



# Arab University Rankings

**METHODOLOGY FOR THE *TIMES HIGHER EDUCATION*  
ARAB UNIVERSITY RANKINGS 2023**

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**September 2023**



## ***Times Higher Education Arab University Rankings (AUR):***

*Times Higher Education* is the data provider underpinning university excellence in every continent across the world. As the company behind the world's most influential university ranking, and with almost five decades of experience as a source of analysis and insight on higher education, we have unparalleled expertise on the trends underpinning university performance globally. Our data and benchmarking tools are used by many of the world's most prestigious universities to help them achieve their strategic goals.

The annual *Times Higher Education (THE)* World University Rankings (WUR), started in 2010, aims to provide the definitive list of the best universities, evaluated across five key areas of Teaching, Research, Citations, International Outlook and Industry Income. *Times Higher Education's* data is trusted by governments and universities and is a vital resource for students, helping them choose where to study.

Within our World University Rankings, Arab universities are improving their underlying scores across a range of metrics compared to the rest of the world, in particular in citations and reputation metrics. However, this improvement can be lost within the World University Rankings due to the growth of the ranking.

We believe that it is important that Arab universities are able to understand their performance and strengths in an objective way within the structure of universities across the Arab region using measurements based solely on those universities.

As such, the Arab University Rankings follow an original methodology, based on the World University Rankings' methodology, coupled with important adjustments calibrated to reflect the features of the Arab world universities. The Arab University Rankings 2023 are published in November 2023.

### **Important Links:**

THE AUR 2023 Final Rankings: <https://www.timeshighereducation.com/world-university-rankings/2023/arab-university-rankings>

THE AUR 2023 Methodology: <https://www.timeshighereducation.com/world-university-rankings/arab-university-rankings-2023-methodology>

### **Director's Statement:**

*This document (the "Methodology") sets out our end-to-end process for generating the THE Arab University Rankings 2023 (the "Rankings"). As directors and management of Times Higher Education, we state that we have followed our Methodology and correctly applied the specific procedures denoted by (i) - (xii) and marked with the symbol "Ω".*

Signed: *D Watkins*

Print: David Watkins

Role: Head of Data Science, *Times Higher Education*

Date: 11 September 2023

For and on behalf of *THE* World Universities Insights Limited

## Summary of the Rankings methodology:

The methodology for the *Times Higher Education* Arab University Rankings is looking at research-intensive universities across all their core missions: teaching, research environment, research quality, society (including industry income and impact), and international outlook.

The basic methodology for the Arab University Rankings is similar to that used for the World University Rankings but we have made important changes to some of the underlying data sources, notably deriving the reputation data from an Arab region-specific survey. The citation score is based on the Field-Weighted Citation Impact 75th percentile for each institution – as opposed to a combination of that measure and the average FWCI for each institution as used in the WUR. We believe that this gives a more stable measure over time and prevents the distorting effect of a few papers with very high numbers of citations.

Other adjustments include a research collaboration metric between universities within the Arab world and the addition of two measures based on participation and performance respectively in the *THE* Impact Rankings.

Finally, because universities in the Arab world face both differing current contexts and a long and established academic history that differs from the world as a whole, the weights of the various measures are altered in order to better reflect the strengths of Arab universities.

This third edition of the rankings will introduce significant updates to the original methodology assumed since the launch in 2021. This update aligns the rankings with the revamped WUR 2024 methodology, ensuring that they continue to reflect the outputs of the diverse range of research-intensive universities across the world, now and in the future. Notably, we are introducing a wider range of bibliometric measures, improving international metrics, and expanding the role for knowledge transfer.

The Arab University Rankings 2022 are published in November 2023.

We have moved from 16 to 20 carefully calibrated performance indicators to provide the most comprehensive and balanced comparisons, trusted by students, academics, university leaders, industry and governments. The performance indicators are still grouped into five areas:

- **Teaching**
  - Teaching Reputation
  - Students Staff Ratio
  - Doctorates Bachelor Ratio
  - Doctorates Staff Ratio
  - Institutional Income
- **Research Environment**
  - Research Reputation
  - Research Income
  - Research Productivity
- **Research Quality**
  - Research Strength
  - Research Excellence
  - Research Influence
- **Society**
  - Industry Income
  - Impact Participation
  - Impact Performance
  - (Patents\*)
- **International outlook**
  - International Students
  - International Staff
  - International Co-authorship
  - Arab Collaborations
  - (Studying Abroad\*)

\* These metrics are not used in the calculation for this year's ranking.

