

# WORLD UNIVERSITY RANKINGS

NOVEMBER 5 2004

Aachen RWTH Aarhus University Aberdeen University Adelaide University Alabama University Alberta University  
Amsterdam University Arizona University Auckland University Australian National University Bath University Beijing  
University Birmingham University Bologna University Bonn University Boston University Brandeis University Bremen  
University Bristol University Brown University Brunel University California Institute of Technology Cambridge  
University Carnegie Mellon University Case Western Reserve University Chalmers University of Technology  
Chicago University University of Science and Technology of China City University of Hong Kong City University  
of Hong Kong Colorado University of Denver Colorado State University Curtin University  
of Technology Dartmouth College DePaul University College Duke University  
Dundee University Durham University École Normale Supérieure Fédérale de Lausanne  
Ecole Polytechnique Edinburgh University Erasmus University Georgetown University  
University Rotterdam ETH Zurich Georgia Institute of Technology Göttingen University  
Hebrew University of Jerusalem Helsinki University of Technology Hong Kong University  
of Science and Technology Hong Kong University of Applied Sciences Illinois University  
Imperial College London Indiana University Indiana University of Pennsylvania Iowa University  
Johns Hopkins University King's College London Lancaster University Lehigh University  
Science and Technology Kyoto University La Sapienza University Lancaster University  
University Leicester University Leiden University Liverpool University London School of Economics  
Lund University Maastricht University Malaya University Manchester University and  
University of Malakka Massachusetts University Massey University McGill University  
State University Michigan University Minnesota University Nagoya University Nanjing University  
National Taiwan University National University of Singapore Newcastle upon Tyne University  
Nijmegen University Norwegian University of Science and Technology Oxford University  
Paris VI, Pierre and Marie Curie University Pennsylvania University Pohang University of Science and Technology  
Princeton University Purdue University Queen Mary University of London Queen's University Belfast  
Queensland University Rensselaer Polytechnic Institute Rice University RMIT University  
Rochester University Royal Institute of Technology Rutgers University State University  
Sains Malaysia University Science Malaysia University Sorbonne Paris South  
University Southampton University Stony Brook, State University of New York  
University Tasmania University Technical University of Denmark Technical University of Munich  
University of Darmstadt Tohoku University Tokyo Institute of Technology Trinity College  
Dublin Tsinghua University Louvain Université de Montréal University of California  
Berkeley University of California, Davis University of California, San Francisco  
University of California, San Diego University of Southern California University of Technology,  
Sydney Washington University Uppsala University Utah University Utrecht University  
Vanderbilt University Vienna Technical University Vienna University Virginia Polytechnic  
Institute Virginia University Warwick University Washington University in St Louis  
Waterloo University Western Australia University Wisconsin University Würzburg University  
Yale University Yeshiva University York University Aachen RWTH Aarhus University  
Aberdeen University Adelaide University

**WHO  
IS  
NUMBER  
ONE**

# Top performers on the global stage take a bow

Students, academics and companies placing research contracts all need to know which are the best universities in the world. And the measures used to identify them are crucial, explains **John O'Leary**

**H**igher education has become so international that it is no longer enough for the leading universities to know that they are ahead of the pack in their own country.

Students are prepared to look abroad for the best course, even at undergraduate level; firms scour the world to place research contracts; and academics are more mobile than ever. When the newly merged Manchester University was launched last month, among the goals in its first strategic plan was to become one of the top 25 universities in the world. But who is to say which those are and — crucially — how they should be identified?

Domestic league tables are controversial enough, but there are extra pitfalls associated with international comparisons. The rankings that start on the page opposite represent a first attempt to compare the world's top universities in the round. The process has been kept simple, partly because so few indicators of quality in higher education translate reliably across borders, but also to avoid any suggestion that the data have been manipulated to produce a particular outcome. The five indicators have been chosen to reflect strength in teaching, research and international reputation, with the greatest influence exerted by those in the best position to judge: the academics. University staff from every continent have given their verdict on the top institutions in their field, rather than delivering a more impressionistic judgement of quality across the board. Subsequent features will identify the leaders in different disciplines, but here we examine the aggregated results of the survey.

