UNIVERSITY OF GOTHENBURG

# UNIVERSITY RANKING LISTS

A directory.

**Division for Analysis and Evaluation**

**REPORT 2013:03**

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REPORT

UNIVERSITY OF GOTHENBURG
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**Report: 2013:03**

**UNIVERSITY RANKING LISTS - A DIRECTORY**

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# INTRODUCTION

University rankings have been highly publicised in recent years, and the Division of Analysis and Evaluation has been tasked with monitoring this area within the framework of our operating environment analysis (*omvärldsanalys*). This document provides details of the international lists that are deemed to be of relevance, or at least interest, to the University of Gothenburg.

A summary is given of each ranking list, together with the positions of Swedish universities on the list in question. For most global, European, or Swedish rankings that are active today a score is also assigned indicating how much attention the list attracts; the principles and method behind this assessment are described in the last chapter.

One of the appendices contains a short bibliometric glossary for readers who are interested in, but not familiar with, bibliometric methods.

## Suggested reading

For those who wish to know more about ranking lists there are several papers available, a selection of which are listed here:

Almgren, E. (2008). Rankning av universitet och högskolor som studentinformation?, 2008:40R. Stockholm: Högskoleverket.

*The Swedish National Agency for Higher Education (Högskoleverket) was commissioned by the Department of Education to investigate whether university rankings could be useful for Swedish students. They arrived at the conclusion that this was not the case, in this excellent survey.*

Analys och utvärdering (2010). Att leva med universitetsrankingar. En analys av olika universitetsrankingar och hur Göteborgs universitet kan förhålla sig till dem. Rapport 2010:04.

*An extensive discussion of what university ranking lists are and how universities can handle them.*

Bolton, G. (2010). University rankings: Diversity, excellence and the European initiative, Advice paper 3, June 2010. League of European Research Universities.

*A useful summary of the criticisms that have been directed at ranking lists.*

Hazelkorn, Ellen (2011). Rankings and the Reshaping of Higher Education. The Battle for World-Class Excellence. Palgrave Macmilian, United Kingdom.

Rauhvargers, Andrejs (2013). Global university rankings and their impact – report II. EUA report on rankings 2013.

*EUA has published a report on rankings. It is a thorough examination that describes the situation and the problems well. It also contains information about the planned rankings U-Multirank and AHELO.*

## A word of caution

The ability and will of those who produce the lists to publish information about their respective rankings vary considerably, and it can at times be extremely difficult to find secure data that cover a range and level of detail that is satisfactory. Furthermore, the ranking lists are constantly changing, new lists are added and interest in them fluctuates. This report will therefore be updated as new information about the rankings is made available to us, and according to changes in the rankings field. We invite any readers who are able to contribute information to contact us. That applies to information that readers feel is missing from the report, as well as information that readers feel is either incorrect or misleading.

# GLOBAL RANKINGS

## Business Week

*Interest in the ranking*: Moderate

The magazine *Business Week* assesses and ranks MBA courses of various kinds, i.e. courses in business administration and management. Five different types of MBA courses are ranked: *EMBA*, *Full-Time MBA, Part-Time MBA, Executive Education* and *Distance*. (They also rank undergraduate business schools, but only for the United States.) The rankings are only described here in outline, since they are limited to MBA-type courses and because they are relatively complex.

### Full-Time MBA

Full-time courses, typically two years, for people in employment.[1]

Only MBA courses approved by one of the major accreditation firms are ranked, and additional requirements are set in relation to the programme's age, volume, etc.
Three data sources are used: a student survey, a corporate recruiter survey, and a school survey. The indicators include median starting salaries for graduates, the number of graduates admitted to 35 top MBA programmes, full-time faculty-student ratios in the business programme, average class size in core business classes, the percentage of business majors with internships, and the number of hours students spend preparing for class each week. If the response rate for the surveys is too low, the institution is not ranked.

### Part-Time MBA

Part-time evening and weekend courses, for people in employment.[2]

To date, only US-American part-time courses have been ranked, but there are indications that foreign courses may also be considered. A large survey of (all?) accredited programmes collected statistics about these programmes, and from this the rankers filtered out the programmes that were above average in 3 out of 5 indicators. These programmes were included in the ranking.

[1] Description taken from Wikipedia.

### Executive Education
Short courses, often customised, for people in employment.[1]

Several conditions need to be satisfied in order for the course to be ranked, including age of programme, number of corporate customers and financial turnover.

The ranking is entirely based on a student survey (alumni, in practice).

### EMBA
MBA programme, typically part-time, aimed at people with a fair amount of professional experience, typically in managerial positions.[2]

Only EMBA courses approved by one of the major accreditation firms are ranked, and additional requirements are set in relation to the programme's age, volume, etc.

Two data sources are used: one alumni survey and one programme manager survey. The alumni survey contributes 65% to the final ranking, while the programme manager survey contributes 35%. The typical response rate needed is at least 20% for the programme to be ranked.

### Results for University of Gothenburg

There are no Nordic universities included in any of Business Week's rankings. However, the BI Norwegian Business School, Copenhagen Business School, and Stockholm School of Economics are all mentioned as a providers of EMBA, but "not considered for ranking".

### Additional information

Ranking's website:
http://www.businessweek.com/bschools/rankings/

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## CWTS (the Leiden Ranking)

*Interest in the ranking*: Moderate.

*The Leiden Ranking* is produced by the Centre for Science and Technology Studies (CWTS), a research unit within Leiden University and a commercial company owned by the same university. The ranking has been published five times, in 2007 (European universities only), 2008, 2010, 2011 (called "2011/2012"), and 2013.

[1] Description taken from Financial Times.
[2] Description taken from Wikipedia.

The ranking consists entirely of bibliometric indicators based on data from Thomson Reuters. CWTS ranks the 500 biggest universities worldwide. Nine bibliometric indicators are calculated for these groups, and the list can be sorted on any of these. The indicators are not merged, so there is no total ranking.

