

UNIVERSITY OF SALAMANCA

GLOBAL RESEARCH UNIVERSITY PROFILES (GRUP)
2016 DATA REPORT



**SHANGHAI
RANKING**

GRUP Team

ShanghaiRanking Consultancy
Shanghai, China

Email: grup@shanghairanking.com

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1 Introduction

In 2003, researchers at Center for World-Class Universities (CWCU) of Shanghai Jiao Tong University developed the first multi-indicator global university ranking – Academic Ranking of World Universities (ARWU). Since 2009, the ARWU has been published and copyrighted by ShanghaiRanking Consultancy, which is a fully independent organization dedicating to higher education data and research on higher education intelligence. Ever since the first publication, ARWU has attracted a great deal of attention from universities, governments and public media all over the world. One of the factors for the significant influence of ARWU is that it only employs data originated from third parties so that the reliability of data and result is ensured. Nevertheless, the available third-party data on world universities is rare. Only a very limited number of useful indicators can be generated, which can hardly meet the increasing needs for the comparisons of global universities from various perspectives.

The Global Research University Profiles (GRUP) project was conducted by CWCU from 2011 to 2015 and by ShanghaiRanking Consultancy since 2016. The GRUP aims to develop a database on the facts and figures of around 1,200 research universities in the world. The online survey of the GRUP had been designed to collect the basic information of these institutions such as number of academic staff, number of students, total income, research income and so on. The survey results were combined with other performance indicators for these 1200 research universities in order to produce more comprehensive and customized comparisons of research universities at a global level.

- (1) The customized benchmarking and ranking platform — GRUP platform allows you to view and compare universities in different rank ranges and/or in different regions/countries in terms of 35 indicators about students, faculty and resources. It also allows universities to estimate their ranks in Academic Ranking of World Universities based on their actual or expected data on these indicators. By combining the survey data with those gathered from other sources, global rankings of universities by individual indicators are presented on the platform as well.
- (2) The data has been used to design the new rankings such as the [Ranking of Top Universities in Greater China](#). In 2016, the Survey Questionnaire had some minor changes in order that the survey results will be used in more future rankings when appropriate.
- (3) The GRUP Survey results are used to enrich the university profiles on ARWU Website -- [Universities](#), which provide more information to the public.

Figure 1 shows the response rates in Top 100 and Top 500 groups in ARWU as well as the total 1200-university sample from 2011 to 2016. More specifically, although there is a little decline in the percentage of participating institutions, more than half of the Top 100 institutions participated in GRUP from 2012, and the percentage of participating institutions for Top 500 institutions is also nearly 50%.

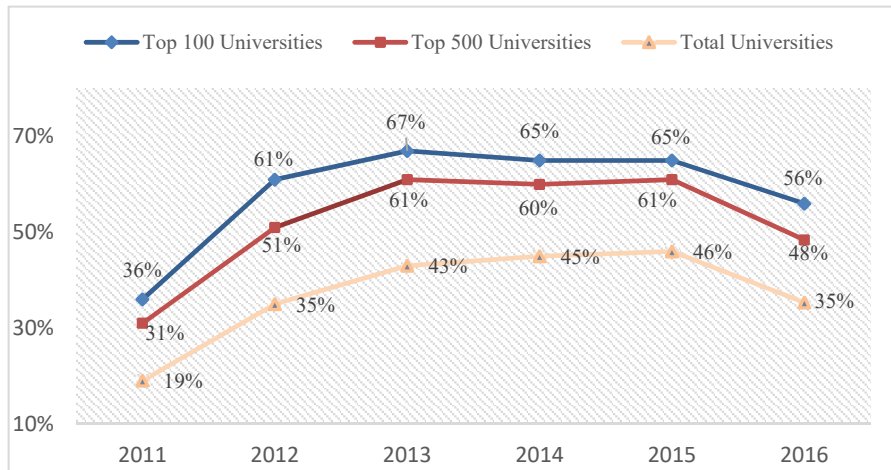


Figure 1. Percentage of Participating Universities from 2011 to 2016

Altogether, 424 institutions completed the query datasheet in the survey of 2016, and all GRUP participants were analyzed in this report. The participating institutions formed a representative sample set to describe and reflect the characteristics of world leading research universities.

Figure 2 displays the number and distribution of participating institutions in GRUP Survey 2016 by their ranking range in ARWU 2016. Also, it can be obtained from Figure 2 that the response rate of Top 500 institutions in each range is over 40%, and the average response rate is 48%.

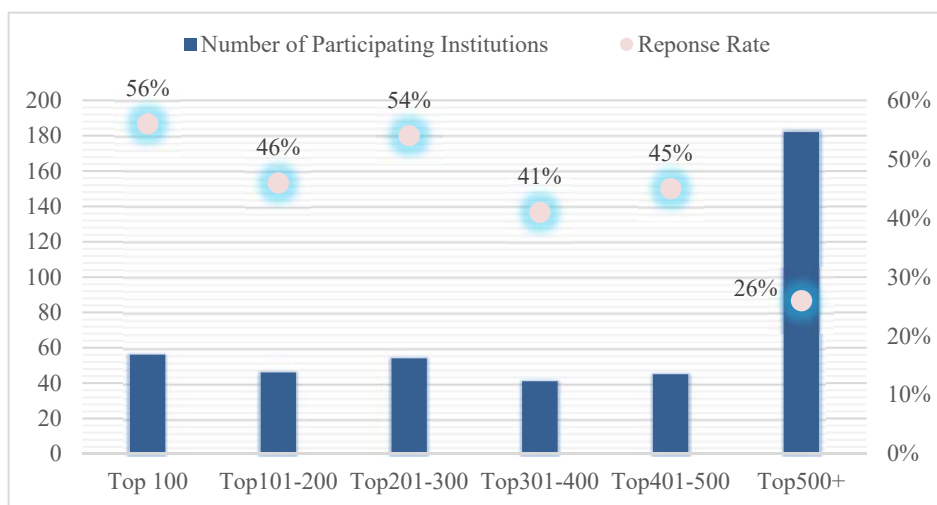


Figure 2. Response Rate of Participating Universities in GRUP 2016

Figure 3 and Figure 4 demonstrate the distribution and number of participating institutions by region and country. A list of all participating institutions is given in Appendix 4.

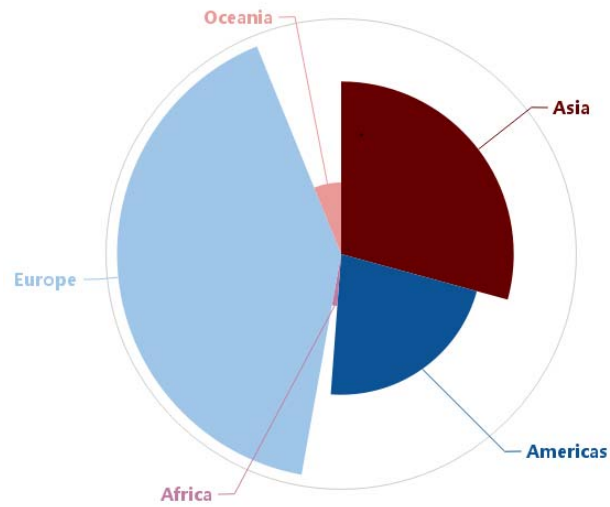


Figure 3. Distribution of Participating Institutions by Region 2016



Figure 4. Distribution of Participating Institutions by Country 2016

2 Performance in ARWU 2016

Performance in Academic Ranking of World Universities (ARWU) 2016:



Institutional Name: UNIVERSITY OF SALAMANCA

500+



3 Benchmarking Analysis Based on GRUP

Survey 2016

GRUP serves as a comprehensive benchmarking tool and allows users to view and compare statistics of the 40 indicators (13 indicators about Students, 9 indicators about Faculty, 13 indicators about Resource and 5 ARWU indicators) for institutions in different rank ranges and/or in different regions/countries. It not only provides comprehensive and quantitative descriptions of world leading research universities, but also assists universities to identify their advantages and disadvantages as compared to those of their concern.

