotte	200	4,389	4,003	3,367	3,345	0	1,335	0	2,010	0
U. Massachusetts, Dartmouth	201	1,755	2,116	2,650	3,290	0	2,435	0	843	12
Virginia Commonwealth U.	202	3,469	3,499	3,396	3,282	0	1,734	0	1,548	0
U. Massachusetts, Boston	203	3,363	3,584	4,174	3,076	0	1,923	0	1,153	0

TABLE 48

Higher education R&D expenditures in the physical sciences, ranked by all FY 2022 physical sciences: FYs 2019–22 and by subfield for FY 2022

(Dollars in thousands)

Institution	Rank	2019	2020	2021	2022					
					All physical sciences	Astronomy and astrophysics	Chemistry	Materials science	Physics	Physical sciences nec
Villanova U.	204	2,743	3,573	3,095	3,052	534	1,719	0	799	0
U. Memphis	205	2,157	3,014	3,372	3,012	84	2,043	21	404	460
South Dakota School of Mines and Technology	206	1,602	1,425	1,824	2,883	0	1,174	0	1,709	0
Indiana U.-Purdue U., Indianapolis	207	2,396	2,306	2,748	2,736	0	1,744	0	990	2
Miami U.	208	1,046	1,329	3,940	2,701	0	2,267	0	434	0
California State U., Fresno	209	1,157	1,127	1,307	2,668	0	2,043	0	418	207
CUNY, Lehman C.	210	1,624	2,208	2,062	2,650	696	1,954	0	0	0
U. Wyoming	211	1,825	1,248	1,808	2,625	241	1,894	0	467	23
Wesleyan U.	212	2,876	2,383	2,137	2,622	336	1,377	0	909	0
Clark Atlanta U.	213	1,265	1,649	1,616	2,620	0	2,432	0	188	0
Western Washington U.	214	1,183	1,323	2,191	2,569	286	1,790	493	0	0
Marquette U.	215	2,517	2,681	3,903	2,539	0	2,127	0	412	0
Portland State U.	216	2,911	2,326	1,977	2,410	0	2,161	0	249	0
Central Michigan U.	217	2,908	2,508	1,891	2,396	207	630	0	1,558	1
Morehouse C.	218	1,704	1,517	1,831	2,393	0	463	0	277	1,653
Florida Atlantic U.	219	2,794	3,147	2,726	2,364	75	1,628	0	561	100
Morgan State U.	220	34	411	774	2,314	0	920	0	1,394	0
U.S. Air Force Academy	221	2,933	2,714	2,398	2,310	661	74	0	1,150	425
Drexel U.	222	2,793	2,437	2,074	2,306	0	610	0	1,696	0
CUNY, Queens C.	223	1,446	1,444	1,815	2,266	0	1,698	0	568	0
James Madison U.	224	1,295	1,337	1,825	2,256	149	938	0	893	276
Haverford C.	225	2,039 i	2,581 i	2,342 i	2,231 i	285 i	393 i	1,329 i	224 i	0 i
Bowling Green State U.	226	2,362	2,326	2,345	2,201	0	1,758	95	348	0
U. New Orleans	227	2,144	2,398	2,652	2,181	0	1,468	0	713	0
U. Idaho	228	2,030	1,539	1,646	2,177	1,045	719	17	396	0
California State U., San Bernardino	229	1,219	1,569	1,992	2,161	0	1,994	112	55	0
Prairie View A&M U.	230	1,082	1,353	1,348	2,139	0	1,708	43	388	0
Hope C.	231	1,843	1,315	2,032	2,122	0	1,338	0	534	250
Middle Tennessee State U.	232	417	596	2,967	2,115	53	1,713	0	349	0
Louisiana Tech U.	233	1,843	1,775	2,342	2,110	0	1,094	0	1,016	0
North Carolina A&T State U.	234	1,889	1,638	1,158	2,053	0	757	0	1,296	0
Creighton U.	235	1,691 i	1,463 i	1,621 i	2,020 i	0 i	816 i	0 i	1,204 i	0 i
CUNY, Brooklyn C.	236	1,067 i	1,105	1,325	1,998	0	1,798	0	200	0
Wake Forest U.	237	3,071	2,196	2,236	1,996	0	685	224	1,087	0