## Indicators[1]

- *P*: Number of publications (probably whole-counts). The indicator is heavily dominated by subjects that produce a lot of journal articles (medicine and some of the natural sciences).
- *MCS:* Average number of citations (not field-normalised).
- *MNCS:* Average field-normalised citation score, normalised at publication level.
- $PP_{top\ 10\%}$*:* The proportion of the publications of a university that, compared with other similar publications, belong to the top 10% most frequently cited. Publications are considered similar if they were published in the same field and the same publication year and if they have the same document type.
- $PP_{collab}$*:* The proportion of publications with a co-author from another institution.
- $PP_{int\ collab}$*:* The proportion of publications with a co-author from another, foreign institution.
- $PP_{UI\ collab}$: The proportion of publications with a co-author from a private company.
- *MGCD:* The average geographical collaboration distance of the publications of a university, where the geographical collaboration distance of a publication equals the largest geographical distance between two addresses mentioned in the publication's address list.
- $PP_{>1000km}$*:* The proportion of the publications with a geographical collaboration distance (see above) of more than 1000 km.

For all of these indicators, the user can select whether to use fractional counting or not, to include non-English language publications or not, and to normalise for university size or not. (These choices are not relevant for all indicators.) The user can also select to include or exclude a certain type of journals (that are non-international, non-English language, professional journals, etc.)

The lists (2012) are based on publications from 2008-2011.

[1] See appendix 1 for an explanation of the bibliometric terms.

## Results for University of Gothenburg

Table 1: Positions of Swedish universities in the Leiden Ranking 2013, ranked by $PP_{top\ 10\ \%}$ (proportion of top cited publications).

| Institution | P | $PP_{top\ 10\ \%}$ | MNCS | MCS | $PP_{collab}$ | $PP_{int\ collab}$ | $PP_{UI\ collab}$ | MGCD |
|---|---|---|---|---|---|---|---|---|
| Stockholm University | 286 | 144 | 116 | 131 | 92 | 16 | 239 | 71 |
| Karolinska Institute | 63 | 171 | 154 | 65 | 43 | 19 | 28 | 179 |
| Chalmers | 403 | 213 | 253 | 324 | 210 | 83 | 3 | 380 |
| University of Gothenburg | 168 | 243 | 216 | 203 | 148 | 102 | 22 | 342 |
| Uppsala University | 113 | 253 | 247 | 172 | 85 | 33 | 42 | 187 |
| Lund University | 72 | 259 | 258 | 198 | 204 | 28 | 68 | 215 |
| KTH Royal Institute of Technology | 244 | 263 | 282 | 377 | 240 | 31 | 5 | 160 |
| Swedish University of Agricultural Sciences | 414 | 312 | 252 | 337 | 125 | 58 | 293 | 361 |
| Umeå University | 320 | 320 | 320 | 255 | 170 | 89 | 294 | 279 |
| Linköping University | 323 | 321 | 309 | 325 | 260 | 225 | 81 | 444 |

## Changes

2013

- The indicator $PP_{UI\ collab}$ was added.

2011/2012

- The CPP/FCSm indicator ("crown") was removed.
- The "brute force" indicator P*CPP/FCSm was removed.
- $PP_{top\ 10\%}$ and cooperation indicators were added.

2010

- The CPP/FCSm indicator ("crown") was complemented by the MNCS2 indicator, which is now called simply MNCS.

### Additional information

Analysis of the 2013 edition

Analys & utvärdering (2013). Leiden-rankingen 2013. En analys av universitetsrankingen från CWTS, med fokus på Göteborgs universitet. University of Gothenburg.

2013 ranking:

http://www.leidenranking.com/

2011/2012 ranking:

http://www.leidenranking.com

2008 ranking:

http://www.cwts.nl/ranking/LeidenRankingWebSite.html

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## EduRoute

*Interest in the ranking*: Almost none.

An organisation called EduRoute produces a ranking of universities based on their web pages. No information about EduRoute is published on their web site or Facebook page. We do not know if the ranking is updated continuously (every month?), once a year, or some other interval.

### Indicators

- **Volume (20 %)**. The data is extracted from search engines; we do not know which ones or how. What is measured is the number of pages retrieved, the combined size of the pages retrieved, or something else.
- **Online Scientific Information (10 %)**. The data for this indicator is retrieved from search engines that specialise in scientific information. We do not know which ones, but probably Google Scholar is among them.
- **Links Quantity (30 %)**. The number of links leading to the website of each ranked university. Links from "academic" web sites are given a higher weight.
- **Quality of links and content (40 %)**. It is unknown what this means.

### Results for University of Gothenburg

Table 2: Position of the Swedish universities on the EduRoute 2011 ranking.

| University | World Rank |
|---|---|
| Lund University | 106 |
| University of Gothenburg | 246 |
| KTH Royal Institute of Technology | 281 |
| Uppsala University | 297 |
| Stockholm University | 372 |
| Umeå University | 375 |
| Linköping University | 380 |
| Chalmers | 464 |
| Luleå University of Technology | 488 |

The EduRoute ranking is similar to Webometrics in that it measures the web sites of each university. The results are also somewhat similar. We know far too little about the EduRoute ranking to be able to explain any of the differences.

### Additional information

2011 ranking:
http://www.eduroute.info/

## Financial Times

*Interest in the ranking*: Considerable

The Financial Times assesses and ranks MBA courses of various kinds, i.e. courses in business administration and management. Four different types of MBA courses are ranked: Full-Time MBA, Executive Education, Master in Management and EMBA. The newspaper also ranks European business schools. The rankings are only described here in outline, since they are limited to the field of economics and because they are relatively complex.

## Full-Time MBA (since 1998)

Full-time courses, typically two years, for people in employment.[1]

Only programmes that have been approved by the accreditation companies AACSB, Equis or Amba are ranked. The programmes must also have been running for at least four years, and their first batch of students must have graduated at least three years ago. At least 30 students should be enrolled on the courses.

Three data sources are used: an alumni survey, data reported by the business school itself, as well as publications in 45 selected journals (taken from Scopus). The alumni survey must have a response rate of at least 20% and an absolute minimum of 20 respondents.