For the time being, there has been 3 functions provided in the GRUP platform: Benchmarking, Estimation and Ranking by Indicator. The benchmarking analysis based on indicators and universities groups is available for all participants with your access to the platform. Both the GRUP Indicators and groups of institution for Benchmarking are given in Appendix 1 and Appendix 3.

3.1 Descriptive Statistics

Table 1 displays the example of benchmarking results with selected 15 indicators about faculty, students and resource about your institution. Of which:

4 indicators are about faculty:

- Number of Academic Staff (Teaching Related)
- Percentage of Academic Staff (Teaching Related) with Doctoral Level Degree
- Percentage of International Academic Staff (Teaching Related)
- Number of Academic Staff (Research Only)

5 indicators are about students:

- Number of Students (Degree-seeking)
- Percentage of Graduate Students
- Percentage of International Students
- Number of Doctoral Degree Awarded
- Ratio of Academic Staff (Teaching Related) to Students

6 indicators are about resource:

- Institutional Income (Millions of USD)

- Institutional Income per Student (Thousands of USD)
- Percentage of Income from Public Sectors
- Research Income (Millions of USD)
- Research Income per Academic Staff (Thousands of USD)
- Percentage of Research Income From Public Sector

For more individualized benchmarking, please access your account at the GRUP Platform
<http://www.shanghairanking.com/grup/index.html>.

Table 1. Comparison of UNIVERSITY OF SALAMANCA and ARWU Europe Top 500 Institutions with Selected 15 Indicators

Indicators	N	Min	Mean	Max	SD	UNIVERSITY OF SALAMANCA
Number of Academic Staff (Teaching Related)	101	82	1572	4483	906	1704
Percentage of Academic Staff (Teaching Related) with Doctoral Level Degree	87	0.08	0.81	1.00	0.15	0.84
Percentage of International Academic Staff (Teaching Related)	101	0.01	0.16	0.61	0.13	0.01
Number of Academic Staff (Research Only)	93	45	905	4792	832	179
Number of Students (Degree-seeking)	102	510	25710	109771	16569	27324
Percentage of Graduate Students	102	0.14	0.39	1.00	0.16	0.15
Percentage of International Students	101	0.04	0.18	0.67	0.12	0.13
Number of Doctoral Degree Awarded	100	43	457	1549	306	251
Ratio of Academic Staff (Teaching Related) to Students	101	0.01	0.07	0.18	0.03	0.06
Institutional Income (Millions of USD)	101	24.32	701.58	2750.68	504.59	267.45
Institutional Income per Student (Thousands of USD)	101	0.53	33.82	151.25	26.30	9.79
Percentage of Income from Public Sectors	94	0.17	0.62	0.98	0.19	0.74
Research Income (Millions of USD)	100	6.96	228.43	991.78	216.49	33.21
Research Income per Academic Staff (Thousands of USD)	100	6.62	102.04	435.69	84.44	17.64
Percentage of Research Income From Public Sector	92	0.23	0.76	0.99	0.17	0.88

Note:

1. "--" represents the data is unavailable.
2. N: Number of Institutions with Valid Data.
3. SD: Standard Deviation

3.2 Data Analysis

In the data analysis section, universities published in ARWU 2016 are divided into 5 groups and indicator performance of these groups is presented.

1. Students

The average number of students and percentage of graduate students for each group of universities ranked in ARWU 2016 are shown in Figure 5. Universities ranked in Top 101-200 has the highest average number of students while the Top 301-400 has the lowest.

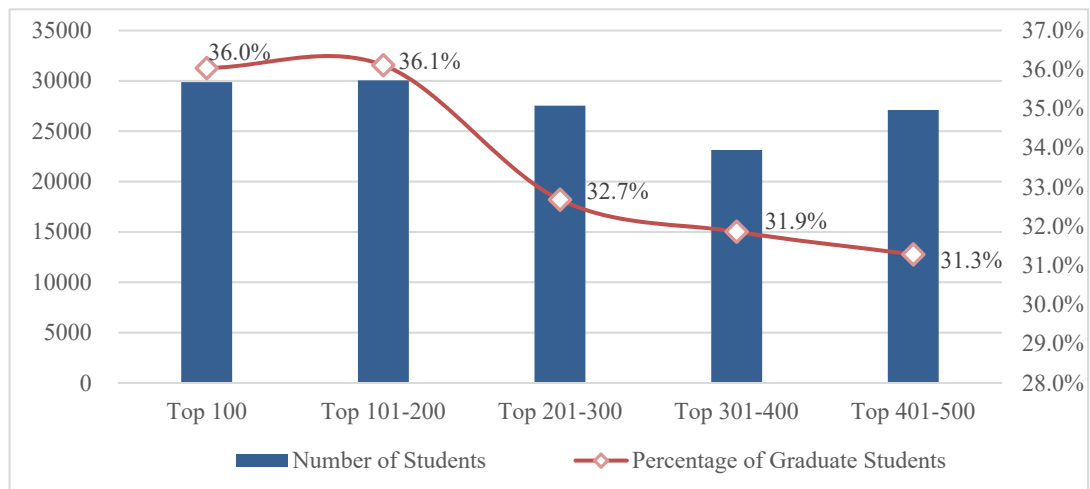


Figure 5. The Number of Students and Percentage of Graduate students

Figure 6 presents the average number of total bachelor students, total master students and total doctoral students of participating institutions. It also shows the average number of doctoral degree awarded in each ranking block. As universities' ranking performance falls, fewer doctoral degrees are awarded. The average number of students awarded with doctoral degree of Top 100 is almost three times that of Top 401-500.