TABLE 48

Higher education R&D expenditures in the physical sciences, ranked by all FY 2022 physical sciences: FYs 2019–22 and by subfield for FY 2022

(Dollars in thousands)

Institution	Rank	2019	2020	2021	2022					
					All physical sciences	Astronomy and astrophysics	Chemistry	Materials science	Physics	Physical sciences nec
Fisk U.	238	0	212	1,645	1,926	0	116	527	1,283	0
Mercer U.	239	2,189	2,038	1,878	1,925	0	1,830	0	95	0
Troy U.	240	ne	1,216	1,102	1,916	0	0	1,916	0	0
Tuskegee U.	241	163	166	169	1,910	0	97	1,792	21	0
Florida A&M U.	242	3,488	1,410	1,346	1,905	0	14	0	1,891	0
U. Colorado Denver ^e	243	na	na	1,574	1,895	0	1,187	0	708	0
Southern Illinois U., Carbondale	244	1,619	2,013	2,052	1,825	0	1,393	0	432	0
Chapman U.	245	1,816	2,062	1,314	1,814	0	385	0	135	1,294
Illinois State U.	246	886	567	1,171	1,812	0	920	0	222	670
Montclair State U.	247	260	589	737	1,811	45	1,645	0	121	0
New Mexico Institute of Mining and Technology	248	1,970	1,361	1,151	1,798	0	149	0	1,649	0
Stevens Institute of Technology	249	2,045	1,834	2,066	1,775	0	127	272	1,376	0
East Carolina U.	250	2,177	2,168	1,814	1,740	0	1,266	0	474	0
Western Kentucky U.	251	1,845	1,785	1,205	1,714	226	888	0	600	0
Wichita State U.	252	947	1,114	1,438	1,703	0	1,125	0	578	0
Loyola U., Chicago	253	1,286	763	1,026	1,691	0	1,316	0	375	0
Florida Institute of Technology	254	2,078	2,777	3,547	1,682	163	218	0	1,051	250
U.S. Naval Academy	255	2,794	2,144	1,604	1,679	0	839	0	840	0
Amherst C.	256	2,374	1,534	1,203	1,649	160	743	0	746	0
California State U., Fullerton	257	1,180	1,254	1,343	1,615	562	440	83	530	0
South Dakota State U.	258	2,951	1,974	1,943	1,610	0	1,562	0	48	0
U. Puerto Rico, Mayaguez	259	1,172	1,347	1,002	1,580	0	1,166	0	414	0
Kean U.	260	ne	39	18	1,576	0	1,576	0	0	0
Barnard C.	261	1,004	885	1,319	1,541	695	846	0	0	0
Fordham U.	262	868	747	1,067	1,532	0	1,532	0	0	0
Idaho State U.	263	3,709	1,372	1,847	1,490	0	364	17	1,109	0
Rowan U.	264	1,190	664	1,524	1,483	0	605	0	689	189
California State U., Dominguez Hills	265	821	556	418	1,464	0	608	0	856	0
Texas A&M U.-Corpus Christi	266	1,362	1,437	1,089	1,459	0	261	25	12	1,161
Saint Joseph's U.	267	508	194	137	1,397	0	1,280	0	117	0
Grambling State U.	268	845	852	1,238	1,345	0	826	0	257	262
Chicago State U.	269	842	ne	ne	1,341	0	690	0	651	0
Furman U.	270	983	925	1,114	1,313	0	1,252	0	61	0
U. Puerto Rico, Humacao	271	852	1,090	1,083	1,302	0	50	678	574	0

TABLE 48

Higher education R&D expenditures in the physical sciences, ranked by all FY 2022 physical sciences: FYs 2019–22 and by subfield for FY 2022