The following indicators are used:

- *Weighted salary* (20%) – average alumni salary, with adjustment for variations between industry sectors.
- *Salary percentage increase* (20%) – The percentage increase in average alumni salary from before the MBA to today as a percentage of the pre-MBA salary.
- *Value for money* (3%) – A financial calculation for alumni that includes post MBA salary, course fees and loss of income for duration of course. (And probably also salary before course.)
- *Career progress* (3%) – Extent to which alumni's careers have developed in terms of level of seniority and size of the companies that the alumni are working for.
- *Aims achieved* (3%) – The extent to which alumni fulfilled their goals by doing an MBA.
- *Placement success* (2%) – Alumni who used the business school's careers service were asked to rank its effectiveness in their job search.
- *Employed at three months* (2%) – The percentage of alumni who had found employment within three months of graduating.[2]
- *Alumni recommend* (2%) – Alumni were asked to name three business schools from which they would recruit MBA graduates.
- *Women faculty* (2%) – Percentage of female faculty.
- *Women students* (2%) – Percentage of female students.
- *Women board* (1%) – Percentage of female members of the advisory board.
- *International faculty* (4%) – Percentage of faculty whose citizenship differs from their country of employment.
- *International students* (4%) – Percentage of students whose citizenship differs from the country in which they are studying.
- *International board* (2%) - Percentage of the board whose citizenship differs from the country in which the business school is based.
- *International mobility* (6%) – Calculated based on which country the students worked in before and after the MBA.

[1] Description taken from Wikipedia.
[2] This could relate to alumni who *changed* jobs during the period in question.

- *International experience* (2%) – Weighted average of four criteria (not described in detail) that measure international exposure during the MBA programme.
- *Languages* (2%) – Number of extra languages required on completion of the MBA.
- *Faculty with doctorates* (5%) – Percentage of faculty with a doctoral degree.
- *FT doctoral rank* (5%) – Percentage of doctoral graduates from each business school over the past three years. Additional points are given if these doctoral graduates took up positions at one of the top 50 MBA schools.
- *FT research rank* (10%) – Calculated according to the number of publications per faculty employee in 45 selected academic and practitioner journals. Points are awarded to the business school at which the author is currently employed (not the place of employment at the time of publication).

No Nordic institutions are listed in this ranking.

## Executive Education (since 1999)

Short courses, often customised, for people in employment.[1]

This ranking includes two classes of course; open enrolment and customised programmes. A business school must have revenues of at least USD 2 million annually in order to be considered in the ranking.

Two data sources are used: a questionnaire to top clients and data reported by the business schools themselves. The indicators that are used largely overlap with the indicators in the Full-Time MBA ranking.

Table 3: Positions of Nordic universities in the Financial Times ranking of *Executive Education* courses, 2009-2012.

| **Institution** | **Position in *Open Enrolment*** | | | | **Position in *Customised*** | | | |
|---|---|---|---|---|---|---|---|---|
| | *2009* | *2010* | *2011* | *2012* | *2009* | *2010* | *2011* | *2012* |
| Norwegian School of Economics and Business Administration | 44 | 43 | 45 | 40 | - | - | - | 69 |
| Stockholm School of Economics | 48 | 46 | 48 | 42 | 22 | 40 | 38 | 34 |
| Aalto University School of Economics/Helsinki School of Economics | 46 | 47 | 46 | 42 | 53 | 56 | 55 | 50 |

[1] Description taken from Financial Times.

| Institution | Position in *Open Enrolment* | | | Position in *Customised* | | | |
|---|---|---|---|---|---|---|---|
| BI Norwegian School of Management | - | - | - | 58 | 61 | 61 | 66 |

## Masters in Management (since 2005)

For students with no prior work experience.

Two data sources are used; an alumni survey and data reported by the business schools themselves. The alumni survey must have a response rate of at least 20% and an absolute minimum of 20 respondents. The indicators that are used largely overlap with the indicators in the Full-Time MBA ranking.

The alumni survey is also distributed to students on programmes within Cems Master in International Management (Cems MiM), where Cems is a collaboration between approximately 25 European business schools. It is not clear whether all Cems MiM programmes are also ranked.

Table 4: Nordic business schools in the Financial Times ranking of *Master in Management* courses, 2009-2012.

| Institution | 2009 | 2010 | 2011 | 2012 |
|---|---|---|---|---|
| Stockholm School of Economics | 12 | 14 | 17 | 18 |
| Aalto University School of Economics/Helsinki School of Economics | 31 | 30 | 33 | 39 |
| Copenhagen Business School | 22 | 22 | 38 | 43 |
| Aarhus School of Business | - | 51 | 44 | 46 |
| Norwegian School of Economics and Business Administration | 35 | 40 | 43 | 46 |
| BI Norwegian School of Management | 48 | 64 | 64 | 69 |

## EMBA (since 2001)

MBA programme, typically part-time, aimed at people with a fair amount of professional experience, typically in managerial positions.[1]

Three data sources are used; an alumni survey, data reported by the business schools themselves and publications in selected journals. The indicators that are used and the inclusion criteria largely overlap with the indicators in the Full-Time MBA ranking.

The following Nordic business schools are included in the ranking:

[1] Description taken from Wikipedia.

Table 1: Nordic business schools in the Financial Times ranking of EMBA courses 2009-2012.

| Institution | 2009 | 2010 | 2011 | 2012 |
|---|---|---|---|---|
| Aalto University, School of Economics/Helsinki School of Economics | 55 | 62 | 53 | 83 |
| Copenhagen Business School | 58 | 47 | 76 | 92 |
| Stockholm School of Economics | 53 | 50 | 65 | - |
| Norwegian School of Economics and Business Administration | >95 | - | - | - |

## European business schools (since 2004)

This is an accumulated ranking based on the four other ranking lists. It takes into account how many of these ranking lists the business schools have been included in and what points they have been awarded in them. The institution has to have been ranked in at least two of these lists in order to be included in the European business schools ranking.

Table 5: Nordic business schools in the Financial Times ranking of European Business Schools, 2008-2012.

| Institution | 2008 | 2009 | 2010 | 2011 | 2012 |
|---|---|---|---|---|---|
| Stockholm School of Economics | 15 | 15 | 19 | 19 | 20 |
| Aalto University School of Economics/Helsinki School of Economics | 17 | 18 | 22 | 22 | 21 |
| Copenhagen Business School | 37 | 31 | 23 | 40 | 39 |
| Norwegian School of Economics and Business Administration | 47 | 34 | 31 | 44 | 44 |
| BI Norwegian School of Management | 53 | 61 | 72 | 68 | 62 |
| Aarhus School of Business | - | - | 69 | 63 | 68 |

## Additional information

Ranking's website:
http://rankings.ft.com/businessschoolrankings/

# Taiwan Ranking (NTU, formerly HEEACT)

*Interest in the ranking*: Almost none

*Performance Ranking of Scientific Papers for World Universities* was produced 2007-2012 by the Higher Education Evaluation and Accreditation Council of Taiwan (HEEACT), a Taiwan-based foundation/authority. In 2011, the ranking was renamed Taiwan ranking and taken over by National Taiwan University.