Other measures were considered and discarded for a variety of reasons. Some, such as a survey of graduate recruiters, may

be revisited in future but produced too limited a response to be reliable. Others, such as spending on libraries, were too closely linked to national prosperity. Some proved impossible to compile because of a lack of comparable data.

Alan Gilbert, Manchester University's president — a prime example of the globalisation of higher education, having been headhunted from Melbourne University — identified the recruitment of Nobel laureates as one indication of international excellence for his institution. But the leading academic prizes were another factor omitted from our tables to make them as

contemporaneous and consistent as possible.

Nobel prizes and Fields medals account for almost a third of the points in the list of top universities compiled this year by Shanghai Jiao Tong University. But why count only these prizes? And why credit the universities where prizewinners studied, some at the turn of the century before last? Why, indeed, credit universities where winners carried out their research, often at least 20 years previously, rather than the institution that now benefits from their presence?

The Shanghai list also awards a fifth of its points on the basis of articles published in *Science* and *Nature*, thereby conferring a big advantage on universities with strengths in the areas covered by these journals. A further 40 per cent rides on two overlapping citation indices, with a final 10 per cent devoted to a complex measure compensating for the advantages enjoyed by big universities. *The Times Higher* ranking rates universities as they are now, or at least as they were at the time of the most recently published statistics. The use of citations and

staffing levels helps institutions dominated by the sciences, but the measures are as neutral as possible. When the next rankings are published in 2005, more improvements will no doubt have been made.

It will take a big change to shift Harvard University from top place, however. Strong performances on all five measures confirm what most observers have long suspected: that Harvard is in the position to which all leading universities aspire. The riches of its endowment will make the university hard to challenge, but its performance is not simply a matter of money. A reputation for being the best in the world acts as a magnet for the most talented students and staff.

Other positions in the table are less predictable, and no doubt some are the result of quirks in the methodology or the different ways statistics are compiled worldwide. But despite taking seven of the top ten places, US institutions are certainly less dominant than most would have predicted. The strong showing by the University of California, Berkeley will encourage other public universities but, across the Atlantic, so will

the presence of Oxford and Cambridge universities and ETH Zurich in the top ten. The peer review, in particular, demonstrates that there are highly regarded universities in many parts of the world. Japan, Australia, China and Singapore all have representatives in the top 20. And even

Australians may be surprised to find six of their universities in the top 50 — more than any country except the US and the UK.

Where scores are close, as they are lower down the table, there is no suggestion that one university is definitively better than another. However, the ranking offers a snapshot of the leading institutions on a set of criteria that are valued around the world.