(Dollars in thousands)

Institution	Rank	2019	2020	2021	2022					
					All physical sciences	Astronomy and astrophysics	Chemistry	Materials science	Physics	Physical sciences nec
California State Polytechnic U., Pomona	272	693	1,395	1,150	1,301	985	289	0	27	0
Clark U.	273	889	1,648	1,386	1,277	0	543	0	734	0
U. Missouri, Kansas City	273	2,026	1,680	1,451	1,277	193	333	0	624	127
Trinity U.	275	1,369	1,230	1,165	1,272	3	1,126	0	143	0
U. West Florida	276	696	1,202	1,356	1,269	0	146	0	0	1,123
Bryn Mawr C.	277	1,057	1,423	1,119	1,254	0	599	0	655	0
Wright State U.	278	1,757	1,774	1,465	1,253	0	91	0	888	274
U. San Diego	279	1,300	1,496	1,377	1,237	0	375	0	862	0
SUNY, Geneseo	280	902	785	1,197	1,234	0	483	0	751	0
Western Michigan U. and Homer Stryker M.D. School of Medicine	281	1,221	1,309	1,148	1,227	0	588	0	639	0
Marshall U.	282	684	1,030	295	1,224	0	1,198	0	26	0
Colgate U.	283	769	618	884	1,215	60	738	0	417	0
U. Washington, Bothell	284	256	156	681	1,194	0	0	0	1,152	42
U. North Florida	285	524	682	608	1,134	0	684	0	450	0
U. of the Virgin Islands	286	15	908	1,069	1,130	0	0	0	0	1,130
Ball State U.	287	993	834	826	1,106	0	970	0	98	38
CUNY, C. Staten Island	288	1,657	860	525	1,097	0	637	0	96	364
Kennesaw State U.	289	1,169	1,019	1,133	1,096	0	935	0	161	0
South Carolina State U.	290	930	965	1,000	1,086	195	0	0	205	686
U. Missouri, Saint Louis	291	2,636	1,910	2,345	1,076	29	991	0	56	0
Norfolk State U.	292	819	726	763	1,051	0	0	0	1,051	0
Bucknell U.	293	538	872	816	1,038	102	706	0	230	0
Cleveland State U.	294	1,372	1,547	976	1,030	0	628	0	402	0
Texas A&M U.-Commerce	295	883	939	995	1,028	0	175	0	853	0
Texas Southern U.	296	211	1,204	1,168	1,015	0	725	0	208	82
U. Maryland Center for Environmental Science	297	289	541	519	1,014	0	875	0	74	65
Appalachian State U.	298	262	408	591	1,013	0	372	0	611	30
California State U., San Marcos	299	901	1,667	1,063	981	0	23	0	482	476
Winston-Salem State U.	300	320	554	956	964	0	704	0	160	100
Central State U.	301	63	6	67	954	0	954	0	0	0
U. Wisconsin-Eau Claire	301	930	814	1,041	954	23	400	349	0	182
C. New Jersey	303	ne	366	423	923	0	169	0	754	0
U. Northern Iowa	304	1,289	911	966	921	0	747	0	174	0
California State Polytechnic U., Humboldt	305	201	193	90	899	0	74	0	825	0

TABLE 48

Higher education R&D expenditures in the physical sciences, ranked by all FY 2022 physical sciences: FYs 2019–22 and by subfield for FY 2022

(Dollars in thousands)