The 700 largest organisations in ESI (Essential Science Indicators, one of Thomson Reuters' products) are selected, non-universities are taken out and then the 500 biggest institutions are ranked using bibliometric indicators. As of 2009, a few other ranking lists are also referred to and any major universities from these lists that are not among the 700 are added.

The ranking only considers scientific production (scientific papers) and is entirely based on bibliometric data, partly from ESI and partly from SCI[1] and SSCI[2], and partly from JCR[3]. Articles within the fields of humanities and the arts are not considered in the basic data.

As of 2008, you can also sort irrespective of size, where the indicator values are divided by the number of research and teaching staff. You can also get lists for specific subject areas (engineering, natural sciences etc.).

## Indicators

*Research productivity*
1. (10 %): Number of articles over the past 11 years.
2. (15 %): Number of articles over the past year.

*Research impact*
3. (15 %): Number of (raw) citations over the past 11 years.
4. (10 %): Number of (raw) citations over the past 2 years.
5. (10 %): Average number of (raw) citations per article over the past 11 years.

*Research excellence*
6. (10 %): Institution's *h*-index for articles from the past 2 years.
7. (15 %): Number of highly cited papers (in the top 1% within the subject) over the past 11 years.
8. (15 %): Number of articles in high-impact journals (in the top 5% within the subject) over the past year.

[1] SCI = Science Citation Index, one of Thomson Reuters' citation databases.
[2] SSCI = Social Science Citation Index, one of Thomson Reuters' citation databases.
[3] JCR = Journal Citation Report, a listing of scientific journals' citation numbers, produced by Thomson Reuters.

For each indicator, the number of points is calculated proportionally against the 'best' institution (which gets 100).

Since citations and publications are not standardised in terms of subject, those subjects that have high volumes of (journal) publications and citations tend to dominate. These subjects include mainly medicine and some of the natural sciences.

## Results for University of Gothenburg

Table 6: Positions of Swedish universities on the Taiwan Ranking, 2007-2012.

| Institution | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 |
|---|---|---|---|---|---|---|
| Karolinska Institute | 50 | 36 | 34 | 34 | 34 | 41 |
| Lund University | 69 | 69 | 64 | 73 | 83 | 77 |
| Uppsala University | 92 | 88 | 95 | 84 | 91 | 88 |
| Stockholm University | 184 | 167 | 195 | 192 | 150 | 154 |
| University of Gothenburg | 194 | 216 | 215 | 227 | 228 | 196 |
| KTH Royal Institute of Technology | 323 | 313 | 310 | 321 | 245 | 258 |
| Umeå University | 207 | 222 | 244 | 252 | 251 | 268 |
| Linköping University | 330 | 330 | 352 | 356 | 329 | 333 |
| Swedish University of Agricultural Sciences | 377 | 388 | 410 | 385 | 366 | 361 |
| Chalmers | 406 | 394 | 393 | 371 | 384 | 422 |
| Malmö University | - | - | 494 | 498 | 500 | 477 |

The order of the Swedish institutions has remained fairly stable. In 2011 KTH Royal Institute of Technology made a large leap from 321 to 245. At the same time Stockholm University advanced 42 positions, although keeping its rank among the Swedish institutions.

There are a number of field and subject rankings, and the University of Gothenburg occur in several of them:

**Key**
GU = University of Gothenburg
SLU = Swedish University of Agricultural Sciences
SU = Stockholm University
LU = Lund University
UU = Uppsala University
UmU = Umeå University
KI = Karolinska Institute
KTH = KTH Royal Institute of Technology
CTH = Chalmers.

**Field rankings:**

- Agriculture: GU 155, after SLU, SU, LU, UU and UmU.
- Clinical Medicine: GU 135, after KI, LU and UU.
- Life Sciences: GU 142, after KI, UU and LU.
- Social Sciences: GU 130, after KI, LU and SU.

**Subject rankings:**

- Geosciences: GU 218, after SU, LU and UU.
- Civil Engineering: GU 216, after SU, LU, KTH, CTH, UmU and SLU.

- Agricultural Sciences: GU 288, after SLU, LU, KI, UU, UmU and SU.
- Environment/Ecology: GU 143, after SU, SLU, LU, UU and UmU.

- Plant & Animal: GU 138, after SLU, UmU, UU, SU and LU.
- Pharmacology & Toxicology: GU 173, after KI, UU and LU.

### Changes

**2012**

- The weight of the indicator "number of articles of the current year" was raised from 10 % to 15 %, the weight of the indicator "number of citations of the last 11 years" was raised from 10 % to 15 %, and the weight of the h-index indicator was lowered from 20 % to 10 %.

**2007**

- The indicator 'Number of subject fields where the university demonstrates excellence' was also used, contributing 10% to the final ranking.

### Additional information

Ranking's new web site:
http://nturanking.lis.ntu.edu.tw/Default.aspx

Ranking's old web site:
http://ranking.heeact.edu.tw/

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## High Impact Universities (†)

The ranking list *High Impact Universities* was published in 2010 by three employees at the University of Western Australia, Ba-Tong Vo, Victor Sreeram and Ba-Ngu Vo. It is based entirely on bibliometric indicators based on Scopus. It has not been updated since 2010, and the web site is not available anymore.

The basic bibliometric indicator is the *g*-index, a development of the better known *h*-index (Hirsch 2005): the *g*-index for an institution is the highest number *g* of its highly cited publications, such that the average citation is at least *g* citations per publication.

The ranking is conducted per faculty, which means five broad subject areas, and then an average value is calculated from these five areas (with equal weighting). The subject areas are *Medicine, Dentistry, Pharmacology, and Health Sciences*; *Pure, Natural, and Mathematical Sciences*; *Engineering, Computing, and Technology*; *Life, Biological and Agricultural Sciences*; and *Arts, Humanities, Business, and Social Sciences*.