## 1) Data collection and sources

### Institutional data – self-submitted on the *THE* Portal

*A named representative from each institution submits and authorises their institutional data for use in the Rankings*  $\Omega^i$ , via *THE*'s designated online portal, with confirmations that they have:

- Provided true and accurate information for their institution for the year ending in 2021 (in accordance with the definitions and exceptions below); and
- Understood and complied with the *THE* terms and conditions → <https://www.timeshighereducation.com/terms-and-conditions>;

*Times Higher Education will not self-submit data for an institution without positive confirmation from the named representative of the institution.*  $\Omega^{ii}$

*Prior to submission of data within the portal, the draft data undergoes certain automatic validation checks to ensure that data is complete and accurate, for review by the named representative.*  $\Omega^{iii}$

For the purposes of the portal data collection, a “year ending in 2021” may be defined as any of the following:

- The calendar year January to December 2021
- The academic year that started in 2020 and ended in 2021
- The financial year that ended in 2021
- Any other appropriate annual cycle that the institution finds to best fit their data and ends in 2021

### Elsevier

#### *Bibliometric data*

This year, our bibliometric data supplier Elsevier examined more than 134 million citations to 16.5 million journal articles, article reviews, conference proceedings, books and book chapters published over five years. The data includes more than 27,950 active peer-reviewed journals indexed by Elsevier's Scopus database and all indexed publications between 2018 and 2022. Citations to these publications made in the six years from 2018 to 2023 are also collected.

The bibliometric measures help to show us how well each university is contributing to the sum of human knowledge: they tell us whose research has stood out, has been picked up and built on by other scholars and, most importantly, has been shared around the global scholarly community to expand the boundaries of human understanding, irrespective of discipline.

- **Research Strength** represents the 75<sup>th</sup> percentile FWCI of all papers published by an institution.

The FWCI score indicates how the number of citations received by an entity's publications compares with the average number of citations received by all other similar publications. ‘Similar publications’ are understood to be publications in the Scopus database that have the same publication year, type, and discipline, as defined by the Scopus journal classification system.

A FCWI of 1.00 indicates the global average.

The Citations performance of an institution is determined by calculating the 75<sup>th</sup> percentile of the FWCI score of all of its publications in scope. Where a publication involves multiple institutions, each institution receives full credit for its performance.

- **Research Excellence** is calculated as the number of publications within the top 10 per cent of all publications by FWCI, normalised by year, subject, and staff size of the institution. This measure is subject-weighted.
- **Research Influence** measures the level of thought leadership by considering how influential the citing papers are. It differs from the other FWCI-based measures as it examines not only the number of the citations, but also the “importance” of citing publications. This measure is subject weighted.

Research Excellence and Research Influence are calculated by THE based on the raw data supplied by Elsevier.

- We also collect the total number of publications overall, plus the total number of publications with international co-authorship per institution and the total number of publications with collaboration with universities in the Arab world, providing they meet our ‘sufficient publications’ criteria (detailed in section 2).

The citations help to show us how much each university is contributing to the sum of human knowledge: they tell us whose research has stood out, has been picked up and built on by other scholars and, most importantly, has been shared around the global scholarly community to expand the boundaries of human understanding, irrespective of discipline.

#### *Academic reputation survey*

A survey was sent to a sample of selected academics in the Arab region, in which we ask them to nominate the universities that they perceive to be the best for Teaching and/or Research in their field. For the 2022 and 2023 surveys, academics were asked to nominate up to 10 institutions for Teaching and up to 10 institutions for Research in the Arab region. The 2023 results were combined with the 2022 results for use in the rankings.

The most recent Arab Reputation Survey that underpins this category was carried out between May 2023 and June 2023. The 2023 data is combined with the results of the 2022 survey, giving over 46,000 votes to universities.

This year we have introduced a self-voting cap. This reduces the self-vote share to 20% of the total votes for any given university. Self-votes are still allowed and are included but are weighted down.