Institution	Rank	2019	2020	2021	2022					
					All physical sciences	Astronomy and astrophysics	Chemistry	Materials science	Physics	Physical sciences nec
California State U., East Bay	306	ne	939	1,215	895	135	364	0	396	0
Arkansas State U., Jonesboro	307	988	876	665	886	0	885	1	0	0
Towson U.	308	787	476	723	880	119	455	0	306	0
Occidental C.	309	424	414	762	877 i	0 i	606 i	0 i	129 i	142 i
U. Dayton	310	1,247	868	910	876	0	344	220	312	0
Northern Kentucky U.	311	701	778	671	875	0	707	0	168	0
Reed C.	312	623	886	866 i	860 i	0 i	587 i	0 i	273 i	0 i
Christopher Newport U.	313	758	829	731	851	0	48	0	803	0
Franklin and Marshall C.	314	722	539	660	835	65	564	0	206	0
Grinnell C.	315	1,012	742	691	823	166	611	0	46	0
Utah Valley U.	316	ne	ne	ne	815	0	495	0	320	0
Swarthmore C.	317	946	734	891	779	166	423	0	190	0
West Chester U. Pennsylvania	318	504	425	466	771	238	79	0	454	0
Long Island U.	319	198	784	996	767	0	616	0	151	0
Alabama A&M U.	320	932 i	636 i	681 i	758 i	0 i	344 i	0 i	414 i	0 i
Southern Connecticut State U.	321	430	846	576	753	244	219	0	224	66
Harvey Mudd C.	322	526	543	531	744	0	155	0	589	0
Fort Lewis C.	323	1	470	835	743	0	38	705	0	0
Seton Hall U.	323	0	401	396	743	0	592	0	151	0
CUNY, New York City C. of Technology	325	350	212	331	727	0	187	0	540	0
U. North Carolina, Asheville	326	680	958	558	718	30	218	0	0	470
U. Tulsa	326	585	424	403	718	0	376	0	342	0
Hofstra U.	328	48	10	141	711	79	606	0	22	4
Pomona C.	329	519	872	347	695	63	403	0	229	0
Connecticut C.	330	902	350	271	690	0	678	0	12	0
Yeshiva U.	331	0	286	253	682	0	0	0	682	0
U. North Carolina, Wilmington	332	597	375	435	675	0	140	0	0	535
Williams C.	332	1,312	1,245 i	1,237 i	675 i	47 i	442 i	0 i	186 i	0 i
Tennessee Technological U.	334	1,289	1,178	879	672	0	201	0	471	0
CUNY, John Jay C. of Criminal Justice	335	222	507	235	650	0	191	0	26	433
Duquesne U.	336	2,581	2,326	615	629	0	506	0	123	0
U. Nebraska, Kearney	337	652	320	657	625	0	468	0	157	0
Macalester C.	338	435	377	451	622	177	421	0	24	0
Southeastern Louisiana U.	339	106	326	247	606	0	388	0	218	0

TABLE 48

Higher education R&D expenditures in the physical sciences, ranked by all FY 2022 physical sciences: FYs 2019–22 and by subfield for FY 2022

(Dollars in thousands)

