THE 2024 World University Rankings Data Masterclass – Japan

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Agenda

World University Rankings 2024

Methodology Review

Japan Trends and Analyses

How to participate
To help universities understand their position against their mission.
To help students find and access the university best suited to their abilities and aspirations.
To help higher education deliver transformational teaching, research and innovation.

1971  

50+ Years of Insights

2023
Our Rankings

**TEACHING**

*Focus:* student satisfaction, employer reputation, graduation rate + more

*Participation rules:* country specific

**RESEARCH**

*Focus:* research output, research quality, research collaboration, reputation + more

*Participation rules:* 1,000+ publications over 5 years, teach undergraduates across a range of subjects

**IMPACT & SUSTAINABILITY**

*Focus:* research, teaching, stewardship and outreach against the UN’s 17 Sustainable Development Goals

*Participation rules:* all UG or PG higher education institutions
Methodology

Reputation survey: 33.00
- Teaching reputation: 15.00
- Research reputation: 18.00
- Student staff ratio: 4.50
- Doctorate bachelor ratio: 2.00
- Doctorate staff ratio: 5.50
- Institutional income: 2.50
- Research income: 5.50
- Research productivity: 5.50

University submission: 29.75
- Citation Impact: 15.00
- Industry income: 2.00
- International students: 2.50
- International staff: 2.50
- Research strength: 5.00
- Research excellence: 5.00
- Research influence: 5.00
- Patents: 2.00
- International co-authorship: 2.50

Bibliometric data: 37.25
- Research Environment: 29.00
- Research Quality: 30.00
- Industry: 4.00
- International Outlook: 7.50

New metrics

Ranking: 100.00
The world’s biggest university ranking

Universities Data
The world’s largest data gathering exercise from universities
- Universities submitted data: 2,673
- Number of countries represented: 127

Bibliometrics
In partnership with ELSEVIER
- Research papers: 16.5m
- Citations: 134m

Academic Survey
The world’s largest academic survey
- Respondents: 68,402
- Votes: 944,509
- Countries: 166
20\textsuperscript{th} Anniversary of THE World University Rankings

Number of universities which submitted data to THE World University Rankings

<table>
<thead>
<tr>
<th>Year</th>
<th>Ranked</th>
<th>Unranked</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>2016</td>
<td>844</td>
<td>284</td>
<td>1128</td>
</tr>
<tr>
<td>2017</td>
<td>981</td>
<td>342</td>
<td>1323</td>
</tr>
<tr>
<td>2018</td>
<td>1103</td>
<td>360</td>
<td>1463</td>
</tr>
<tr>
<td>2019</td>
<td>1258</td>
<td>385</td>
<td>1643</td>
</tr>
<tr>
<td>2020</td>
<td>1397</td>
<td>423</td>
<td>1820</td>
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<tr>
<td>2021</td>
<td>1526</td>
<td>467</td>
<td>1993</td>
</tr>
<tr>
<td>2022</td>
<td>1662</td>
<td>455</td>
<td>2117</td>
</tr>
<tr>
<td>2023</td>
<td>1799</td>
<td>730</td>
<td>2529</td>
</tr>
<tr>
<td>2024</td>
<td>1904</td>
<td>769</td>
<td>2673</td>
</tr>
</tbody>
</table>
What is Field Weighted Citation Impact?

Let’s say I published a journal article in 2019 on artificial intelligence, and it received 6 citations so far...

...and the average number of citations received by publications of the same type, same year and same subject is 2...

...then the FWCI of this publication is $6/2 = 3$
What about FWCI of an author or an institution?

FWCI of a tech oriented university in East Asia

... same university but log Y-axis
THE World University Rankings Research Quality Metrics

- Citation Impact – Mean FWCI of an institution’s output, but with tweaks
  - Kilo-author papers
  - Country normalisation
- Research Strength – 75th percentile FWCI of an institution’s output
- Research Excellence – Number of papers in top 10 percent by FWCI
- Research Influence – Different from others research quality metrics
  - Not all citations are created equal
  - Citations from important papers counts more
  - How to define “important papers”?
Intuition of Research Influence

Assume that a person is in a node in the graph and walk randomly along the edges in a graph. Where will he end up?