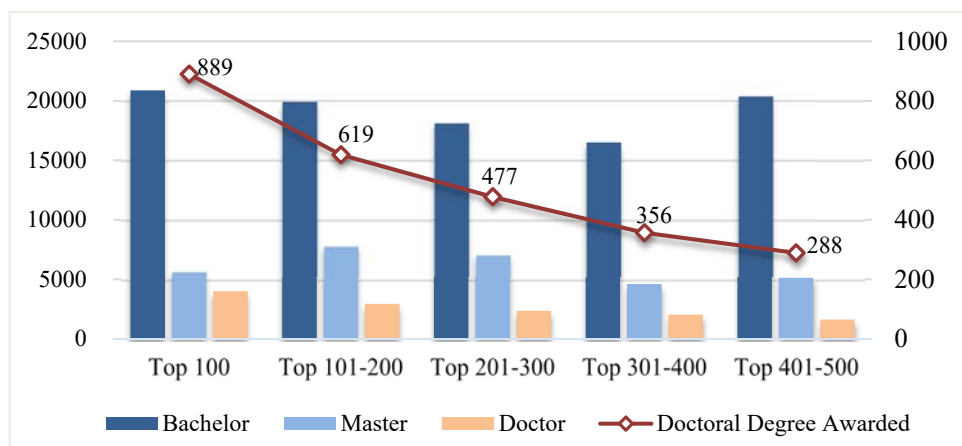


Figure 6. The Number of Students and Doctoral Degree Awarded

2. Faculty

Figure 7 shows the average number of teaching related staff and research only staff of participating institutions based on their ranking performances in ARWU 2016.

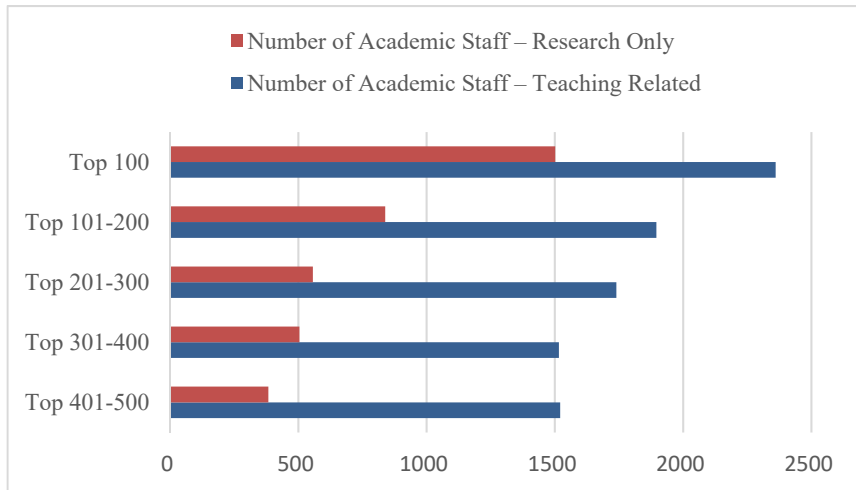


Figure 7. The Number of Teaching Related and Research Only Academic Staff

The percentage of international students and the percentage of international academic staff contribute to our understanding of the degree of internationalization of universities. These two indicators are shown in Figure 8 below.

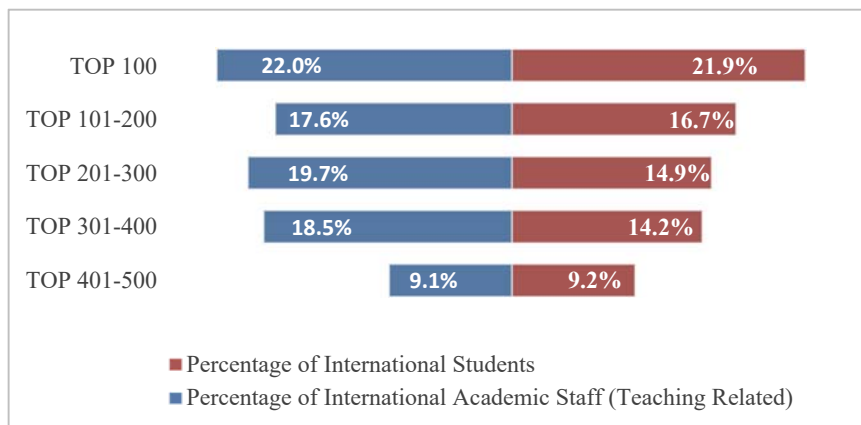


Figure 8. The Percentage of International Students and International Academic Staff

3. Resource

Figure 9 demonstrates three different sources of income, including institutional income from governmental (public) sectors, donation/gifts income as well as total research income.

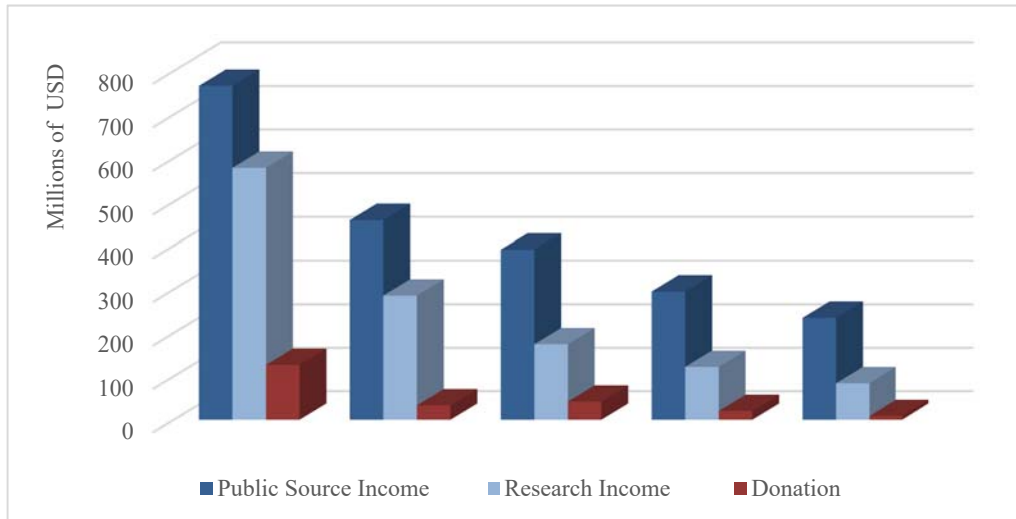


Figure 9. Institutional Income from Government and Donation and Research Income

Research Income refers to the overall income derived from externally sponsored research carried out by institution, the research income from governmental (public) sectors often occupies most of the total research income, the GRUP data result of participating institutions of ARWU Top 500 (Figure 10) shows that the average percentage of research income from public sector exceeds 72%.