Institution	Rank	2019	2020	2021	2022					
					All physical sciences	Astronomy and astrophysics	Chemistry	Materials science	Physics	Physical sciences nec
Santa Clara U.	340	423	487	516	589	0	426	0	163	0
Texas Woman's U.	341	155	204	7	585	0	581	0	0	4
U. Alaska, Anchorage	342	16	184	1,160	577	275	260	0	42	0
U. Central Oklahoma	343	701	696 i	729 i	572 i	0 i	302 i	0 i	270 i	0 i
St. Edward's U.	344	456	1,074	1,101	571	0	391	0	180	0
U. Colorado Anschutz Medical Campus ^e	345	na	na	391	566	0	0	0	566	0
Middlebury C.	346	459	429	648	564	82	286	0	196	0
SUNY, C. of Environmental Science and Forestry	347	257	294	404	561 i	180 i	309 i	0 i	0 i	72 i
U. South Alabama	347	471	433	626	561	0	454	0	107	0
C. Wooster	349	568	235	414 i	549	0	422	0	127	0
Central Washington U.	350	229	306	285	541	0	41	0	500	0
Eastern Michigan U.	351	491	690	211	540	68	348	90	34	0
Tougaloo C.	352	849	361	359 i	537 i	0 i	340 i	0 i	197 i	0 i
Davidson C.	353	352	242	451	531	0	266	0	261	4
Pennsylvania State U., Behrend	354	151	44	282	521	0	70	416	35	0
U. Richmond	355	450	430	454	519	0	431	0	88	0
C. Charleston	356	923	700	983	518	255	54	0	209	0
U. Arkansas, Pine Bluff	357	448	540	1,175	513	0	513	0	0	0
St. John's U., New York	358	273	405	345	510	0	497	0	13	0
Tarleton State U.	359	303	263	359	503	0	365	0	138	0
U. Minnesota, Duluth	360	1,065	840	624	493	0	285	0	208	0
Whitman C.	361	460	356	ne	486	0	440	0	46	0
Lafayette C.	362	379	388	286	483	0	248	0	235	0
Bowie State U.	363	246	272	438	481	304	0	0	0	177
U. of the Incarnate Word	364	418	226	298	478	0	299	0	179	0
Pacific U.	365	962	120	299	467	0	431	0	36	0
U. Central Arkansas	366	665	585	568	465	0	265	0	200	0
East Tennessee State U.	367	368 i	439 i	240 i	464 i	289 i	126 i	0 i	49 i	0 i
U. Colorado Colorado Springs	368	217	270	310	457	0	219	0	185	53
Indiana U. Pennsylvania	369	269	425	364	456	0	238	0	218	0
Smith C.	370	499	321	495	453	9	342	0	102	0
SUNY, Oswego	371	388	314	328	450	0	439	0	11	0
California State U., Monterey Bay	372	65	0	57	446	0	446	0	0	0
Winthrop U.	373	443	317	382	444	0	444	0	0	0

TABLE 48

Higher education R&D expenditures in the physical sciences, ranked by all FY 2022 physical sciences: FYs 2019–22 and by subfield for FY 2022

(Dollars in thousands)

Institution	Rank	2019	2020	2021	2022					
					All physical sciences	Astronomy and astrophysics	Chemistry	Materials science	Physics	Physical sciences nec
Rhode Island C.	374	132	361	320	441	0	0	0	0	441
Skidmore C.	375	334	363	689	433	0	433	0	0	0
Southern Illinois U., Edwardsville	376	586	911	1,374	426	0	165	0	261	0
Spelman C.	377	595	713	523	410	0	391	0	19	0
California State U., Channel Islands	378	57	39	301	406	0	406	0	0	0
California State U., Sacramento	379	344	296	238	403	0	133	0	270	0
U. Wisconsin-Oshkosh	380	284 i	288 i	292	398	22	360	0	16	0
Claremont McKenna C.	381	144	144	136	385	0	81	0	304	0
Loyola Marymount U.	382	423	233	269	383	0	383	0	0	0
Bowdoin C.	383	364	239	288	376	0	236	0	106	34
U. Hawaii, Hilo	383	164	217	66	376	91	119	0	166	0
Montana Technological U.	385	62	123	216	375	0	375	0	0	0
Mount Holyoke C.	386	1,037	496	550	370	177	23	0	156	14
Youngstown State U.	387	135	346	335	366	162	204	0	0	0
Kenyon C.	388	444	300	ne	362	0	32	0	330	0
Calvin U.	389	462	304 i	331 i	358 i	49 i	298 i	0 i	11 i	0 i
Colby C.	390	397	391	245	345	19	287	0	39	0
U. of St. Thomas (MN)	391	360	235	168	340	0	319	0	21	0
CUNY, Baruch C.	392	375	297	256	338	0	32	0	306	0
Grand Valley State U.	393	276	374	247	331	0	305	0	26	0
Bates C.	394	531	405	413	330	93	78	0	159	0
Salisbury U.	395	534	212	440	326	0	278	0	48	0
Texas A&M U.-Kingsville	396	196	164	213	323	0	319	0	4	0
California State U., Bakersfield	397	420	91	447	322	0	322	0	0	0
Colorado C.	398	102	75	154	316	0	263	0	53	0
Seattle U.	399	157	165	86	311	0	105	0	206	0
Sam Houston State U.	400	550	481	503	308	0	168	0	140	0
Augustana U.	401	358	ne	457	306	0	141	0	165	0
Carleton C.	402	723	704	531	301	25	183	0	93	0
Hobart and William Smith Colleges	403	263	175	152	300	0	102	0	188	10
U. Wisconsin-La Crosse	404	298	416	476	299	0	194	0	105	0
Rutgers, State U. New Jersey, Camden	405	80	354	41	297	0	269	0	28	0
Murray State U.	406	358	185	201	293	0	240	0	53	0
U. Arkansas, Little Rock	407	926	1,105	685	292	0	279	0	13	0