The division into subject areas and their equal weighting could result in specialised universities, such as Karolinska Institute, ending up far down the list, but this is not the case. The outcome for the Swedish universities is shown in the table below.

Table 7: Outcome for Swedish universities in the *High Impact Universities ranking,* 2010.

| Institution | Position |
|---|---|
| Uppsala University | 67 |
| Lund University | 73 |
| Karolinska Institute | 87 |
| Stockholm University | 203 |
| University of Gothenburg | 226 |
| Umeå University | 245 |
| Linköping University | 277 |
| Chalmers | 293 |
| KTH Royal Institute of Technology | 343 |
| Swedish University of Agricultural Sciences | 449 |

Comment: There is a close link between the *h*-index, which is often used for individual researchers, and career age (Hirsch 2005 p. 16571), and perhaps the same also applies to a certain extent for institutions. The seven highest ranked Swedish universities are also sorted in descending order of age.

## Microsoft Academic Search

*Interest in ranking*: <not measured>

The US American software company Microsoft has created a search engine for academic texts, *Microsoft Academic Search*, similar to Google Scholar. A number of rankings have been created based on this search engine, which indexes 35 million publications (September 2011). It is difficult to know what the underlying set of publications look like, but a few test searches reveals that the publication database of University of Gothenburg, GUPEA, is not indexed by Microsoft Academic Search, nor is DiVA, the publication database of several Swedish institutions. (These databases a*re* indexed by Google Scholar.)

When the ranking was published first time, in December 2009, there was only a computer science ranking. In May 2013 there were rankings for a number of subjects (see table 8), each of which have 10-20 sub-disciplines (with rankings). The rankings can be sorted on "Field Rating", which is said to be similar to h-index or Citations; the default is Field Rating.

Microsoft makes very cautious claims, and says "the list and the relative position of organizations is by no means an indicator of the overall achievement of these organizations".

The ranking is updated continuously. It is worth noting that although the underlying data is unlikely to be very representative, the set of organisations seems very clean – e.g. there is only one name for the University of Gothenburg.

Table 8: Top Swedish universities at the Microsoft ranking, sorted on H-index. Data extracted May 6, 2012.

| Subject | Best Swedish institution (rank) | Rank for University of Gothenburg |
|---|---|---|
| Agriculture Science | Swedish University of Agricultural Sciences (22) | 300 |
| Arts & Humanities | Lund University (166) | 244 |
| Biology | Karolinska Institute (60) | 230 |
| Chemistry | Karolinska Institute (46) | 194 |
| Computer Science | Royal Institute of Technology (108) | 655 |
| Economics & Business | Stockholm University (77) | 216 |
| Engineering | Royal Institute of Technology (71) | 685 |
| Environmental Sciences | Stockholm University (22) | 105 |
| Geosciences | Stockholm University (98) | 364 |
| Material Science | Royal Institute of Technology (73) | 324 |
| Mathematics | Royal Institute of Technology (80) | 904 |
| Medicine | Karolinska Institute (32) | 98 |
| Multidisciplinary | Stockholm University (83) | 352 |
| Physics | Royal Institute of Technology(151) | 445 |
| Social Science | Stockholm University (120) | 191 |

### Additional information

Ranking web site:
http://academic.research.microsoft.com/RankList?entitytype=7&topDomainID=2&subDomainID=0&last=0&start=1&end=100

## Middle East Technical University (Urap)

*Interest in the ranking*: Almost none

*University Ranking by Academic Performance* (Urap) was published for the first time under the name Urap'10 in January 2011 by Informatics Institute of Middle East Technical University (METU), a public, English language university in Ankara, Turkey. The ranking was

published again in November 2011, under the name Urap'11, and in 2012 the ranking named Urap'12 was released. It lists 2000 universities, and the purpose is to provide a ranking that covers not only institutions in the Western elite group. This purpose contrasts starkly to other ranking producers' decisions not to publish more than the 400-500 top positions of their lists, since they do not consider their methods reliable below that level. The Turkish ranking producers do not comment this problem.

## Indicators

Urap includes only bibliometric indicators, listed below. The percentages denote the weights of the indicators in the total score.

*Number of Articles* (21 %): Number of articles in Web of Science, published the preceding year (during 2009 Urap'10, during 2010 for Urap'11, and during 2011 for Urap'12).

*Citation* (21 %): Number of citations made in 2011 to publications publised 2007-2011, measured in Web of Science. Self-citations are excluded.

*Total Document* (10 %): All publications in Web of Science for the preceding year, including conference papers, reviews, letters, discussions and scripts, in addition to journal articles.

*Journal Impact Total* (18 %): For all papers counted in Number of Articles the corresponding Web of Science Journal Impact Factor for the five preceding year is calculated, and all of these factors are aggregated.

*Journal Citation Impact Total* (15 %): All papers citing publications from the institution for the preceding five years are collected, and their Journal Impact Factors are aggregated.

*International Collaboration* (15 %): Number of papers co-authored with foreign universities during the preceding five years, in Web of Science.

All the Web of Science-based indicators are strongly correlated with each other. In the 2011 ranking, the rank order according to *Number of Articles* and the total rank order have a correlation coefficient (Pearson) of 0.97. For *Citation* the corresponding coefficient is 0.99, for *Total Document* it is 0.97, for *Journal Impact Total* it is 0.99, for *Journal Citation Impact Total* it is 0.97, and for *International Collaboration* it is 0.95.[1]

Thus a ranking using simply the number of Web of Science publications would give very much the same result.

[1] All coefficients are calculated on Urap'11.

## Results for the University of Gothenburg

The positions of the Swedish institutions are shown in the table below.