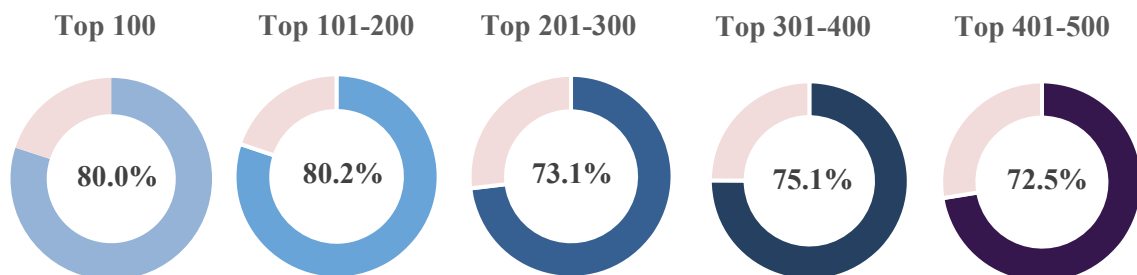


Figure 10. Percentage of Research Income from Public Sector

Appendix 1 GRUP Indicators for Benchmarking

	Indicators
Students Indicators	Total Number of Students
	Number of Undergraduate Students
	Number of Master's Students
	Number of Doctoral Students
	Percentage of Graduate Students
	Percentage of International Students
	Percentage of International Undergraduate Students
	Percentage of International Master's Students
	Percentage of International Doctoral Students
	Number of Doctoral Degree Awarded
	Employment Rate of Bachelor Degree Recipients (0-3 months)
	Employment Rate of Master's Degree Recipients (0-3 months)
	Employment Rate of Doctoral Degree Recipients (0-3 months)
Faculty Indicators	Total Number of Academic Staff
	Number of Academic Staff (Teaching Related)
	Number of Academic Staff (Research Only)
	Percentage of Academic Staff (Teaching Related) with a Doctorate
	Percentage of Academic Staff (Research Only) with a Doctorate
	Percentage of International Academic Staff (Teaching Related)
	Percentage of International Academic Staff (Research Only)
	Ratio of Academic Staff (Teaching Related) to Students
Ratio of Academic Staff to Students	
Resources Indicators	Total Amount of Institutional Income
	Institutional Income per Student
	Institutional Income from Public Sectors
	Percentage of Institutional Income from Public Sectors
	Institutional Income from Student Tuition & Fees
	Institutional Income from Student Tuition and Fees per Student
	Institutional Income from Donations and Gifts
	Institutional Income from Institution's Investments
	Total Amount of Research Income
	Research Income per Academic Staff

	Indicators
Resources Indicators	Research Income from Public Sectors
	Percentage of Research Income from Public Sectors
	Research Income from Industry
ARWU Indicators	Number of Alumni of Nobel Laureates and Fields Medalists
	Number of Staff of Nobel Laureates and Fields Medalists
	Number of Highly Cited Researchers
	Number of Nature and Science Papers
	Number of SCIE and SSCI Papers

Appendix 2 Indicators Definition of GRUP Survey 2016

Notes:

Year of Data: The GRUP Survey 2016 collects the information of participating institutions in the 2014 calendar year or the 2014-2015 academic/fiscal year whichever appropriate.

FTE Number: Numbers of staff or students should be provided in Full Time Equivalents (FTE), unless otherwise noted. The formulas of calculating FTE are:

FTE number of academic staff: $[FTE = \text{the number of full-time academic staff} + (\text{the number of part-time academic staff}) * (\text{the FTE conversion factor})]$. The FTE conversion factor is calculated as the total hours worked of part-time staff divided by the number of hours in a full-time schedule. For example, if part-time staff work on average for one-third of the statutory hours of full-time staff, then the FTE conversion factor is 1/3.

FTE number of students: $[FTE = \text{the number of full-time students} + (\text{the number of part-time students}) * (\text{the FTE conversion factor})]$. The FTE conversion factor is calculated as the course load generated by part-time students during reference period divided by the normal course load during reference period.

B1. Number (FTE) of Academic Staff (Teaching Related)

-B1.1 Total

-B1.1.1 Of which hold doctoral-level degrees

-B1.1.2 Of which are overseas/international staff

-B1.1.3 Of which are qualified to supervise postgraduate students

Academic Staff (Teaching Related) - Total: refers to the FTE number of personnel who carry teaching/instruction duties, including those with released time for research, administration or service. This may include the staff holding an academic rank with titles such as professor, associate professor, assistant professor, clinical professor, instructor, lecturer, adjunct professor, adjunct associate professor, adjunct lecturer, or the equivalent of any of these academic ranks. This may also include chancellors, presidents, deans, medical practitioners, dentists, veterinarians and other health care professionals if they also undertake teaching duties. This excludes student teachers or teacher aides, research-only staff, post-doctoral fellows, administrative officers (e.g. dean of students, registrar), support personnel (e.g. clerical staff,

building operations or maintenance staff, librarian, security personnel, drivers, catering staff) and doctoral student.

Holding Doctoral-Level Degrees: refers to the number of Academic Staff (Teaching Related) who hold Doctor of Philosophy (Ph.D. or sometimes D.Phil) or its equivalent (e.g. Ed.D.), or other terminal degree appropriate to their academic field or discipline.

Overseas/International Staff: refers to the FTE number of Academic Staff (Teaching Related) who do not have the nationality of the country where your institution is located.

Qualified to Supervise Postgraduate Students: refers to the number of Academic Staff (Teaching Related) who are recognized to have the right to supervise students at master's, doctoral or its equivalent levels.

B2. Number (FTE) of Academic Staff (Research Only)

-B2.1 Total

-B2.1.1 Of which hold doctoral-level degrees

-B2.1.2 Of which are overseas/international staff

-B2.1.3 Of which hold the academic rank "post-doctoral fellow"

Academic Staff (Research Only) - Total: refers to the FTE number of personnel who only carry research duties with no obligation for teaching. This may include the staff holding an academic rank with titles such as research professor, research assistant professor, research associate professor, research assistants, or post-doctoral fellows. This excludes doctoral students.

Holding Doctoral-Level Degrees: refers to the number of academic staff (research only) who hold Doctor of Philosophy (Ph.D. or sometimes D.Phil) or its equivalent (e.g. Ed.D.), or other terminal degrees.

Overseas/International Staff: refers to the FTE number of academic staff (research only) who do not have the nationality of the country where your institution is located.

Post-doctoral Fellow: refers to the FTE number of academic staff who hold the post-doctoral position/title and conduct research only.

B3. Number (FTE) of Students Enrolled at Bachelor's Level

-B3.1 Total

-B3.1.1 Of which are overseas/international students

Students Enrolled at Bachelor's Level - Total: refers to the FTE number of students who are undertaking courses at bachelor's or its equivalent level, usually requiring 3 or 4 years (or the equivalent) of full-time study.

Overseas/International Students: refer to the FTE number of students enrolled at bachelor's level who do not have the nationality of the country where your institution is located.

B4. Number (FTE) of Students Enrolled at Master's Level

-B4.1 Total

-B4.1.1 Of which study for academic/research master's degrees

-B4.1.2 Of which study for professional master's degrees

-B4.2 Of which are overseas/international students

Students Enrolled at Master's Level - Total: refers to the FTE number of students who are undertaking courses at master's or its equivalent level. Those students may be course-based, research-based, or a mixture of the two. Normally, those students may have earned a bachelor's or its equivalent degrees.

Students Studying for Academic/Research Master's Degrees: refers to the FTE number of students who are undertaking courses for Master of Arts (M.A.), Master of Science (M.S. or M.Sc.) or its equivalent degrees awarded in the liberal arts and sciences for advanced scholarship in a subject field or discipline and for demonstrated ability to perform scholarly research. This excludes students enrolled at master's or its equivalent level for professional degrees, for example Master of Business Administration (M.B.A.), Master of Education (M.Ed.), Master of Fine Arts (M.F.A.) and Master of Public Administration (M.P.A.).

Students Studying for Professional Master's Degrees: refers to the FTE number of students who are undertaking courses for a professional master's degree such as Master of Business Administration (M.B.A.), Master of Education (M.Ed.), Master of Fine Arts (M.F.A.), Master of Public Administration (M.P.A.), Masters of Laws (LL.M.) and Masters of Science in various medical specializations (M.S.).