The number of self-votes was disproportionately high compared with the total number of votes received for two institutions in the 2022 survey, which prompted the exclusion of this data. For these institutions, we used the 2021 Arab reputation survey data, adjusted to survey size (total number of votes in each category) growth in 2023

The academic reputation score for a university is based on the number of mentions they received in 2022 and 2023 surveys for the teaching and research sections. Where a university received no votes, they were allocated a zero score.

***Total reputation score for each university was calculated based on the aggregate of individual respondent data.  $\Omega^{iv}$***

## Reference data

*THE* incorporates reference datasets into its model to convert country-level data provided by institutions via the portal (e.g. research income in a local currency) to a single comparable dataset for all institutions.

The sources of this data are:

- The Her Majesty Revenue and Customs (HMRC) monthly datasets: [<https://www.gov.uk/government/publications/hmrc-exchange-rates-for-2020-monthly>], which provides accurate foreign exchange rates to convert datasets into GBP and then back into their local currency if an institution reports in a foreign currency;
- The World Bank Purchase Power Parity (PPP) dataset [<http://data.worldbank.org/indicator/PA.NUS.PPP>], which is used to convert the local currency to common-PPP-scaled USD. PPP is used to exemplify the differing currency strengths in each country while allowing for easy cross-country comparisons;
- Where data for a country doesn't exist in the World Bank database, a dataset from the IMF [<https://www.imf.org/en/Publications/WEO/weo-database/2022/April>] or UN data is used [[http://data.un.org/Data.aspx?d=WDI&f=Indicator\\_Code%3APA.NUS.PPP](http://data.un.org/Data.aspx?d=WDI&f=Indicator_Code%3APA.NUS.PPP)];
- The World Bank Population data: [<https://data.worldbank.org/indicator/SP.POP.TOTL>], which provides the total population per country; and
- External datasets corresponding to over 74 governmental and non-governmental sources for quality checking and verification of institutional data.

## 2) Criteria for exclusion, inclusion, and data processing

### Exclusion and inclusion criteria

1. They are required to publish 500 or more relevant publications over the previous 5 years.

AND

2. They must have supplied “overall” numbers for the ranking year.

AND

3. They must not be featured in the custom exclusions list. Institutions that have requested not to participate in the ranking or that are not eligible for other institution-specific reasons have been excluded.

AND

4. They must not have more than two of the critical values (academic staff, international academic staff, research staff, students, international students, outbound exchange students, undergraduate degrees awarded, doctorates awarded, institutional income, research income, research income from industry and commerce) as empty, unavailable, withheld. Missing values will cause any metric based on that value to also be invalid.

AND

5. They must mark at least one subject as applicable. If no applicable subjects have been reported the institution is excluded.

AND

6. They must be based in one of the following countries: Algeria, Bahrain, Comoros, Djibouti, Egypt, Iraq, Jordan, Kuwait, Lebanon, Libya, Mauritania, Morocco, Oman, Palestine, Qatar, Saudi Arabia, Somalia, Sudan, Syria, Tunisia, United Arab Emirates, Yemen.

***Universities meeting all six key inclusion criteria above are included in the rankings. Ω<sup>v</sup>***

***Universities not meeting the last criteria will not be included in the rankings. They will be listed as “Reporters” and they will not have any scores. An institution can also opt out from being a Reporter.***

## Data adjustments

After the deadline of the submission of data via the Portal by institutions, ***management review and approve all institution submissions data for appropriateness and accuracy, based on prior year values and gaps within datasets***  $\Omega^{\text{vi}}$  as described below.

On the occasions where an institution does not provide a data point which would result in the inability to generate a metric, the missing metric may be calculated by imputing the value as the higher of:

- The average of the two lowest metric scores for an institution; or
- The minimum score awarded across the whole population for that metric.

## Data processing pre-rankings

***Data provided by institutions for financial information is converted into USD using international PPP exchange rates***  $\Omega^{\text{vii}}$  (provided by the World Bank), for use in the Rankings calculation.

***The datasets used in the rankings have been accurately mapped by university name and ID. Institution-level bibliometric (Scopus and/or SciVal) obtained by Elsevier is mapped to THE institution data via THE's institution ID.***  $\Omega^{\text{viii}}$



### 3) Calculation, scoring and ranking

#### Calculation of metrics

There are 20 indicators, each combined into 5 categories, or “pillars”, which are weighted according to relative importance. Two of these (Study Abroad and Patents) have zero weight.