**'The greatest influence has been exerted by those in the best position to judge: the academics'**

**'Despite taking seven top ten places, US universities are less dominant than most would have predicted'**

## THE WORLD'S TOP 200 UNIVERSITIES

RANK	NAME	COUNTRY	PEER REVIEW SCORE	INT'L FACULTY SCORE	INT'L STUDENTS SCORE	FACULTY/STUDENT SCORE	CITATIONS/FACULTY SCORE	FINAL SCORE
	<b>Max score</b>		<b>1000</b>	<b>100</b>	<b>100</b>	<b>400</b>	<b>400</b>	<b>1000.0</b>
1	Harvard University	US	643	17	17	50	243	1000.0
2	University of California, Berkeley	US	665	6	7	7	169	880.2
3	Massachusetts Institute of Technology	US	484	13	18	28	221	788.9
4	California Institute of Technology	US	236	19	17	45	400	738.9
5	Oxford University	UK	560	57	18	30	45	731.8
6	Cambridge University	UK	541	65	19	31	46	725.4
7	Stanford University	US	420	9	13	28	197	688.0
8	Yale University	US	347	53	20	65	81	582.8
9	Princeton University	US	353	18	18	19	133	557.5
10	ETH Zurich	Switzerland	170	72	25	4	266	553.7
11	London School of Economics	UK	257	79	100	27	6	484.4
12	Tokyo University	Japan	371	3	3	30	60	482.0
13	University of Chicago	US	254	31	18	58	71	444.0
14	Imperial College London	UK	237	60	51	55	27	443.7
15	University of Texas at Austin	US	183	9	8	8	202	421.5
16	Australian National University	Australia	212	48	31	9	105	417.7
17	Beijing University	China	322	9	11	35	3	391.8
18	National University of Singapore	Singapore	266	35	46	10	18	385.9
19	Columbia University	US	213	10	18	56	75	384.1
20	University of California, San Francisco	US	21	5	0	39	300	376.5
21	McGill University	Canada	132	84	42	11	84	364.1
22	Melbourne University	Australia	207	49	51	12	23	353.2
23	Cornell University	US	202	10	16	19	91	348.8
24	University of California, San Diego	US	96	3	6	7	208	331.5
25	Johns Hopkins University	US	107	16	13	68	116	330.8
26	University of California, Los Angeles	US	180	2	8	12	106	316.4
27	Ecole Polytechnique	France	144	25	55	23	59	315.5
28	Pennsylvania University	US	142	14	23	31	87	306.9
29	Kyoto University	Japan	207	3	3	25	57	303.7
30	Ecole Normale Supérieure, Paris	France	105	11	22	100	51	298.4
31	Michigan University	US	173	17	11	19	65	293.3
32	Ecole Polytechnique Fédérale de Lausanne	Switzerland	56	100	67	13	44	289.4
33	Monash University	Australia	136	49	64	8	19	286.0
34	University College London	UK	108	48	40	44	36	284.2
35	Illinois University	US	152	3	3	15	100	281.6
36	New South Wales University	Australia	140	49	47	19	12	275.7
37	Toronto University	Canada	131	24	16	6	88	272.5
38	Carnegie Mellon University	US	129	35	25	24	37	259.4
39	Hong Kong University	Hong Kong	96	74	14	8	50	249.5
40	Sydney University	Australia	124	49	29	11	24	245.2
41	Indian Institute of Technology	India	209	3	2	13	8	241.7
42	Hong Kong University of Sci & Technol	Hong Kong	135	37	15	8	38	240.6
43	Manchester University and Umist	UK	130	40	23	19	19	238.5
44	School of Oriental and African Studies	UK	62	70	77	20	0	235.8
45	Massachusetts University	US	118	1	4	7	99	235.7
46	University of British Columbia	Canada	114	24	14	6	65	230.4
47	Heidelberg University	Germany	124	11	33	12	41	228.3
48	Edinburgh University	UK	118	32	21	22	29	227.6
49	Queensland University	Australia	95	49	25	6	42	223.9
50	Nanyang University	Singapore	123	32	47	9	0	217.1
51	Tokyo Institute of Technology	Japan	118	3	13	27	50	217.0
52=	Duke University	US	61	12	11	56	66	212.6
52=	Université Catholique de Louvain	Belgium	104	26	41	17	19	212.6
54	Brussels Free University	Belgium	54	41	57	10	36	205.1
55	RMIT University	Australia	60	49	80	8	0	203.9
56	Adelaide University	Australia	69	49	29	5	45	202.7
57	Paris VI, Pierre et Marie Curie University	France	99	7	39	15	33	198.7
58	Sussex University	UK	73	51	23	11	32	196.2
59	Purdue University	US	105	25	14	8	36	194.0
60	Technical University Berlin	Germany	83	11	39	2	50	191.1
61=	Brown University	US	46	39	14	19	65	188.9
61=	Tsing Hua University	China	140	9	7	24	3	188.9
63	Copenhagen University	Denmark	111	18	14	19	22	188.7
64	Erasmus University Rotterdam	Netherlands	70	27	11	11	63	188.4
65	Georgia Institute of Technology	US	117	4	11	9	39	185.7
66	Wisconsin University	US	104	0	8	18	48	184.5