TABLE 48

Higher education R&D expenditures in the physical sciences, ranked by all FY 2022 physical sciences: FYs 2019–22 and by subfield for FY 2022

(Dollars in thousands)

Institution	Rank	2019	2020	2021	2022						
					All physical sciences	Astronomy and astrophysics	Chemistry	Materials science	Physics	Physical sciences nec	
U. South Carolina, Aiken	407	0	51	9	292	0	292	0	0	0	
Ithaca C.	409	ne	378	379	291	32	161	0	98	0	
Missouri State U.	409	386	418	345	291	103	65	0	123	0	
Texas A&M International U.	411	4	42	154	275	0	155	77	43	0	
Augusta U.	412	48	29	172	266	0	266	0	0	0	
U. Michigan, Dearborn	413	217	135	169	262	0	0	0	0	262	
West Texas A&M U.	414	127	211	200	258	0	258	0	0	0	
U. Louisiana, Monroe	415	75	55	17	247	0	247	0	0	0	
Lewis and Clark C.	416	268	749	249	246	0	180	0	66	0	
Union C., Schenectady	417	609	268	185	244	34	108	0	102	0	
Framingham State U.	418	ne	247	258	238	0	238	0	0	0	
Vassar C.	419	172	250	178	233	0	219	0	14	0	
Drake U.	420	130	ne	221	220	0	9	0	211	0	
Sul Ross State U.	421	0	0	0	219	0	219	0	0	0	
Wellesley C.	422	1,426	391	327	214	0	208	0	0	6	
SUNY, C. Brockport	423	48	74	103	211	77	38	0	96	0	
Coastal Carolina U.	424	0	0	88	209	0	55	0	154	0	
Florida Gulf Coast U.	425	138	397	197	207	0	207	0	0	0	
Purdue U., Northwest	426	115	207	110	202	0	202	0	0	0	
Southern U. and A&M C., Baton Rouge	427	1,167	735	583	200	0	132	0	68	0	
New Mexico Highlands U.	428	ne	541	568	187	0	104	0	83	0	
U.S. Military Academy	429	35	814	338	185	0	30	0	155	0	
Citadel Military C. South Carolina	430	ne	119	76	184	0	104	0	80	0	
U. Nebraska, Omaha	431	169	62	76	180	0	26	0	154	0	
Azusa Pacific U.	432	179	205	207	176	0	111	0	65	0	
CUNY, York C.	433	883	568	192	172	5	167	0	0	0	
U. San Francisco	433	83	72	144	172	102	55	0	15	0	
California State U., Chico	435	186	182	172	166	0	59	2	105	0	
Fayetteville State U.	436	200	260	147	165	0	0	0	0	165	
Canisius C.	437	191	ne	173	159	0	0	0	0	159	
Dillard U.	438	606	975	252	158	0	0	3	155	0	
U. Wisconsin-Green Bay	439	127	125	112	156	0	77	0	79	0	
Butler U.	440	ne	ne	ne	154	0	154	0	0	0	
U. of the Pacific	441	431	307	223	152	29	123	0	0	0	

TABLE 48

Higher education R&D expenditures in the physical sciences, ranked by all FY 2022 physical sciences: FYs 2019–22 and by subfield for FY 2022

(Dollars in thousands)