**The pre-weighted indicators are calculated for each university  $\Omega^{ix}$  based on the definitions below:**

#### 1. Teaching

##### Teaching Reputation

- We conducted an Arab region-specific survey which yielded over 35,000 votes. Only academics who have been cited in published papers were invited to participate. The most recent Arab Reputation Survey that underpins this metric was carried out from May to June 2023. It examined the perceived prestige of institutions in teaching. This metric consists of the number of teaching votes obtained from the Arab reputation survey 2022 scaled to the growth in this category in 2023, as well as the teaching votes from the 2023 survey. Universities that received no votes are scored a zero for this metric.

##### Student Staff Ratio

- The student staff ratio is defined as total full time equivalent (FTE) number of staff employed in an academic post divided by FTE number of students in all years and of all programmes that lead to a degree, certificate, university credit or other qualification. This variable is normalised after calculation.

##### Doctorate Bachelor Ratio

- This metric is generated by dividing the total number of doctorates awarded by the total number of undergraduate degrees awarded. This variable is normalised after calculation.

##### Doctorates Staff Ratio

- As well as giving a sense of how committed an institution is to nurturing the next generation of academics, a high proportion of postgraduate research students also suggests the provision of teaching at the highest level that is thus attractive to graduates and effective at developing them. This metric is generated by dividing the total subject weighted doctorates, by the total subject weighted number of academic staff. This metric takes into account an institution’s unique subject mix, reflecting that the volume of doctoral awards varies by discipline. This variable is normalised after calculation.

##### Institutional Income

- This measure of income indicates an institution’s general status and gives a broad sense of the infrastructure and facilities available to students and staff. This metric is generated by dividing the institutional income adjusted to PPP, by the total number of academic staff. This variable is normalised after calculation.

## 2. Research Environment

### Research Reputation

- We conducted an Arab region-specific survey which yielded over 35,000 votes. Only academics who have been cited in published papers were invited to participate. The most recent Arab Reputation Survey that underpins this metric was carried out from May to June 2023. It examined the perceived prestige of institutions in research. This metric consists of the number of research votes obtained from the Arab reputation survey 2022 scaled to the growth in this category in 2023, as well as the research votes from the 2023 survey. Universities that received no votes are scored a zero for this metric.

### Research Income

- This metric is generated by dividing the total subject weighted research income adjusted for PPP, by the total subject weighted number of academic staff and is normalised after calculation. This is a somewhat controversial indicator because it can be influenced by national policy and economic circumstances. Income is crucial to the development of world-class research, and because much of it is subject to competition and judged by peer review, our experts suggested that it was a valid measure. This indicator takes account of each institution's distinct subject profile, reflecting the fact that research grants in science subjects are often bigger than those awarded for the highest-quality social science, arts and humanities research.

### Research Productivity

- This metric is generated by dividing the total subject weighted number of papers published in the academic journals indexed by Elsevier's Scopus database per scholar, divided by the sum of the total subject weighted number of FTE research staff and FTE academic staff. This metric is normalised after calculation. The indicator gives a sense of the institution's ability to get papers published in quality peer-reviewed journals. The measure includes a method to give credit for cross-subject research that results in papers being published in subjects where a university has no staff. For subjects where there are papers, but not staff, we will reassign the papers to subjects where there are staff. We will do this proportionally according to the number of staff in populated subjects, and according to the median publications per staff for populated subjects. We will have a maximum threshold of the proportion of papers that we are willing to reassign (10% of the total of papers).

## 3. Research Quality

### Research Strength

- Our research strength indicator looks at universities' role in spreading new knowledge and ideas. We examine research influence by capturing the 75th percentile of the Field-Weighted Citation Impact (FWCI) of all papers published by a university. We look at the academic journals indexed by Elsevier's Scopus database and all indexed publications between 2018 and 2022. Citations to these publications made in the six years from 2018 to 2023 are also collected. The data is normalised to reflect variations in citation volume between different subject areas. This means that institutions with high levels of research activity in subjects with traditionally high citation counts do not gain an unfair advantage.