Overseas/International Students: refer to the FTE number of students enrolled at master's level who do not have the nationality of the country where your institution is located.

B5. Number (FTE) of Students Enrolled at Doctoral Level

-B5.1 Total

-B5.1.1 Of which study for academic/research doctoral degrees

-B5.1.2 Of which study for professional doctoral degrees

-B5.2 Of which are overseas/international students

Students Enrolled at Doctoral Level - Total: refers to the FTE number of students who are undertaking courses at doctoral or its equivalent level. Normally, those students may have earned a bachelor's, master's or its equivalent degrees.

Students Studying for Academic/Research Doctoral Degrees: refers to the FTE number of students who are undertaking courses for academic/research doctoral degrees such as Doctor of Philosophy (Ph.D.), Doctor of Science (D.Sc./Sc.D.), or its equivalent degrees, which requires the preparation and defense of a dissertation based on original research to demonstrate ability to perform scholarly research.

Students Studying for Professional Doctoral Degrees: refers to the FTE number of students who are undertaking courses for professional doctorate degrees such as Doctor of Arts (D.A./D. Arts), Doctor of Business Administration (D.B.A.), Doctor of Education (Ed.D.), Doctor of Engineering (D.Eng./D.E.Sc./D.E.S.), Doctor of Health Science (D.H.Sc.), Doctor of Juridical Science (J.S.D./S.J.D.), Doctor of Music (D.M.), Doctor of Nursing Science (D.N.Sc.), Doctor of Public Administration (D.P.A.), Doctor of Public Health (Dr.P.H.), Doctor of Sacred Theology (S.T.D.), which may have a substantial taught element and aim to develop an individual's professional practice and to support them in providing a contribution to (professional) knowledge. This also includes study for the professional degrees in fields such as Chiropractic (D.C. or D.C.M.), Dentist (D.M.D.), Law (L.L.B., J.D.), Medicine (M.D.), Optometry (O.D.), Osteopathic Medicine (D.O.), Pharmacy (Pharm.D.), Podiatry (D.P.M., D.P., or Pod.D.), Theology (M.Div., M.H.L., B.D., or Ordination), Veterinary Medicine (D.V.M.).

Overseas/International Students: refers to the FTE number of students enrolled at doctoral level who do not have the nationality of the country where your institution is located.

B6. Number of Doctoral Degrees Awarded

-B6.1 Total

-B6.1.1 Of which are academic/research doctoral degrees

Doctoral Degrees Awarded - Total: refers to the overall number of doctoral or its equivalent degrees awarded in reference year, which includes academic/research and professional doctoral degrees.

Academic/Research Doctoral Degrees Awarded: refers to the number of doctoral degrees

awarded that are academic/research doctoral degrees.

B7. Unemployment Rate of Graduates

-B7.1 -month/XXX-month unemployment rate of bachelor's degree recipients

-B7.2 -month/XXX-month unemployment rate of master's degree recipients

-B7.3 -month/XXX-month unemployment rate of doctoral degree recipients

Unemployment Rate of Bachelor's Degree Recipients: refers to the percentage of the total bachelor's degree recipients that is jobless, looking for a job, and available for work within 3 months after graduation. Those who have no job and are not looking for one, such as those who are continuing their studies, or who have a physical or mental disability that prevents them from participating in the labor force are not included in the labor force and are not considered unemployed. If the 3-month unemployment rate is not available, please choose the date you do employment survey and enter the figures.

Unemployment Rate of Master's Degree Recipients: refers to the percentage of the total master's degree recipients that is jobless, looking for a job, and available for work within 3 months after graduation. Those who have no job and are not looking for one, such as those who are continuing their studies, or who have a physical or mental disability that prevents them from participating in the labor force are not included in the labor force and are not considered unemployed. If the 3-month unemployment rate is not available, please choose the date you do employment survey and enter the figures.

Unemployment Rate of Doctoral Degree Recipients: refers to the percentage of the total doctoral degree recipients that is jobless, looking for a job, and available for work within 3 months after graduation. Those who have no job and are not looking for one, such as those who are continuing their studies, or who have a physical or mental disability that prevents them from participating in the labor force are not included in the labor force and are not considered unemployed. If the 3-month unemployment rate is not available, please choose the date you do employment survey and enter the figures.

B8. Institutional Income

-B8.1 Total

-B8.1.1 Of which was derived directly from governmental/public sectors

-B8.1.2 Of which was derived from student tuition and fees

-B8.1.3 Of which was derived from donations/gifts

-B8.1.4 Of which was derived from institution's investments and own business

Institutional Income - Total: refers to the overall income from funding sources such as government legislative appropriations/block funding, student tuition and fees, research grants and contracts, donations/gifts and endowment income, international agencies and other foreign sources, institution's trading activities, institution's investments, auxiliary enterprises sales and services.

From Governmental/Public Sectors: refers to the overall income directly from state/federal/regional/local governmental agencies or through an intermediate agency that are used for general institutional operations and research, which includes government legislative appropriations/block funding, research grants and contracts, student financial aids (e.g. scholarships, grants, loans and tax deductions), and charities (e.g. charitable foundations, charitable trusts).

From Student Tuition and Fees: refers to the overall income derived from all kinds of teaching courses and degree programs for which fees are charged. This may include tuition and fees from continuing professional development.

From Donations/Gifts: refers to the overall income from general and specific donations/gifts, including the income earned from the capital of the donations/gifts whether arising from the interest or dividends on investments, bank interest or rents from real property.

From Institution's Investments and Own Business: refers to the overall income from institution's investments and own business, including investments of endowment funds, income from institution's trading activities, and income from institution's auxiliary enterprise sales and services, etc.

Note:

B8.1 Total Institutional Income includes all the income stated in B9.1 Total Research Income.

B8.1.1 Institutional Income which was derived directly from governmental/public sectors includes B9.1.1 Research Income which was derived from governmental/public sectors.

B9. Research Income

-B9.1 Total

-B9.1.1 Of which was derived from governmental/public sectors

-B9.1.2 Of which was derived from industry

Research Income - Total: refers to the overall income derived from externally sponsored research carried out by your institution, including all research grants and contracts income from governmental (public) sectors, industrial/commercial companies, public corporations, foundations, charities, international organizations and so on.

From Governmental/Public Sectors: refers to the research grants and contracts income from governmental (public) sectors (state/federal/regional/local governmental agencies or intermediate agencies) and charities (e.g. charitable foundations, charitable trusts). This excludes all research grants and contracts income from public corporations.

From Industry: refers to the research grants and contracts income from industrial/commercial companies and public corporations.

Note:

B9.1 Total Research Income should be included in B8.1 Total Institutional Income.

B9.1.1 Research Income which was derived directly from governmental/public sectors should be included in B8.1.1 Institutional Income which was derived from governmental/public sectors.

B9.1.2 Research Income which was derived directly from industry may not be included in any 4 of sub-sectors in B8 Institutional Income.