Institution	Rank	2019	2020	2021	2022					
					All physical sciences	Astronomy and astrophysics	Chemistry	Materials science	Physics	Physical sciences nec
Lawrence Technological U.	442	9	6	55	148	0	0	0	143	5
Trinity C., Hartford	443	159	50	113	147	0	143	0	3	1
Manhattan C.	444	55	71	112	140	0	140	0	0	0
Albion C.	445	380	422	435 i	139 i	0 i	99 i	0 i	40 i	0 i
Willamette U.	445	363	269	179	139	0	60	0	19	60
U. Wisconsin-Stevens Point	447	92 i	105	61	136	5	124	0	7	0
U. Guam	448	0	0	86	131	131	0	0	0	0
Indiana State U.	449	155	160	89	130	0	26	0	104	0
U. New Haven	450	576	285	323	128	0	8	120	0	0
Hamilton C.	451	198	208	193	127	0	99	0	9	19
Eastern Washington U.	452	152	66	63	125	0	0	0	118	7
Saint John's U.	452	139 i	132 i	108 i	125 i	0 i	88 i	0 i	37 i	0 i
C. of Saint Benedict	454	176 i	167 i	108 i	124 i	0 i	87 i	1 i	36 i	0 i
Lamar U.	454	188	80	115	124	0	71	0	53	0
William Paterson U.	454	264	361	140	124	0	98	0	0	26
U. Houston-Clear Lake	457	520	403	236	123	0	0	0	0	123
U. Puget Sound	457	ne	252	ne	123	0	85	0	7	31
California State U., Stanislaus	459	25	17	84	117	0	108	0	9	0
U. of Mary Washington	459	48	62	100	117	0	78	0	39	0
Stephen F. Austin State U.	461	85	36	29	114	0	112	0	2	0
Virginia Military Institute	462	ne	ne	ne	112	0	95	0	17	0
Monmouth U.	463	18	19	44	110	0	11	0	99	0
Central Connecticut State U.	464	118	82	73	104	0	101	0	3	0
Clafin U.	465	508	258	129	102	0	75	0	27	0
Black Hills State U.	466	407	116	103	101	0	0	0	101	0
New York Institute of Technology	466	0	0	3	101	0	0	0	101	0
Pace U.	468	199	138	226	100	0	93	0	0	7
U. Wisconsin-Platteville	469	99 i	101 i	82 i	98 i	0 i	51 i	0 i	47 i	0 i
Austin Peay State U.	470	232	15	50	89	0	0	0	26	63
Pepperdine U.	470	88	56	111	89	0	68	0	21	0
U. Houston-Downtown	472	77	72	382	88	46	35	0	0	7
Western Illinois U.	473	57	78	68	84	0	47	0	37	0
Fort Valley State U.	474	104	72	76	83	0	83	0	0	0
Virginia State U.	475	0	0	0	80	0	80	0	0	0

TABLE 48

Higher education R&D expenditures in the physical sciences, ranked by all FY 2022 physical sciences: FYs 2019–22 and by subfield for FY 2022

(Dollars in thousands)