Table 9: The positions of the Swedish universities in the ranking from Middle East Technical University, 2010-2012.

| University | 2010[1] | 2011[2] | 2012 |
|---|---|---|---|
| Karolinska Institute | 30 | 32 | 35 |
| Lund University | 60 | 62 | 62 |
| Uppsala University | 73 | 70 | 76 |
| Stockholm University | 174 | 176 | 173 |
| University of Gothenburg | 183 | 181 | 195 |
| Umeå University | 243 | 248 | 259 |
| KTH Royal Institute of Technology | 286 | 269 | 265 |
| Linkoping's University | 324 | 322 | 314 |
| Chalmers | 361 | 345 | 368 |
| Swedish University of Agricultural Sciences | 374 | 381 | 413 |
| Örebro University | 698 | 806 | 773 |
| Malmö University | 634 | 738 | 959 |
| Luleå University of Technology | 1061 | 1077 | 1071 |
| Mid Sweden University | 1495 | 1458 | 1439 |
| Karlstad University | 1438 | 1445 | 1479 |
| Växjö University | 1667 | 1582 | 1499 |
| Stockholm School of Economics | 1465 | 1564 | 1626 |
| Mälardalen University | 1740 | 1789 | 1752 |
| University of Skövde | 1800 | 1824 | 1770 |
| Jönköping University | 1781 | 1751 | 1779 |
| University of Borås | 1908 | 1856 | 1870 |
| Halmstad University | 1912 | 1954 | 1876 |
| University of Gävle | 1828 | 1862 | 1882 |
| Dalarna University | - | - | 1930 |
| Blekinge Institute of Technology | 1963 | - | 1935 |
| Kalmar University | 1109 | 1298 | - |
| Kristianstad University | 1888 | 1902 | - |

[1] Published in January 2011.

[2] Published in November 2011.

The internal order for the Swedish universities is fairly stable.

## Changes

**Urap'12**

- The indicator Citations was changed. Before it counted all citations to articles published the preceding year. Now it counts all citations made in 2011 to articles published 2007-2011.
- The indicators Journal Impact Total and Journal Citation Impact Total were changed. Before they looked at publications made the preceding year, but now they look at publications made the five preceding years.

**Urap'11**

- The weight was changed for Number of Articles from 25 % to 21 %.
- The indicators *Google Scholar Results* and *H-Index* were removed.
- The indicator *Cumulative Journal Impact* was renamed to *Journal Impact Total*.

## Additional information

Ranking's web site:
http://www.urapcenter.org

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# Mines ParisTech

*Interest in the ranking*: Almost none

*The Professional Ranking of World Universities* is produced by the Paris-based technical university Mines ParisTech[1]. The list has been published since 2007.

The ranking uses a single, somewhat unusual indicator: the number of alumni who are the CEOs (or equivalent) of one of the world's 500 biggest companies. The explanation for using this indicator is that it is an indication of the quality of the education. US News & World Report has produced a very similar list for US American institutions; see page 71.

The list of the world's 500 biggest companies is taken from the magazine Fortune, which publishes such a list every year. Graduates from more than one university are fractionalised, but if a company has joint leadership this is not fractionalised.

The United States has the most universities (136) on this list. China comes second (41), followed by France and United Kingdom (25), Germany (23) and Japan (22).

[1] The university is sometimes called École Nationale Supérieure des Mines de Paris.

Table 10: Positions of Swedish institutions on the Mines ParisTech list.

| Institution | 2007 | 2008 | 2009 | 2010 | 2011 |
|---|---|---|---|---|---|
| Chalmers | 18 | 23 | 42 | 42 | 38 |
| Uppsala University | 60 | 212 | 216 | 224 | 92 |
| KTH Royal Institute of Technology | 89 | 89 | 64 | 64 | 229 |
| Lund University | | | | 224 | 229 |
| Stockholm University | | - | 89 | 94 | - |
| Linköping University | 214 | 212 | 216 | 224 | - |

As the table above shows, the ranking is not very stable.

### Additional information

Ranking's website:
http://www.mines-paristech.eu/About-us/Rankings/professional-ranking/

## Newsweek (†)

The US-based magazine Newsweek published a ranking of the world's top 100 universities in August 2006. The magazine took the values from the THE and Shanghai Jiao Tong lists, weighed them according to their own preferences and added an indicator about the size of the library.

### Indicators

Three indicators were taken from the Jiao Tong list and given a weighting of 16.67 % each:

1. Number of academic staff on Thomson Reuters' list of highly cited authors.
2. Number of articles in *Nature* and *Science*.
3. Number of articles in Thomson Reuters' *Social Sciences Citation Index* and *Arts & Humanities Citation Index*[1].

Four indicators were taken from the then THE list, which is now called the QS list. They were given a weighting of 10% each:

4. Proportion of international academic staff.
5. Proportion of international students.
6. Citations per member of the academic staff.

[1] The parts of Web of Science that cover humanities and social sciences.

7. Number of academic staff per student.

The final 10% was allocated to a newly constructed indicator:

8. Number of books in the university library.

### Results for University of Gothenburg

The only Swedish institutions on the list were Lund University (position 76) and Uppsala University (position 88).

### Additional information

Ranking's website:
http://www3.ntu.edu.sg/home/eylu/univ/Newsweek_top100_2006.pdf

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## QS World University Ranking

*Interest in the ranking*: Considerable

*QS World University Rankings* has been produced every year since 2004 by the analysis firm QS[1]. Up until 2009, the ranking was commissioned by Times Higher Education (THE), and the list was then called THES. However, since 2010 THE has been working with a different company on university ranking.

The QS list is largely based on the reputation of an educational institution, partly among researchers but also among employers. The list has been much criticised, partly because it places so much emphasis on reputation surveys, and the fact that these are carried out using an insufficient number of respondents.

The reputation of the institution is measured using two surveys, one directed at academics and one directed at employers. The academic survey seems to have had a response rate of less than 8 %.[2] The response rate for the employer survey is more difficult to estimate, 14 % seems to be an absolute upper limit; a more reasonable guess is below 5 %.[3]

[1] The name comes from the surnames of the company's two founders, Nunzio Quacquarelli and Matt Symonds.
[2] QS says that the 2011 ranking was based on 33 744 responses and that a total of 440 000 records were drawn from different sources in order to identify academics to send invitations to. We do not know if the 33744 included response from previous years, nor if 440 000 invitations were actually sent out.
[3] QS says that the 2011 ranking was based on 16 785 responses, but these were aggregated over three years. Several sources were used to identify employers to invite, but numbers are only given for one of these sources (60 000). A very optimistic calculation assumes that the 2011 survey contributed with half of the 16785 responses and that the remaining sources did not contribute significantly to the pool of employers. Then the response rate is less than 14 %. A more probable calculation assumes that the 2011 survey contributed with one third of the 16785 responses and that at least 120 000 invitations were sent out. That leads to a response rate of less than 5 %.