Appendix 3 Groups of Institutions for Benchmarking

	Name of Groups	Institutions Included
Groups by ARWU	ARWU universities by ranking groups	Universities in ARWU 1-10, 1-50, 1-100, 101-200, 201-300, 301-400, 401-500, 500+
	ARWU Top 500 universities by continent	ARWU Top 500 universities in Americas, Asia, Europe, Oceania
	ARWU Top 500 universities by sub-region	ARWU Top 500 universities in Eastern Asia, Eastern Europe, Latin America, Northern America, Northern Europe, Southern Europe, Western Europe
	ARWU Top 500 universities by country/area	ARWU Top 500 universities in Australia, Canada, China, Germany, France, US, UK, etc.
	Best 20 universities by sub-region	Best 20 universities in Eastern Asia, Eastern Europe, Latin America, Northern America, Northern Europe, Southern Europe, Western Europe
	Best 10 universities by country/area	Best 10 universities in Australia, Canada, China, Germany, France, US, UK, etc.
Global Network	Global: AEARU universities	Universities in Association of East Asian Research (AEARU)
	Global: APRU universities	Universities in Association of Pacific Rim Universities (APRU)
	Global: AUN universities	Universities in ASEAN University Network (AUN)
	Global: CG universities	Universities in Coimbra Group (CG)
	Global: CLUSTER universities	Universities in Leading Universities of Science and Technology (CLUSTER)
	Global: GlobalTech universities	Universities in Global Alliance of Technological Universities (GlobalTech)
	Global: IARU universities	Universities in International Alliance of Research Universities (IARU)
	Global: IDEA universities	Universities in IDEA League (IDEA)
	Global: LAOTSE universities	Universities in International Exchange Programme with Top Universities for Students and Senior Lecturers (LAOTSE)
	Global: LERU universities	Universities in League of European Research Universities (LERU)
	Global: U21 universities	Universities in Universitas 21 (U21)
Global: UNICA universities	Universities in Network Universities from the Capitals of Europe (UNICA)	
National Groups	Australia: Go8 universities	Group of Eight member universities in Australia
	Canada: U15 universities	U15 Group of Canadian Research Universities
	China: 211 universities	"211 Project" universities in China

	Name of Groups	Institutions Included
National Groups	China: 985 universities	"985 Project" universities in China
	China: C9 universities	C9 League member universities in China
	France: ParisTech institutes	Institutes of science and technology in Paris, France
	Germany: TU9 institutes	TU9 institutes of technology in Germany
	Germany: EliteU universities	"Excellence Initiative" program universities in Germany
	India: IIT universities	IIT universities in India
	Japan: 21COE universities	"21COE" program universities in Japan
	Japan: Global30 universities	"Global30" program universities in Japan
	Japan: GlobalCOE universities	"GlobalCOE" program universities in Japan
	Japan: N7 universities	National Seven Universities in Japan
	Korea: BK21 universities	"Brain Korea 21" program universities in Republic of Korea
	Russia: ICP universities	"International Competitiveness Program" universities in Russia
	Taiwan: T12 universities	"Aim for the Top University Project" universities in Taiwan
	UK: Russell universities	Russell Group member universities in UK
	US: AAU universities	Association of American Universities member universities in US
	US: CIC universities	Committee on Institutional Cooperation member universities in US
US: Ivyleague universities	Ivy League member universities in US	

Appendix 4 List of Participating Institutions of GRUP Survey 2016

Institution	Country / Region	World Rank
Stanford University	USA	2
University of California Berkeley	USA	3
University of Cambridge	UK	4
Massachusetts Institute of Technology	USA	5
Princeton University	USA	6
University of Oxford	UK	7
California Institute of Technology	USA	8
Columbia University in the City of New York	USA	9
University of Chicago	USA	10
University of California - Los Angeles	USA	12
University of Washington	USA	15
University College London	UK	17
Imperial College London	UK	22
University of Michigan - Ann Arbor	USA	23
University of Toronto	Canada	27
University of Wisconsin - Madison	USA	28
University of Minnesota - Twin Cities	USA	33
University of British Columbia	Canada	34
The University of Manchester	UK	35
University of North Carolina at Chapel Hill	USA	36
Rockefeller University	USA	37
University of Colorado Boulder	USA	38
Pierre and Marie Curie University	France	39
The University of Melbourne	Australia	40
The University of Edinburgh	UK	41
Karolinska Institute	Sweden	44
University of Paris-Sud	France	46
Heidelberg University	Germany	48
University of Southern California	USA	49
King's College London	UK	50
LMU Munich	Germany	51
University of Maryland - College Park	USA	52
The University of Queensland	Australia	55

Institution	Country / Region	World Rank
University of Helsinki	Finland	56
University of California - Irvine	USA	58
Ghent University	Belgium	62
Purdue University - West Lafayette	USA	63
Aarhus University	Denmark	66
Carnegie Mellon University	USA	68
Nagoya University	Japan	72
University of Groningen	Netherlands	73
University of California - Davis	USA	75
Boston University	USA	76
The Australian National University	Australia	78
The Ohio State University	USA	79
Monash University	Australia	79
The University of Sydney	Australia	82
National University of Singapore	Singapore	83
University of California, Santa Cruz	USA	84
University of Florida	USA	90
Leiden University	Netherlands	93
KU Leuven	Belgium	94
Rutgers University - New Brunswick	USA	96
The University of Western Australia	Australia	96
Osaka University	Japan	99
University of Utah	USA	100
Vrije Universiteit Amsterdam	Netherlands	101-150
Indiana University Bloomington	USA	101-150
Case Western Reserve University	USA	101-150
Cardiff University	UK	101-150
Radboud University	Netherlands	101-150
University of Liverpool	UK	101-150
University of Amsterdam	Netherlands	101-150
University of Leeds	UK	101-150
The University of Sheffield	UK	101-150
Arizona State University at the Tempe Campus	USA	101-150

Institution	Country / Region	World Rank
University of Birmingham	UK	101-150
University of Southampton	UK	101-150
Shanghai Jiao Tong University	China	101-150
The University of New South Wales	Australia	101-150
Tufts University	USA	101-150
Fudan University	China	101-150
Lund University	Sweden	101-150
The University of Adelaide	Australia	101-150
University of Muenster	Germany	101-150
University of São Paulo	Brazil	101-150
Texas A&M University	USA	101-150
Tohoku University	Japan	101-150
University of Science and Technology of China	China	101-150
University of Warwick	UK	151-200
London School of Economics and Political Science	UK	151-200
University of Massachusetts Amherst	USA	151-200
University of California - Riverside	USA	151-200
Universidade de Lisboa	Portugal	151-200
Trinity College Dublin, the University of Dublin	Ireland	151-200
Sapienza University of Rome	Italy	151-200
Sun Yat-sen University	China	151-200
Friedrich-Alexander-University of Erlangen-Nuremberg	Germany	151-200
Tel Aviv University	Israel	151-200
Catholic University of Louvain	Belgium	151-200
University of Exeter	UK	151-200
TU Dresden	Germany	151-200
University of Padua	Italy	151-200
Queen Mary University of London	UK	151-200
Hokkaido University	Japan	151-200
The University of Auckland	New Zealand	151-200
University of Delaware	USA	151-200
Xian Jiao Tong University	China	151-200
University of Innsbruck	Austria	151-200