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67	Auckland University	New Zealand	76	49	30	7	15	183.5
68	Macquarie University	Australia	45	49	62	5	15	182.3
69	Osaka University	Japan	78	3	5	28	63	181.8
70	St Andrews University	UK	39	42	57	19	19	181.0
71	Paris 1 Sorbonne	France	124	3	43	5	0	180.8
72	University of California, Santa Barbara	US	64	9	3	6	93	180.6
73	Northwestern University	US	61	4	12	27	71	180.4
74	Washington University	US	48	16	8	18	82	177.0
75	Boston University	US	78	12	19	17	45	176.6
76	Curtin University of Technology	Australia	35	50	79	6	0	176.2
77	Vienna Technical University	Austria	83	19	45	16	6	175.4
78	Delft University of Technology	Netherlands	106	20	12	20	12	174.2
79	New York University	US	90	8	10	19	41	173.2
80	Warwick University	UK	70	49	25	9	14	170.6
81	Yeshiva University	US	2	14	15	31	103	170.2
82	Minnesota University	US	59	10	5	11	79	169.6
83	Eindhoven University of Technology	Netherlands	45	20	12	11	77	169.5
84	Chinese University of Hong Kong	Hong Kong	81	30	16	12	25	169.2
85	Göttingen University	Germany	72	11	13	4	64	168.5
86	Rochester University	US	49	10	8	49	48	167.8
87	Trinity College, Dublin	Ireland	57	45	29	8	24	167.0
88	Case Western Reserve University	US	23	4	11	49	75	166.8
89	Malaya University	Malaysia	50	29	68	15	0	166.4
90	Alabama University	US	27	10	4	8	112	166.0
91	Bristol University	UK	59	38	16	17	31	165.9
92	Lomonosov Moscow State University	Russia	97	9	15	31	5	161.6
93	Hebrew University of Jerusalem	Israel	81	5	11	16	44	161.4
94	Vienna University	Austria	77	19	30	5	25	161.2
95	Technical University Munich	Germany	72	11	32	23	18	160.7
96=	Western Australia University	Australia	36	49	29	10	31	160.1
96=	King's College London	UK	34	44	27	24	26	160.1
98	Amsterdam University	Netherlands	68	17	14	10	46	159.8
99	Munich University	Germany	82	11	26	12	24	159.7
100	Queen Mary, University of London	UK	41	47	30	23	13	158.8
101	Oslo University	Norway	81	21	18	13	21	158.5
102	National Taiwan University	Taiwan	100	10	11	11	22	157.8
103	Bath University	UK	25	45	39	22	21	155.5
104	Tufts University	US	17	10	15	26	81	153.9
105	Texas A&M University	US	78	12	3	6	49	153.2
106	Iowa University	US	23	10	11	5	99	152.6
107	Colorado University	US	38	17	3	10	79	151.9
108	Massey University	New Zealand	41	49	42	5	8	150.6
109	Washington University, St Louis	US	38	10	10	13	76	150.3
110	Chalmers University of Technology	Sweden	71	17	22	11	25	150.2
111	Sains Malaysia University	Malaysia	26	27	78	15	0	149.6
112	Glasgow University	UK	59	33	10	15	27	148.5
113	University of Technology, Sydney	Australia	46	49	39	7	0	146.1
114	Otago University	New Zealand	25	49	42	10	15	145.9
115	Brandeis University	US	13	26	15	12	75	145.6
116	Michigan State University	US	81	10	7	8	35	145.1
117	North Carolina University	US	37	9	3	17	75	144.3
118=	Virginia University	US	53	6	10	17	54	144.0
118=	Seoul National University	South Korea	83	6	20	9	21	144.0
120	Utrecht University	Netherlands	58	16	9	11	45	143.9
121	Paris XI, Université Paris-Sud	France	47	11	31	10	40	142.6
122	Royal Institute of Technology	Sweden	37	19	30	4	47	142.5
123	Maastricht University	Netherlands	24	20	51	20	23	142.0
124	Stuttgart University	Germany	61	11	39	17	10	141.7
125	Humboldt University Berlin	Germany	69	11	23	7	28	141.3
126	Birmingham University	UK	41	36	19	14	26	140.5
127	Aarhus University	Denmark	59	18	13	26	20	140.0
128	Durham University	UK	52	33	10	11	28	139.3
129	Helsinki University	Finland	75	11	7	13	28	138.6
130	Penn State University	US	64	10	5	10	44	138.4
131	Leiden University	Netherlands	24	20	13	12	65	137.9
132	Strasbourg University	France	29	11	40	9	45	137.6
133	Leeds University	UK	54	31	17	15	16	136.9