The bibliometric indicators are calculated based on Scopus data, and information about finances, staff and students is compiled partly from a questionnaire completed by the institutions and partly through other available sources (websites, statistics authorities, etc.).

QS also compiles a number of other rankings:

- *QS World university Rankings by Subject*
  A number of subject rankings have been published, such as Accounting & Finance, Biological Sciences, Medicine and Modern Languages. They are built from reputations surveys, and citations per paper. The weighting of these indicators varies with the subject.
- *QS Best Student Cities*
  This ranking was published for the first time in 2012. Only cities with two or more universities on QS World Universities Ranking, and a population of at least 250 000, are included. Only the top 50 cities are published. Gothenburg is not on the list.

The University of Gothenburg provided details for the lists in 2008, 2009, 2011 and 2012 but not in 2010.

## Indicators

*Academic Peer Review* (40%): Web survey sent to a huge number of researchers (probably more than 440,000). The surveys in 2009, 2010 and 2011 together gathered responses from 33,744 unique individuals. Approximately 370 Swedish respondents were included in this.[1] Five broad subject areas are used and they are given equal weighting. The responses are also weighted so that three 'super regions' are represented equally: America; Europe, Africa and the Middle East; and Asia Pacific.

*Employer Review* (10%): A survey that is sent to an unknown number of potential employers (for graduates). The surveys in 2009, 2010 and 2011 together gathered responses from 16,785 individuals. There were less than 50 Swedish respondents in this.

*Faculty Student Ratio* (20%): Number of faculty divided by number of students. The data is compiled in various ways (from the institutions direct, authorities and statistics organisations).

*Citations per Faculty* (20%): Number of raw citations[2] gathered during the last five years (self-citations excluded) divided by the number of permanent academic staff (full-time equivalents). The data source is Scopus.

*International Faculty* (5%): Percentage of faculty with foreign citizenship.

[1] Respondents are asked to rate domestic and foreign universities separately. The score for the universities in a country is calculated separately for domestic and foreign respondents, and then combined, where the domestic score is given 15 % weight and the foreign score is given 85 % weight.
[2] See Appendix 1 for an explanation of 'raw citations'.

*International Students* (5%): Percentage of students with foreign citizenship.

## Results for University of Gothenburg

Nine Swedish institutions are included in the QS ranking, and their positions over the years are displayed in the table below. As the table shows, the list is not particularly stable.

Table 11: Positions of the Swedish universities on the QS list.

| Institution | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 |
|---|---|---|---|---|---|---|---|---|
| Lund University | 180 | 122 | 106 | 88 | 67 | 72 | 86 | 71 |
| Uppsala University | 180 | 111 | 71 | 63 | 75 | 62 | 83 | 81 |
| Stockholm University | 227 | 261 | 246 | 239 | 215 | 168 | 178 | 171 |
| KTH Royal Institute of Technology | 196 | 172 | 192 | 173 | 174 | 150 | 180 | 142 |
| University of Gothenburg | 190 | 284 | 276 | 258 | 185 | 183 | 184 | 193 |
| Chalmers | 166 | 147 | 197 | 162 | 198 | 204 | 202 | 223 |
| Umeå University | 329 | 311 | 299 | 299 | 318 | 297 | 273 | 297 |
| Linköping University | 445 | 322 | 371 | 401-500 | 401-500 | 389 | 401-450 | 340 |
| Stockholm School of Economics | 359 | 207 | 273 | 280 | 257 | - | 500 | - |

## Change history

2011

- Self-citations excluded when calculating Citations per Faculty.

2008

- Respondents to the reputation surveys are asked to assess the institutions in their own country separately from institutions based abroad, and the responses are then adjusted to counteract bias.

2007

- Change from Thomson Reuters to Scopus.
- The respondents to the reputation surveys cannot assess their own institution.
- Only one response per computer is permitted in the web-based reputation surveys.
- The indicators are z-normalised. (The values were previously normalised against the value for the best institution for each indicator.)
- Full-time equivalents are used in place of people, both for staff and students.

2005

- The Employer Reputation survey was added and given a 10% weighting, which was taken from the Academic Reputation survey.
- The citation window was reduced from 10 to 5 years.

### Additional information

Ranking's website:
http://www.topuniversities.com/university-rankings

Report on development of QS list from start until 2009:
Holmes, Richard (2010). The THE-QS World University Rankings, 2004-2009. *University Ranking Watch*, 2010-10-19.
[http://rankingwatch.blogspot.com/2010/10/the-qs-world-universities-rankings-2004.html]

Detailed analyses of the results for University of Gothenburg [in Swedish]:
2010: QS World University Rankings: Diskussion kring 2010 års QS-rankinglista.
2011: Universitetsrankingen från QS 2011. Resultat för Göteborgs universitet.
2012: Universitetsrankingen från QS 2012. Resultat för Göteborgs universitet.

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## *Rater* (Global University Ranking) (†)

*Rater* is an institute that was established in 2005 on the initiative of a group of major Russian companies, which is partly financed by the Russian Academy of Sciences. In 2009 they published a ranking list that compared the best universities in the Former Soviet Union with foreign universities. All universities that have been ranked by the THE, Jiao Tong, HEEACT or Webometrics lists were included in the selection group. The overriding aim was to track trends in comparison with the top universities in Russia, similar to the aim of the Jiao Tong list in China. However, Rater emphasised that the chief task of the Russian universities is education and that this aspect was often missing in the other ranking systems.

Data were compiled partly via questionnaires sent to the selection group, and in those cases where no response was received, Rater tried to gather the information itself, mainly through the universities' websites, but in principle via all available sources.

Experts then assessed the universities in a number of dimensions (indicators), which were weighed and adjusted to a 100-point scale. The details of this process have not been published.

The ranking has not been published more than once, and the web site is not available anymore.

### Indicators

*Academic performance*

- Number of educational programmes as per three levels (Bologna levels?) (previous academic year).

- Number of academic staff (previous academic year).
- Number of students (previous academic year).
- Number of students who have won international academic competitions since 2001.