Institution	Country / Region	World Rank
University Grenoble Alps	France	151-200
Sungkyunkwan University	South Korea	151-200
China Medical University	China-tw	151-200
University of the Witwatersrand	South Africa	201-300
University of Lausanne	Switzerland	201-300
Macquarie University	Australia	201-300
University of Notre Dame	USA	201-300
Huazhong University of Science and Technology	China	201-300
The University of Georgia	USA	201-300
University of Pisa	Italy	201-300
Curtin University	Australia	201-300
University of Kansas	USA	201-300
Deakin University	Australia	201-300
Charles University	Czech	201-300
Sichuan University	China	201-300
University of Turin	Italy	201-300
University of Waterloo	Canada	201-300
RWTH Aachen University	Germany	201-300
North Carolina State University	USA	201-300
Western University	Canada	201-300
University of South Florida	USA	201-300
Durham University	UK	201-300
Politecnico di Milano	Italy	201-300
Maastricht University	Netherlands	201-300
Southeast University	China	201-300
KTH Royal Institute of Technology	Sweden	201-300
University of Milan	Italy	201-300
Soochow University	China	201-300
The Chinese University of Hong Kong	China-hk	201-300
University of Houston	USA	201-300
Stony Brook University	USA	201-300
The Hong Kong University of Science and Technology	China-hk	201-300
George Mason University	USA	201-300

Institution	Country / Region	World Rank
Queen's University	Canada	201-300
University of Antwerp	Belgium	201-300
Indiana University-Purdue University at Indianapolis	USA	201-300
University Hamburg	Germany	201-300
University of Tsukuba	Japan	201-300
University of Florence	Italy	201-300
University of Bergen	Norway	201-300
Ulm University	Germany	201-300
City University of Hong Kong	China-hk	201-300
Dartmouth College	USA	201-300
Karlsruhe Institute of Technology	Germany	201-300
South China University of Technology	China	201-300
Chalmers University of Technology	Sweden	201-300
The University of York	UK	201-300
University of East Anglia	UK	201-300
Jilin University	China	201-300
Brandeis University	USA	201-300
University of Victoria	Canada	201-300
Xiamen University	China	201-300
University of Tasmania	Australia	201-300
Eindhoven University of Technology	Netherlands	201-300
Queensland University of Technology	Australia	201-300
University of Otago	New Zealand	301-400
University of Southern Denmark	Denmark	301-400
Ecole Polytechniqu	France	301-400
The Hong Kong Polytechnic University	China-hk	301-400
Ecole Normale Superieure - Lyon	France	301-400
Dalian University of Technology	China	301-400
Complutense University of Madrid	Spain	301-400
Autonomous University of Barcelona	Spain	301-400
Griffith University	Australia	301-400
University at Buffalo - the State University of New York	USA	301-400
Flinders University	Australia	301-400

Institution	Country / Region	World Rank
University of Montpellier	France	301-400
University of Porto	Portugal	301-400
Tongji University	China	301-400
University of Oregon	USA	301-400
Polytechnic University of Valencia	Spain	301-400
University of Wollongong	Australia	301-400
Keio University	Japan	301-400
La Trobe University	Australia	301-400
Beihang University	China	301-400
Umea University	Sweden	301-400
Saint Petersburg State University	Russia	301-400
Dalhousie University	Canada	301-400
Newcastle University	UK	301-400
China Agricultural University	China	301-400
The George Washington University	USA	301-400
Nankai University	China	301-400
Queen's University Belfast	UK	301-400
National Tsing Hua University	China-tw	301-400
Chiba University	Japan	301-400
University of Liege	Belgium	301-400
University of Eastern Finland	Finland	301-400
University of Technology Sydney	Australia	301-400
University of Bath	UK	301-400
University of Canterbury	New Zealand	301-400
Federal University of Rio de Janeiro	Brazil	301-400
University of Santiago Compostela	Spain	301-400
Chang Gung University	China-tw	301-400
University of Pavia	Italy	301-400
Universitat Politècnica de Catalunya	Spain	301-400
East China University of Science and Technology	China	301-400
University of Chile	Chile	301-400
University of Fribourg	Switzerland	301-400
Washington State University	USA	401-500

Institution	Country / Region	World Rank
Kobe University	Japan	401-500
Istanbul University	Turkey	401-500
Saint Louis University	USA	401-500
EWHA Womans University	South Korea	401-500
Hunan University	China	401-500
University of Campinas	Brazil	401-500
University of Central Florida	USA	401-500
University of Warsaw	Poland	401-500
Stellenbosch University	South Africa	401-500
Aalto University	Finland	401-500
Tokyo University of Science	Japan	401-500
University of Parma	Italy	401-500
University of Versailles Saint-Quentin-en-Yvelines	France	401-500
Cairo University	Egypt	401-500
Aristotle University of Thessaloniki	Greece	401-500
Wake Forest University	USA	401-500
Jagiellonian University	Poland	401-500
Brunel University London	UK	401-500
Bielefeld University	Germany	401-500
University of Bayreuth	Germany	401-500
Osaka City University	Japan	401-500
University of Surrey	UK	401-500
University of the Basque Country	Spain	401-500
Nanjing Medical University	China	401-500
Rensselaer Polytechnic Institute	USA	401-500
National Cheng Kung University (NCKU)	China-tw	401-500
Kaohsiung Medical University	China-tw	401-500
TU Darmstadt	Germany	401-500
University of Minho	Portugal	401-500
University of Turku	Finland	401-500
University of Aveiro	Portugal	401-500
National Chiao Tung University	China-tw	401-500
University of Coimbra	Portugal	401-500

Institution	Country / Region	World Rank
Northeast Normal University	China	401-500
Wuhan University of Technology	China	401-500
Novosibirsk State University	Russia	401-500
Hong Kong Baptist University	China-hk	401-500
RMIT University	Australia	401-500
University of Ferrara	Italy	401-500
Scuola Normale Superiore	Italy	401-500
University of KwaZulu-Natal	South Africa	401-500
Universitat Rovira i Virgili	Spain	401-500
University of Oulu	Finland	401-500
Donghua University	China	401-500
University of Duisburg-Essen	Germany	500+
Hiroshima University	Japan	500+
National Sun Yat-sen University	China-tw	500+
Northeastern University(China)	China	500+
University of Arkansas	USA	500+
University of Graz	Austria	500+
Jiangnan University	China	500+
University of Iceland	Iceland	500+
Polytechnic University of Turin	Italy	500+
Heriot-Watt University	UK	500+
Moscow Institute of Physics and Technology	Russia	500+
University of Seville	Spain	500+
Federal University of Viçosa	Brazil	500+
University of Genoa	Italy	500+
Università Cattolica del Sacro Cuore	Italy	500+
University of Portsmouth	UK	500+
University of Szeged	Hungary	500+
Nanjing Agricultural University	China	500+
The University of Texas at San Antonio	USA	500+
Northwestern Polytechnical University	China	500+
Baylor University	USA	500+
University of Wisconsin-Milwaukee	USA	500+