- Assume the probability of starting at each node is the same
- At each step, there is a probability $r$ that the person is “teleported” to a random node in the graph.
- There is a $1-r$ probability that the person travels along the edges. If the node has $w$ out-edges, then the probability of travelling along any one of those edges is $(1-r)/w$
- After a sufficient number of steps, the probability of being in each node stabilizes. That value indicates the “importance” of the node in the graph

- This is the same algorithm as Google’s PageRank
Industry: Patents

- The extent to which universities are supporting their national economies through technology transfer is an area that deserves greater recognition. We will be introducing an additional measure.

- Directly measures research output, specifically how much an institution’s research is cited by patents. This is similar to one that we already use within the THE Impact Rankings (in SDG 9: Industry, Innovation and Infrastructure).

- This measure is subject weighted to avoid penalising universities producing research in fields low in patents.

- This is a count of patents, normalised by staff numbers.
International Outlook

• Large countries had been disadvantaged compared to small countries in our international metrics, in that it is “easier” for staff and students in small countries to work/study abroad.

• The existing metrics is now normalised to account for the populations size:
  • Proportion of international students
  • Proportion of international staff
  • Proportion of publications with at least one co-author from an international institution

• New Studying abroad metric at zero weight
Ranked universities by country/region

United States (169)

India (91)
Turkey (75)
Spain (56)
Pakistan (39)
South Korea (39)
Australia (37)
Poland (37)

Canada (31)
Malaysia (23)
Romania (22)
Saudi Arabia (32)
Colombia (21)
Mexico (20)

Japan (119)

China (86)

Iran (73)
Germany (49)
Chile (28)
Thailand (19)
Ukraine (15)
Sweden (14)
Ireland (9)
Israel (8)

United Kingdom (104)

Brazil (56)
Taiwan (45)
Egypt (28)
Czech Republic (18)
Netherlands (12)
Finland (10)
Slovakia (7)

Russian Federation (78)
Italy (56)
France (44)
Indonesia (24)
Greece (16)
Hungary (13)
Sudan (11)

Algeria (23)
Nigeria (15)
Portugal (15)
Belgium (10)
Jordan (7)
Tunisia (6)
## Global Top 10

<table>
<thead>
<tr>
<th>Institution</th>
<th>Country</th>
<th>This year</th>
<th>Last year</th>
</tr>
</thead>
<tbody>
<tr>
<td>University of Oxford</td>
<td>United Kingdom</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Stanford University</td>
<td>United States</td>
<td>2</td>
<td>=3</td>
</tr>
<tr>
<td>Massachusetts Institute of Technology</td>
<td>United States</td>
<td>3</td>
<td>5</td>
</tr>
<tr>
<td>Harvard University</td>
<td>United States</td>
<td>4</td>
<td>2</td>
</tr>
<tr>
<td>University of Cambridge</td>
<td>United Kingdom</td>
<td>5</td>
<td>=3</td>
</tr>
<tr>
<td>Princeton University</td>
<td>United States</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td>California Institute of Technology</td>
<td>United States</td>
<td>7</td>
<td>6</td>
</tr>
<tr>
<td>Imperial College London</td>
<td>United Kingdom</td>
<td>8</td>
<td>10</td>
</tr>
<tr>
<td>University of California, Berkeley</td>
<td>United States</td>
<td>9</td>
<td>8</td>
</tr>
<tr>
<td>Yale University</td>
<td>United States</td>
<td>10</td>
<td>9</td>
</tr>
</tbody>
</table>
Ranked universities in Japan

There are a total of 119 institutions in Japan ranked in the World University Rankings 2024. The top ranked university in Japan is The University of Tokyo, which is ranked 29th.
## Japan Top 10