### Research Excellence

- This metric recognizes the institution's contribution to the best research in each subject and overall. Excellence is measured by capturing the total number of publications by an institution that are among the top 10% of publications worldwide by FWCI. We adjust this number by year, subject, and the total number of academic and research staff.

### Research Influence

- This metric analyses the influence of an entity's publications by analysing their corresponding citations. The importance of a publication is determined based on the importance of other papers citing it. We adjust this number by year, subject, and the total number of academic and research staff.

## 4. *Society*

### Industry income

- An institution's ability to help industry with innovations, inventions and consultancy has become a core mission of the contemporary global academy. This category suggests the extent to which businesses are willing to pay for research and an institution's ability to attract funding in the commercial marketplace – useful indicators of institutional quality. The indicator seeks to capture such knowledge-transfer activity by looking at how much research income an institution earns from industry (adjusted for PPP), divided by the by the total number of FTE academic staff it employs. This variable is normalised after calculation.

*Another mission of many higher education institution is to positively impact the wider society and the world. In this ranking, this is defined as their contributions towards the United Nations Sustainable Development Goals (SDG)s, as measured by the THE Impact Rankings. This is measured in two parts:*

### Impact Participation

- Institutions are measured by the number of SDGs for which they are ranked in latest THE Impact Rankings. A maximum of 100 points are awarded to institutions that participate in 4 SDGs or more; eighty points for 3 SDGs; sixty points for 2 SDGs; fifty points for 1 SDG and zero point if they are not ranked.

### Impact Performance

- Institutions that are ranked in the overall table of the latest THE Impact Rankings receives a metric score which is the same their overall score in the table. Institutions that are not ranked in the overall table receive zero point for this metric.

### Patents

- This metric recognises the extent to which universities are supporting their national economies through technology transfer. It measures the count of patents citing an entity's published research. This measure is subject weighted to avoid penalising universities producing research in fields low in patents. We also normalise this by the sum of academic and research staff. This metric has a zero weight for the 2023 rankings calculation.

## 5. International Outlook

### International Students

- This metric captures the proportion of international students on campus. International students are those whose nationality differs from the country where the institution is based. The metric is calculated as the total FTE number of international students divided by the total FTE number of students. This variable is normalised to account for the country population's size.

### International Staff

- This metric captures the proportion of international academic staff on campus. International staff are those whose nationality differs from the country where the institution is based. The metric is calculated as the total FTE number of international academic staff divided by the total FTE number of academic staff. This variable is normalised to account for the country population's size.

### International Co-authorship

- In the third international indicator, we calculate the proportion of an institution's total research journal publications that have at least one international co-author. The metric is generated by dividing the total subject weighted number of publications with at least one international co-author by the total subjected weighted number of publications. This accounts for an institution's subject mix. This variable is normalised to account for the country population's size.

### Arab Collaborations

- This metric is similar to the international collaboration measure, but only looking at universities within the countries identified in section 2): Algeria, Bahrain, Comoros, Djibouti, Egypt, Iraq, Jordan, Kuwait, Lebanon, Libya, Mauritania, Morocco, Oman, Palestine, Qatar, Saudi Arabia, Somalia, Sudan, Syria, Tunisia, United Arab Emirates, Yemen. This variable is normalised to account for the country population's size.

### Studying Abroad

- Based on the number of outbound exchange students, this metric assesses international student mobility. The headcount number of exchange students going abroad is divided by the total FTE number of students. This metric is subject-weighted and adjusted by the country's population. It has a zero weight for the 2023 rankings calculation.

## Normalisation

Moving from a series of specific data points to indicators, and finally to a total score for an institution, requires us to match values that represent fundamentally different data. To do this we use a standardisation approach for each indicator, and then combine the indicators in the proportions indicated below.

The standardisation approach we use is based on the distribution of data within a particular indicator, where we calculate a cumulative probability function, and evaluate where a particular institution's indicator sits within that function.

For all indicators except the Arab Reputation Survey metrics, Impact Participation, Research Excellence, Research Influence, and Patents, we calculate the score using a normal cumulative probability function. The distribution of the data in the Arab Reputation Survey, as well as Research Strength, Research Excellence, and Patents, require us to use an exponential scoring function. Impact Participation is scored by counting the number of Sustainable Development Goals that the universities participated in the Impact 2023 rankings. A maximum score is awarded for 4 SDG submissions.