Institution	Country / Region	World Rank
University of Pretoria	South Africa	500+
University of Oklahoma - Norman Campus	USA	500+
University of Zaragoza	Spain	500+
University of Trento	Italy	500+
National Central University	China-tw	500+
University of Jyväskylä	Finland	500+
Chung-Ang University	South Korea	500+
University of Hull	UK	500+
Massey University	New Zealand	500+
MIDDLE EAST TECHNICAL UNIVERSITY	Turkey	500+
University of Hohenheim	Germany	500+
Chongqing University	China	500+
York University	Canada	500+
Tokyo Medical and Dental University	Japan	500+
University of Vigo	Spain	500+
Eotvos Lorand University	Hungary	500+
Macau University of Science and Technology	China-mc	500+
Chonbuk National University	South Korea	500+
University of Strathclyde	UK	500+
Masaryk University	Czech	500+
University of Alcalá	Spain	500+
Universiti Putra Malaysia	Malaysia	500+
Tokushima University	Japan	500+
University of Haifa	Israel	500+
Loughborough University	UK	500+
BABEŞ-BOLYAI UNIVERSITY	Romania	500+
Tulane University	USA	500+
University of Regina	Canada	500+
TAIPEI MEDICAL UNIVERSITY	China-tw	500+
University of the Balearic Islands	Spain	500+
Colorado School of Mines	USA	500+
Missouri University of Science and Technology	USA	500+
University of Kent	UK	500+

Institution	Country / Region	World Rank
Vilnius University	Lithuania	500+
Florida Institute of Technology	USA	500+
University College Cork	Ireland	500+
University of La Laguna	Spain	500+
Lehigh University	USA	500+
Palacky University - Olomouc	Czech	500+
National Chung Hsing University	China-tw	500+
Kanazawa University	Japan	500+
Concordia University	Canada	500+
Xidian University	China	500+
Yokohama City University	Japan	500+
Syracuse University	USA	500+
China University of Petroleum - Beijing	China	500+
The University of Waikato	New Zealand	500+
UNIVERSITY OF SALAMANCA	Spain	500+
University of Nebraska Medical Center	USA	500+
Beijing Jiaotong University	China	500+
Murdoch University	Australia	500+
Sogang University	South Korea	500+
Budapest University of Technology and Economics	Hungary	500+
Kumamoto University	Japan	500+
Adam Mickiewicz University in Poznań	Poland	500+
Alexandria University	Egypt	500+
National Taiwan University of Science and Technology	China-tw	500+
Comenius University in Bratislava	Slovakia	500+
Isfahan University of Technology	Iran	500+
Nanjing Normal University	China	500+
University of Navarra	Spain	500+
Keele University	UK	500+
Gazi University	Turkey	500+
Graz University of Technology	Austria	500+
University of Cantabria	Spain	500+
Federal University of São Carlos	Brazil	500+

Institution	Country / Region	World Rank
University of Crete	Greece	500+
Plymouth University	UK	500+
University of South Africa	South Africa	500+
Harbin Engineering University	China	500+
University of California - Merced	USA	500+
University of Patras	Greece	500+
Tokyo Metropolitan University	Japan	500+
Hohai University	China	500+
Istanbul Technical University	Turkey	500+
Shinshu University	Japan	500+
Kyushu Institute of Technology	Japan	500+
University of Macau	China-mc	500+
Otto von Guericke University Magdeburg	Germany	500+
Iran University of Science and Technoloty	Iran	500+
University of Valladolid	Spain	500+
Osaka Prefecture University	Japan	500+
University of Debrecen	Hungary	500+
Miguel Hernandez University of Elche	Spain	500+
University of los Andes	Colombia	500+
City University London	UK	500+
College of William and Mary	USA	500+
Birkbeck, University of London	UK	500+
Metropolitan Autonomous University	Mexico	500+
Kindai University	Japan	500+
National Taiwan Normal University	China-tw	500+
Kyoto Sangyo University	Japan	500+
Kazan Federal University	Russia	500+
Gifu University	Japan	500+
National Taipei University of Technology	China-tw	500+
University Politehnica of Bucharest	Romania	500+
University of Kaiserslautern	Germany	500+
University of Central Lancashire	UK	500+
Chung Shan Medical University	China-tw	500+

Institution	Country / Region	World Rank
CHUNG YUAN CHRISTIAN UNIVERSITY	China-tw	500+
Tampere University of Technology	Finland	500+
Charles Darwin University	Australia	500+
Cranfield University	UK	500+
University of Jaen	Spain	500+
Tokai University	Japan	500+
National Taiwan Ocean University	China-tw	500+
The New School	USA	500+
University of Guadalajara	Mexico	500+
University of Dayton	USA	500+
Paris 1 Panthéon-Sorbonne University	France	500+
National University Corporation Kochi University	Japan	500+
Koc University	Turkey	500+
Texas State University	USA	500+
Yamaguchi University	Japan	500+
Ca' Foscari University of Venice	Italy	500+
University of Jordan	Jordan	500+
Gdansk University of Technology	Poland	500+
Oxford Brookes University	UK	500+
Slovak University of Technology in Bratislava	Slovakia	500+
University of Greenwich	UK	500+
Chang'an University	China	500+
Tamkang University	China-tw	500+
National Changhua University of Education	China-tw	500+
National Yunlin University of Science and Technology	China-tw	500+
Kyoto Institute of Technology	Japan	500+
Texas Christian University	USA	500+
Voronezh State University	Russia	500+
V.N.Karazin Kharkiv National University	Ukraine	500+
Shanghai Maritime University	China	500+
Toyohashi University of Technology	Japan	500+
University of Tulsa	USA	500+
University of Natural Resources and Life Sciences - Vienna	Austria	500+

Institution	Country / Region	World Rank
University of Lucerne	Switzerland	500+
University of Silesia in Katowice	Poland	500+
Sophia University	Japan	500+
HEC Paris	France	500+
Free University Berlin	Germany	500+
Grenoble Institute of Technology	France	500+
Zhongnan University of Economics and Law	China	500+
Monterrey Institute of Technology and Higher Education	Mexico	500+
China University of Political Science and Law	China	500+
National Kaohsiung First University of Science and Technology	China-tw	500+
University of Bedfordshire	UK	500+
National Kaohsiung University of Applied Sciences	China-tw	500+
Polessky State University	Belarus	500+
University of Isfahan	Iran	500+
National Research University Higher School of Economics	Russia	500+
Sumy State University	Ukraine	500+
National Taipei University	China-tw	500+
Providence University	China-tw	500+
National Research Nuclear University MEPhI (Moscow Engineering Physics Institute)	Russia	500+
Shanghai University of International Business and Economics	China	500+
Huzhou University	China	500+
Ningxia University	China	500+
Xinjiang University	China	500+
Dalian University	China	500+
Ningbo University	China	500+
Yanbian University	China	500+
Zhejiang Gongshang University	China	500+
Xiangtan University	China	500+
Yamaguchi University	Japan	500+
Ca' Foscari University of Venice	Italy	500+

Institution	Country / Region	World Rank
University of Jordan	Jordan	500+
Gdansk University of Technology	Poland	500+
Oxford Brookes University	UK	500+
Slovak University of Technology in Bratislava	Slovakia	500+
University of Greenwich	UK	500+
Chang'an University	China	500+
Tamkang University	China-tw	500+
National Changhua University of Education	China-tw	500+
National Yunlin University of Science and Technology	China-tw	500+