<table>
<thead>
<tr>
<th>Institution</th>
<th>This year</th>
<th>Last year</th>
</tr>
</thead>
<tbody>
<tr>
<td>The University of Tokyo</td>
<td>29</td>
<td>39</td>
</tr>
<tr>
<td>Kyoto University</td>
<td>=55</td>
<td>68</td>
</tr>
<tr>
<td>Tohoku University</td>
<td>=130</td>
<td>201–250</td>
</tr>
<tr>
<td>Osaka University</td>
<td>=175</td>
<td>251–300</td>
</tr>
<tr>
<td>Tokyo Institute of Technology</td>
<td>=191</td>
<td>301–350</td>
</tr>
<tr>
<td>Nagoya University</td>
<td>201–250</td>
<td>301–350</td>
</tr>
<tr>
<td>Kyushu University</td>
<td>301–350</td>
<td>501–600</td>
</tr>
<tr>
<td>University of Tsukuba</td>
<td>351–400</td>
<td>501–600</td>
</tr>
<tr>
<td>Hokkaido University</td>
<td>351–400</td>
<td>501–600</td>
</tr>
<tr>
<td>Tokyo Medical and Dental University (TMDU)</td>
<td>401–500</td>
<td>501–600</td>
</tr>
</tbody>
</table>
Japan metric trends

Japan - difference from global average

- Student staff ratio
- Patents
- Global average
- Institutional income
- Doctorate bachelor ratio
- Industry income
- Teaching reputation
- Research reputation
- Research income
- International staff
- Research influence
- Research productivity
- International students
- Studying abroad
- Doctorate staff ratio
- Research excellence
- Citation impact
- International co-authorship
- Research strength
Japan metric trends – Research quality metrics

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Japan metric trends – Income metrics

Japan - difference from global average

- Student staff ratio
- Patents
- Global average
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- Research reputation
- Research income
- International staff
- Research influence
- Research productivity
- International students
- Studying abroad
- Doctorate staff ratio
- Research excellence
- Citation impact
- International co-authorship
- Research strength

Year

2019 2020 2021 2022 2023 2024

Underperform / Overperform
Japan’s spending in higher education

% of GDP spent on education, by size of GDP
(size of circle = % of the population that is 15-25yo)
Japan metric trends – International metrics

Japan - difference from global average
Japan’s internationalisation effort in absolute values

Japan's internationalisation effort


International students

International staff

International collaboration
Japan metric trends – Reputation

Japan - difference from global average
Reputation change by country/region

Japan's share of global reputation

- Increase
- Decrease
- Total
Japan’s demographic challenge
<table>
<thead>
<tr>
<th></th>
<th>Japan</th>
<th>World</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of Citations</td>
<td>10,365</td>
<td>22,192</td>
</tr>
<tr>
<td>Impact Factor</td>
<td>918</td>
<td>1,298</td>
</tr>
<tr>
<td>Cited By Ratio</td>
<td>3.1</td>
<td>5.4</td>
</tr>
</tbody>
</table>
Conclusions

• New Research quality metrics highlights some strengths in Japan that was previously under-appreciated
  • Research influence best performing Research quality metric
  • However, all Research quality metrics are still below global average
• Funding of Japanese universities is improving but remains below global average
• Further effort need to improve internationalisation. Percentage of international students stagnates at 5%
• Tackling demographic challenges will be key to Japan’s future success
How to participate?
Eligibility Criteria

Participation in THE World University Rankings (or any other THE rankings) is always free of charge. However, there is a set of eligibility criteria

• Must teach at undergraduate level

• Publication requirements
  • At least 1000 publications in 5 years
  • At least 150 publications each year
  • Separate publication requirements for the subject rankings

• Must not be a subject specialist
How to take part

We need your help for the **institutional data**

1. Nominate a Data Provider
A Data Provider for your institution will need to be nominated. Please email us at profilerankings@timeshighereducation.com

2. Connect to the Portal
Your Data Provider will receive login details to connect to the Data Collection Portal
The Portal will be open between 8 January and 30 March 2024
Complete the stages of the data collection process.

Data collection materials are available for download in 12 languages.
We collect data at the institution level and in our 11 subjects

- Staff and international staff
- Students and international students
- Undergraduate degrees awarded and doctorates awarded
- Income data

New field for this year: outbound exchange students

Art and Humanities
Business and Economics
Clinical and Health
Computer Science
Education
Engineering
Law
Life Sciences
Physical Sciences
Psychology
Social Sciences
Once you are done with data entry, please go to this tab to submit your data.
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