## Weightings of metrics to final scores and rankings

The 20 performance metrics representing the five pillars are weighted according to *THE*'s assessment of relative importance.

***Once the final population of universities and indicators has been prepared, the scores for each university are generated by weighting the metrics and the Final Rankings are calculated according to the following percentage breakdowns: Ω<sup>x</sup>***

Pillar	Metric	% weighting
1. Teaching	Teaching Reputation	18.0%
	Students Staff Ratio	4.0%
	Doctorates Bachelor Ratio	2.5%
	Doctorates Staff Ratio	5.0%
	Institutional Income	1.5%
2. Research Environment	Research Reputation	23.0%
	Research Income	3.0%
	Research Productivity	5.0%
3. Citations	Research Strength	12.0%
	Research Excellence	6.0%
	Research Influence	6.0%
4. Society	Industry Income	2.0%
	Impact Participation	2.0%
	Impact Performance	2.0%
	Patents	0.0%

5. International	International Students	2.0%
	International Staff	2.0%
	International Co-authorship	2.0%
	Arab Collaborations	2.0%
	Studying Abroad	0.0%
		100%

#### 4) Publication and reporting

##### Final rankings preparation

All institutions were ranked overall and are published in the final rankings table on the *THE* website. On the website, the overall score and pillar scores are displayed.

Precise overall scores are shown for the institutions ranked in the top 50. Banded overall scores are presented for the institutions ranked in bands (e.g. from 51 to 60). Precise individual pillar scores are displayed for each ranked institution.

For the institutions ranked 1-50 overall, an individual rank position is listed. The next institutions are assigned to the following bands: 51-60, 61-70, 71-80, 81-90, 91-100, 101-120, 121-140, 141-160, 161+.

Institutions with the 'Reporter' status appear at the end of the table, and they do not have any rank or scores.

##### Review and sign-off

The Rankings are formally signed off by *THE* World Universities Insights Limited management prior to being published in print and online.

***The Rankings results are reviewed and signed off by THE's Head of Data Science.  $\Omega^{xi}$***

##### Reporting

***The Rankings for the top 50 universities and banding allocation below top 50 are accurately reported on the THE website.  $\Omega^{xii}$***

The specific procedures for the Arab University Rankings are located on the *Times Higher Education* website at: [www.timeshighereducation.com/world-university-rankings/arab-university-rankings-2023-methodology](http://www.timeshighereducation.com/world-university-rankings/arab-university-rankings-2023-methodology).

<b>Rule number</b>	<b>Methodology section</b>	<b>Rule description</b>
(i)	Data collection and sources	A named representative from each institution submits and authorises their institutional data for use in the Rankings.
(ii)	Data collection and sources	<i>Times Higher Education</i> will not self-submit data for an institution without positive confirmation from the named representative of the institution.
(iii)	Data collection and sources	Prior to submission of data within the portal, the draft data undergoes automatic validation checks reviewed by the named representative.
(iv)	Criteria for exclusion, inclusion and data processing	Total reputation score for each university was calculated based on the aggregate of individual respondent data.
(v)	Criteria for exclusion, inclusion and data processing	Universities meeting the six key inclusion criteria are included in the rankings
(vi)	Criteria for exclusion, inclusion and data processing	Management review and approve all institution submissions data for appropriateness and accuracy, based on prior year values and gaps within datasets.
(vii)	Criteria for exclusion, inclusion and data processing	Data provided by institutions for financial information is converted into USD using international PPP exchange rates.
(viii)	Criteria for exclusion, inclusion and data processing	Institution-level bibliometric (Scopus and/or SciVal) obtained by Elsevier is mapped to <i>THE</i> institution data via <i>THE</i> 's institution ID.
(ix)	Calculation, scoring and ranking	The pre-weighted indicators are calculated for each university
(x)	Calculation, scoring and ranking	Once the final population of institutions and indicators has been prepared, the scores for each university are generated by weighting the metrics and the Final Rankings are calculated according to the following percentage breakdowns.
(xi)	Publication and reporting	The Rankings results are reviewed and signed off by <i>THE</i> 's Head of Data Science.
(xii)	Publication and reporting	The Rankings for the top 50 universities and banding allocation below top 50 are accurately reported on the <i>THE</i> website. The 'Reporters' are listed at the end of the table.