Institution	Rank	2019	2020	2021	2022					
					All physical sciences	Astronomy and astrophysics	Chemistry	Materials science	Physics	Physical sciences nec
Purdue U., Fort Wayne	476	101	126	92	76	0	61	0	15	0
U. Northern Colorado	477	110	122	149	72	0	15	0	57	0
Sonoma State U.	478	ne	203	289	62	0	62	0	0	0
U. Puerto Rico, Cayey	479	140	203	127	61	0	2	0	59	0
Gallaudet U.	480	26	5	92	60	0	0	0	60	0
Langston U.	481	37	109	28	53	0	0	0	0	53
Savannah State U.	481	63	50	34	53	0	53	0	0	0
Roger Williams U.	483	154	101	2	47	0	17	0	30	0
Elon U.	484	89	83	59	45	0	26	0	19	0
Suffolk U.	484	ne	100	70	45	0	45	0	0	0
U. Alaska, Southeast	486	0	55	67	44	44	0	0	0	0
U. Virginia's C. Wise	486	ne	ne	20	44	0	23	0	0	21
Northern Michigan U.	488	24	35	10	43	0	42	0	1	0
California Lutheran U.	489	91	112	ne	42	0	42	0	0	0
U. Tennessee, Chattanooga	490	35	52	22	40	0	40	0	0	0
Minnesota State U., Mankato	491	127	52	29	39	18	21	0	0	0
Des Moines U.	492	0	0	40 i	36	0	0	0	0	36
St. Catherine U.	493	ne	ne	ne	33	0	3	0	30	0
U. Ana G. Mendez, Gurabo	493	1,061	362	142	33 i	0 i	33 i	0 i	0 i	0 i
U. Texas of the Permian Basin	495	ne	24	30	30	0	6	0	0	24
Kettering U.	496	211	648	77	29	0	0	0	29	0
U. Texas, Tyler	496	44	33	46	29	0	29	0	0	0
Mercyhurst U.	498	148 i	108 i	68 i	27	0	0	0	27	0
Pittsburg State U.	498	30	22	24	27	0	27	0	0	0
SUNY, C. Plattsburgh	500	376	126	137	26	0	13	0	13	0
Lake Superior State U.	501	ne	ne	ne	21	0	21	0	0	0
St. Cloud State U.	502	12	15	13	19	0	5	0	14	0
Alfred U.	503	13	7	5	16	16	0	0	0	0
Dakota State U.	504	5	0	58	15	0	0	0	15	0
U. North Georgia	504	68	91	2	15	2	13	0	0	0
U. Illinois, Springfield	506	12	14	20	14	0	14	0	0	0
U. New England	506	23	26	19	14	0	14	0	0	0
DePaul U.	508	229	305	258	13	0	13	0	0	0
Morehead State U.	509	0	0	5	10	0	10	0	0	0

TABLE 48

Higher education R&D expenditures in the physical sciences, ranked by all FY 2022 physical sciences: FYs 2019–22 and by subfield for FY 2022

(Dollars in thousands)

Institution	Rank	2019	2020	2021	2022					
					All physical sciences	Astronomy and astrophysics	Chemistry	Materials science	Physics	Physical sciences nec
New School	509	0	0	0	10	0	0	0	0	10
U. of Health Sciences and Pharmacy in St. Louis	511	ne	0	0	9	0	0	0	9	0
Western Carolina U.	511	342	253	45	9	9	0	0	0	0
Pennsylvania State U., Harrisburg	513	38	0	0	8	0	7	0	1	0
U. Hartford	513	0	0	0	8	0	4	0	4	0
East Stroudsburg U. Pennsylvania	515	ne	ne	ne	7	0	7	0	0	0
Eastern Connecticut State U.	515	10	0	5	7	0	4	0	0	3
Florida Polytechnic U.	517	68	76	71	4	0	4	0	0	0
Johnson C. Smith U.	517	66	300	4 ⁱ	4	0	4	0	0	0
Marymount U.	519	ne	ne	88	2	0	2	0	0	0
La Sierra U.	520	1	1	1	1	0	0	0	1	0
All other surveyed institutions	-	11,526	8,925	3,851	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 \$280,919 thousand imputed for total R&D expenditures in physical sciences in FY 2022. 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.

^d The University of South Florida includes expenditures from the University of South Florida, Tampa; University of South Florida, Saint Petersburg; and University of South Florida, Sarasota-Manatee campuses. Due to the consolidation of the three campuses that occurred on 1 July 2020, University of South Florida, Saint Petersburg and University of South Florida, Sarasota-Manatee began reporting with the University of South Florida, Tampa as the University of South Florida. Prior to FY 2021, all three campuses reported to the survey as separate institutions.

^e The University of Colorado Denver and University of Colorado Anschutz Medical Center report to the survey separately. Prior to FY 2021, expenditures were reported together under University of Colorado Denver and Anschutz Medical Campus.

Note(s):

Institutions reporting zero expenditures in ranked total for FY 2022 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.