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134	Maryland University	US	35	20	5	14	58	136.7
135	Bonn University	Germany	56	11	37	13	14	135.0
136	Stony Brook, State University of New York	US	26	7	10	11	75	134.3
137	York University	UK	36	39	16	16	22	133.3
138	Dartmouth College	US	18	13	12	20	65	132.5
139	Stockholm University	Sweden	40	19	30	3	35	131.9
140	Uppsala University	Sweden	43	19	30	11	24	131.5
141	Utah University	US	51	10	13	14	40	131.0
142	La Trobe University	Australia	27	49	23	4	25	130.8
143	Waterloo University	Canada	50	25	12	5	35	130.6
144	Toulouse 1 University	France	31	8	40	5	42	130.4
145	Technical University of Denmark	Denmark	49	18	15	23	20	128.6
146	Rice University	US	35	10	7	25	48	128.5
147=	Hamburg University	Germany	66	11	17	9	20	127.3
147=	McMaster University	Canada	28	24	13	11	47	127.3
149	Kiel University	Germany	27	11	15	3	67	127.0
150	Sheffield University	UK	38	33	15	15	22	126.9
151	Liverpool University	UK	32	39	14	13	25	126.8
152	Karlsruhe University	Germany	47	11	29	9	26	126.0
153	Tohoku University	Japan	48	6	2	27	39	125.7
154	China University Sci & Technol	China	85	5	1	24	6	125.2
155	Montpellier 1 University	France	43	11	31	5	31	124.8
156	Vanderbilt University	US	20	2	5	39	55	124.6
157	Frankfurt University	Germany	51	11	30	6	22	124.1
158	Technion – Israel Institute of Technology	Israel	78	0	1	12	30	124.0
159	Madrid Autonomous University	Spain	62	19	11	8	19	123.7
160	Korea Advanced Institute of Sci & Tech	South Korea	86	7	19	8	0	123.5
161	Tasmania University	Australia	27	49	22	6	15	123.3
162	La Sapienza University	Italy	89	4	5	4	16	121.5
163	Pohang University of Sci & Technol	South Korea	22	14	18	8	56	120.9
164	Innsbruck University	Austria	31	19	38	6	23	120.8
165	Georgetown University	US	38	10	10	13	46	120.6
166	Alberta University	Canada	28	24	23	13	28	120.4
167	Nagoya University	Japan	45	3	3	19	47	120.0
168	Dundee University	UK	9	42	21	14	31	119.4
169	Würzburg University	Germany	11	11	15	6	72	118.8
170	Nottingham University	UK	24	39	20	13	19	118.0
171	Lund University	Sweden	36	19	6	11	40	117.3
172	TH Darmstadt	Germany	39	11	28	2	33	116.9
173	Emory University	US	12	1	8	43	48	116.6
174	Indiana University	US	29	0	10	6	68	115.9
175	University of California, Santa Cruz	US	14	5	2	4	87	115.6
176	Helsinki University of Technology	Finland	61	20	8	15	8	115.4
177	Université de Montréal	Canada	35	24	23	14	14	114.2
178	Freiburg University	Germany	26	11	29	14	29	113.0
179	Newcastle upon Tyne University	UK	19	33	19	20	19	112.6
180	University of Southern California	US	40	15	14	4	35	111.4
181	Lancaster University	UK	23	44	16	7	18	111.3
182	University of California, Davis	US	27	1	4	10	65	110.8
183	Arizona University	US	35	5	9	10	49	110.6
184	Aachen RWTH	Germany	60	11	27	9	0	110.5
185	Queen's University Belfast	UK	16	54	16	5	16	110.3
186	Bologna University	Italy	76	4	8	4	14	109.8
187	Norwegian University of Sci & Technol	Norway	30	23	19	22	12	109.6
188	Tulane University	US	27	10	20	33	16	108.9
189	Leicester University	UK	5	32	21	17	29	107.4
190	Rutgers State University	US	24	25	5	10	40	107.3
191	Nijmegen University	Netherlands	22	20	12	33	17	107.1
192	Nanjing University	China	73	4	2	16	7	106.3
193	Southampton University	UK	12	45	11	16	18	105.9
194	Aberdeen University	UK	6	38	22	16	20	105.7
195=	National Autonomous University of Mexico	Mexico	68	7	0	25	1	104.5
195=	Fudan University	China	61	8	13	15	4	104.5
197	Bremen University	Germany	35	11	21	2	32	104.4
198	City University of Hong Kong	Hong Kong	40	47	3	10	0	103.6
199	Virginia Polytechnic Institute	US	56	10	7	11	17	103.0
200	Rensselaer Polytechnic Institute	US	24	19	9	9	38	102.9