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Selection of Universities

ARWU considers every university that has any Nobel Laureates, Fields Medalists, Highly Cited Researchers, or papers published in Nature or Science. In addition, universities with significant amount of papers indexed by Science Citation Index-Expanded (SCIE) and Social Science Citation Index (SSCI) are also included. In total, more than 1200 universities are actually ranked and the best 500 are published on the web.

Ranking Criteria and Weights

Universities are ranked by several indicators of academic or research performance, including alumni and staff winning Nobel Prizes and Fields Medals, highly cited researchers, papers published in Nature and Science, papers indexed in major citation indices, and the per capita academic performance of an institution. For each indicator, the highest scoring institution is assigned a score of 100, and other institutions are calculated as a percentage of the top score. The distribution of data for each indicator is examined for any significant distorting effect; standard statistical techniques are used to adjust the indicator if necessary. Scores for each indicator are weighted as shown below to arrive at a final overall score for an institution. The highest scoring institution is assigned a score of 100, and other institutions are calculated as a percentage of the top score. An institution's rank reflects the number of institutions that sit above it.

Indicators and Weights for ARWU

Criteria	Indicator	Code	Weight
Quality of Education	Alumni of an institution winning Nobel Prizes and Fields Medals	Alumni	10%
Quality of Faculty	Staff of an institution winning Nobel Prizes and Fields Medals	Award	20%
	Highly cited researchers in 21 broad subject categories	HiCi	20%
Research Output	Papers published in Nature and Science*	N&S	20%
	Papers indexed in Science Citation Index-expanded and Social Science Citation Index	PUB	20%
Per Capita Performance	Per capita academic performance of an institution	PCP	10%
Total			100%

* For institutions specialized in humanities and social sciences such as London School of Economics, N&S is not considered, and the weight of N&S is relocated to other indicators.

Definition of Indicators

Indicator	Definition
Alumni	The total number of the alumni of an institution winning Nobel Prizes and Fields Medals. Alumni are defined as those who obtain bachelor, Master's or doctoral degrees from the institution. Different weights are set according to the periods of obtaining degrees. The weight is 100% for alumni obtaining degrees in 2001-2010, 90% for alumni obtaining degrees in 1991-2000, 80% for alumni obtaining degrees in 1981-1990, and so on, and finally 10% for alumni obtaining degrees in 1911-1920. If a person obtains more than one degrees from an institution, the institution is considered once only.
Award	The total number of the staff of an institution winning Nobel Prizes in Physics, Chemistry, Medicine and Economics and Fields Medal in Mathematics. Staff is defined as those who work at an institution at the time of winning the prize. Different weights are set according to the periods of winning the prizes. The weight is 100% for winners after 2011, 90% for winners in 2001-2010, 80% for winners in 1991-2000, 70% for winners in 1981-1990, and so



	on, and finally 10% for winners in 1921-1930. If a winner is affiliated with more than one institution, each institution is assigned the reciprocal of the number of institutions. For Nobel prizes, if a prize is shared by more than one person, weights are set for winners according to their proportion of the prize.
HiCi	The number of Highly Cited Researchers selected by Thomson Reuters. Thomson Reuters had issued two lists of Highly Cited Researchers: the old list was first issued in 2001, it identified more than 6,000 researchers and the number of Highly Cited Researcher of an institution on that list was used in ARWU from 2003 to 2013. In 2014, Thomson Reuters developed a new list of Highly Cited Researchers with some 3,000 names based on a different methodology. In order to have a relatively smooth transition to the new list of Highly Cited Researchers and avoid too much fluctuations of ranking results due to the methodological change in developing Highly Cited Researchers list, both the old Highly Cited Researchers list and the new Highly Cited Researchers list are used in the calculation of HiCi indicator in ARWU 2015, and they are equally weighted. The score on HiCi of an institution in ARWU 2015 is the sum of its score for the old list and that for the new list (Click here to see all these scores). An institution's HiCi score for the old list is the same as its HiCi score in ARWU 2013, and an institution's HiCi score for the new list depends on its number of Highly Cited Researchers on the new list. It is worth noting that, upon the suggestion of many institutions and researchers including some Highly Cited Researchers, only the primary affiliations of new Highly Cited Researchers are considered in the calculation of an institution's HiCi score for the new list.
N&S	The number of papers published in Nature and Science between 2010 and 2014. To distinguish the order of author affiliation, a weight of 100% is assigned for corresponding author affiliation, 50% for first author affiliation (second author affiliation if the first author affiliation is the same as corresponding author affiliation), 25% for the next author affiliation, and 10% for other author affiliations. Only publications of 'Article' type is considered.
PUB	Total number of papers indexed in Science Citation Index-Expanded and Social Science Citation Index in 2014. Only publications of 'Article' type is considered. When calculating the total number of papers of an institution, a special weight of two was introduced for papers indexed in Social Science Citation Index.
PCP	The weighted scores of the above five indicators divided by the number of full-time equivalent academic staff. If the number of academic staff for institutions of a country cannot be obtained, the weighted scores of the above five indicators is used. For ARWU 2015, the numbers of full-time equivalent academic staff are obtained for institutions in USA, UK, France, Canada, Japan, Italy, China, Australia, Netherlands, Sweden, Switzerland, Belgium, South Korea, Czech, Slovenia, New Zealand etc.

Data Sources

Indicator	Data Source
Nobel laureates	http://nobelprize.org/
Fields Medals	http://www.mathunion.org/index.php?id=prizewinners
Highly cited researchers	http://www.highlycited.com/
Papers published in Nature and Science	http://www.webofknowledge.com/
Articles indexed in Science Citation Index-Expanded and Social Science Citation Index	http://www.webofknowledge.com/
Others	Number of academic staff. Data is obtained from national agencies such as National Ministry of Education, National Bureau of Statistics, National Association of Universities and Colleges, National Rector's Conference.

World Top 500 Universities

World Top 500 Universities
 Australia Austria Belgium Brazil Canada China
 Denmark Finland France Germany Hong Kong
 Ireland Israel Italy Japan Netherlands
 New Zealand Norway Portugal Russia South
 Korea Saudi Arabia South Africa Spain Sweden
 Switzerland Taiwan UK USA

ARWU-FIELD

Natural Sciences and Mathematics
 Engineering / Technology and Computer Sciences
 Life and Agriculture Sciences
 Clinical Medicine and Pharmacy
 Social Sciences

ARWU-SUBJECT

Mathematics
 Physics
 Chemistry
 Computer Science
 Economics/Business