

Table SINV-81

## U.S. university USPTO utility patent awards, by WIPO technical field: 1998–2020

(Number)

WIPO technical field	1998–2020	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Pharmaceuticals	17,428	643	717	661	627	625	555	472	398	502	451	419	448	674	634	809	885	1,001	1,051	1,083	1,182	1,108	1,221	1,262
Biotechnology	17,280	816	886	728	788	699	623	568	474	656	589	537	577	703	640	702	733	836	810	923	959	950	1,027	1,055
Medical technology	10,152	250	292	238	235	244	311	241	209	228	198	214	225	360	383	467	575	644	666	708	780	793	943	949
Measurement	7,786	191	227	219	230	220	257	294	247	283	266	282	283	346	373	391	399	389	413	436	451	469	564	555
Organic fine chemistry	6,442	224	215	229	231	266	223	188	185	221	176	163	184	249	207	283	310	360	381	434	435	430	419	429
Computer technology	5,646	123	100	90	116	119	119	138	120	178	164	165	178	267	280	325	343	371	355	393	378	382	474	468
Analysis of biological materials	5,033	181	161	134	165	142	141	137	124	146	152	176	168	259	245	235	281	294	274	292	343	325	331	326
Electrical machinery, apparatus, energy	3,809	88	101	82	82	89	100	113	99	123	99	93	97	166	132	155	177	218	233	263	299	296	338	366
Optics	3,461	102	108	128	104	143	137	152	146	151	141	136	136	155	127	166	156	176	181	178	176	154	195	213
Semiconductors	3,429	71	80	81	100	108	140	99	98	100	95	80	110	162	164	170	201	225	229	238	236	209	225	208
Chemical engineering	2,786	80	87	80	78	70	99	86	81	80	74	72	71	118	106	121	146	154	171	177	209	193	204	227
Microstructural technology, nanotechnology	2,460	38	37	47	50	65	78	91	89	108	109	104	104	140	157	144	186	181	182	144	123	92	93	96
Basic materials chemistry	2,064	57	68	62	72	51	70	59	54	61	45	46	53	72	84	97	137	117	124	139	134	162	163	138
Macromolecular chemistry, polymers	1,868	51	74	61	67	73	83	52	46	64	53	37	51	86	71	73	105	95	97	116	128	123	128	133
Other special machines	1,840	66	66	65	75	81	80	57	55	54	57	45	56	73	71	77	88	85	88	98	100	114	143	145
Materials, metallurgy	1,780	67	60	60	63	63	61	51	48	54	53	40	61	74	74	80	99	85	101	111	111	105	128	129
Digital communication	1,728	14	11	26	28	27	23	33	35	64	61	55	62	87	114	118	90	127	119	112	116	112	160	133
Surface technology, coating	1,549	39	52	63	58	57	58	50	45	40	48	43	37	66	61	75	80	80	81	88	103	108	110	106
Telecommunications	1,536	33	30	26	36	49	42	59	42	55	54	49	56	62	62	84	70	77	85	86	96	107	139	135
Audio-visual technology	1,250	51	43	33	45	37	41	38	35	53	39	37	38	44	40	67	70	54	74	77	88	74	93	81
Environmental technology	1,123	41	37	41	36	46	35	38	25	43	33	25	43	41	46	44	58	72	58	56	77	65	81	79
Basic communication processes	1,049	23	20	20	15	20	24	44	47	44	48	51	53	48	65	51	61	57	54	63	53	62	60	66
Engines, pumps, turbines	866	20	27	23	27	25	31	23	24	30	27	30	34	42	37	44	42	48	44	64	49	60	59	55
Control	853	25	18	20	19	23	24	19	18	31	25	15	21	32	31	37	47	46	41	55	69	69	88	80
Food chemistry	728	44	49	43	33	27	26	18	17	26	17	11	19	25	21	34	35	35	40	41	39	41	44	43
Transport	569	7	22	17	18	16	14	21	20	19	17	14	11	25	28	24	33	33	33	29	30	48	42	48
Civil engineering	535	17	21	22	15	19	15	20	18	10	15	10	12	18	24	19	29	26	33	35	31	38	48	42
Mechanical elements	507	15	15	18	18	19	17	19	13	18	18	11	10	16	20	23	30	28	26	26	39	30	41	36
Textile and paper machines	497	20	15	15	16	20	14	21	12	19	19	14	12	20	21	22	33	25	24	34	25	29	33	34
Machine tools	466	21	24	13	17	19	19	22	14	18	19	14	20	18	23	21	24	30	20	18	22	19	26	26
Thermal processes and apparatus	345	13	11	7	11	10	15	14	10	11	10	8	8	12	10	9	17	19	16	20	19	28	33	35
Other consumer goods	333	13	13	12	6	9	7	9	5	5	13	4	5	12	15	16	18	17	18	26	30	19	26	34
IT methods for management	312	8	5	5	6	2	4	4	9	12	11	14	12	17	24	17	24	32	14	16	15	18	22	23
Handling	297	9	7	3	6	7	5	5	5	4	6	4	1	9	8	14	16	18	20	21	25	26	39	39
Furniture, games	223	7	5	7	5	4	6	7	5	5	8	4	5	6	6	15	12	14	11	16	16	17	23	21

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Unclassified	134	0	1	3	3	1	1	0	4	0	3	0	5	7	7	6	8	8	9	10	13	8	18	22

IT = information technology; USPTO = U.S. Patent and Trademark Office; WIPO = World Intellectual Property Organization.

**Note(s):**

Patents are allocated according to patent ownership information. Data include institutions affiliated with academic institutions, such as university and alumni organizations, foundations, university associations, and affiliated hospitals. Universities vary in how patents are assigned (e.g., to boards of regents, individual campuses, or entities with or without affiliation with the university). Patents are classified under the WIPO classification of patents, which classifies International Patent Classification (IPC) codes under 35 technical fields. IPC reformed codes take into account changes that were made to the WIPO classification in 2006 under the eighth version of the classification and were used to prepare these data. However, because PatentsView only provides the original IPC codes as they appeared on patents and not the IPC reformed codes, current Cooperative Patent Classification codes on patents were converted back to the most recent IPC classification to prepare these statistics. Fractional counts of patents were assigned to each technological field on patents to assign the proper weight of a patent to the corresponding technological fields under the classification. For instance, a patent that is classified under five different technological fields will see each of its technological fields receive a 0.2 count of the patent, so that the patent accounts for a count of 1.0 across all technological fields. Patents were also fractionally allocated among regions, countries, or economies based on the proportion of residences of all assignees. As such, data across technical fields sum to the total number of granted academic patents in the United States. Data across technical fields also sum to the total number of patents granted by the USPTO.

**Source(s):**

National Center for Science and Engineering Statistics; Science-Metrix; PatentsView, USPTO, accessed June 2021.

*Science and Engineering Indicators*