*Research performance*

- Number of 'certificates on discoveries' and patents that the institution or its academic staff has had approved since 2001.
- Number of honorary professors and doctors who have been awarded the Nobel Prize or the Fields Medal since 2001.
- Number of research officers and scholars of the university who have been awarded the Nobel Prize or the Fields Medal since 2001.

*Expertise of the faculty*

- Number of publications (articles, textbooks, monographs, etc.) (previous academic year).
- Percentage of academic staff with university education (previous academic year).
- Number of professors who are members of national or international academies of science (previous academic year).
- Average number of citations and references made by foreign authors of lecturers at the institution (previous academic year).

*Availability of resources*

- University's total budget (previous year).
- Total cost of the training and laboratory facilities (previous year)
- Performance of the university's computer centre, measured in teraflops ($10^{12}$ floating point calculations per second).

*Socially significant activities of the graduates of the university*

- The number of living alumni who have achieved public recognition: prominent people within science, culture and business; politicians; government officials; administrators of territories and cities (population > 100,000); leaders of key international organisations (FN, UNESCO, etc.).

*International activities*

- International academic communities in which the university was involved during the previous academic year.
- Number of foreign universities with which the institution has bilateral agreements (previous year).
- Number of academic staff with honorary professorships or doctorates from foreign universities (previous year).
- Number of international students (previous year).
- Number of outgoing exchange students and number of professors who travelled to foreign universities to teach or conduct research (previous year).

*Expert opinion*

- Rank the ten foreign universities that you think are leading in terms of education and executive training quality.

### Results for University of Gothenburg

The University of Gothenburg performed well in the indicators included under the category 'Internet audience' (position 49-53), and less well in those indicators that come under the category 'financial maintenance' (position 200-216). The positions of the Swedish universities vary enormously in the various indicator categories and it is impossible to distinguish any clear pattern.

Table 12: Positions of the Swedish universities on the Rater list, 2009.

| Institution | 2009 |
|---|---|
| Uppsala University | 78 |
| Umeå University | 121 |
| Lund University | 126 |
| KTH Royal Institute of Technology | 141-145 |
| Chalmers | 152-153 |
| University of Gothenburg | 156-157 |
| Stockholm University | 260-261 |
| Linköping University | 302-305 |

## Scimago

*Interest in the ranking*: Little

*The Scimago Institutions Ranking World Report* is produced by Scimago, a research group with members in Spain, Portugal, Argentina and Chile. The list, which was published in 2009, 2010, 2011 and 2012, ranks over 2,800 research organisations. It is based entirely on bibliometric indicators based on Scopus.

Since 2010, the list also includes lists within four broad subject areas: *Health Sciences, Life Sciences, Physical Sciences* and *Social Sciences and Humanities*.

One interesting detail is that Scimago has grouped all listed organisations into five broad categories: *Higher Education, Health System, Government Agencies, Corporations* and *Others*.

Despite the name, the authors of the report claim that it is not a ranking. There are several indicators, and the list is sorted by publication volume, but Scimago makes clear that they

do not intend it as a league table. Even so, the report provides detailed numbers for world, region and country rank using the publication volume indicator.

## Indicators

- *Output*: Number of publications. The indicator is fractionalised, most likely per author.
- *International Collaboration*: Percentage of publications with author addresses from at least two different countries.
- *High Quality Publications*: Percentage of the institution's publications that are published in the top 25% highest ranked journals, measured using 'SCImago Journal Rank SJR Indicator' (González-Pereira et al. 2010).
- *Normalised Impact*: Field-normalised citation score average.
- *Specialization Index*: Indicates how narrow the output of an organisation is in terms of subject range. 1 means very narrow and 0 very broad.
- *Excellence Rate*: The organisation's share of papers among the 10 % most highly cited in the field.
- *Scientific Leadership*: Number of publications in which the corresponding author belongs to the institution.

Data from 2006-2010 were used in the 2012 ranking.

## Results for University of Gothenburg

Table 13: Positions of the Swedish universities on the Scimago list (publication volume).

| Institution | 2009 | 2010 | 2011 | 2012 |
|---|---|---|---|---|
| Karolinska Institute | 111 | 132 | 138 | 119 |
| Lund University | 151 | 153 | 137 | 159 |
| Uppsala University | 157 | 167 | 184 | 198 |
| KTH Royal Institute of Technology | 241 | 360 | 260 | 258 |
| University of Gothenburg | 244 | 259 | 313 | 334 |
| Stockholm University | 352 | 367 | 367 | 370 |
| Chalmers | 321 | 413 | 417 | 439 |
| Linköping University | 284 | 298 | 444 | 470 |
| Umeå University | 464 | 449 | 476 | 498 |
| Swedish University of Agricultural Sciences | 476 | 535 | 586 | 627 |
| Luleå University of Technology | 1139 | 1244 | 1304 | 1374 |
| Linnaeus University | - | - | 1522 | 1671 |
| Örebro University | - | 1716 | 1805 | 1910 |
| Karlstad University | 2004 | 2028 | 2210 | 2439 |
| Malmö University | 1810 | - | - | 2567 |
| Mälardalen University | - | 2427 | 2643 | 2670 |
| Jönköping University | - | 2735 | 2644 | 2720 |

| | | | | |
|---|---|---|---|---|
| Halmstad University College | - | - | 2962 | - |
| Kalmar University | - | 2288 | - | - |
| Växjö University | - | 2384 | - | - |
| University of Skövde | - | 2739 | - | - |

The Scimago list is not particularly stable. KTH Royal Institute of Technology rose 100 positions between 2010 and 2011, while Linköping University fell 146 positions. Mälardalen University fell 216 positions.

### Change history

2012

- The indicator 'Scientific Leadership' was added.

2011

- The indicators 'Specialization Index' and 'Excellence Rate' were added.

2010

- The indicators 'Cites per Document' (number of raw citations per paper) and 'Normalized SJR' (a field-normalised journal indicator) disappeared.
- The indicator 'High Quality Publications' was added.
- The indicator 'Field Normalized Citation Score' changed its name to 'Normalized Impact'.

### Additional information

Ranking's website:
http://www.scimagoir.com

## Shanghai Jiao Tong

*Interest in the ranking*: Considerable

*The Academic Ranking of World Universities* is produced by the Institute of Higher Education at Shanghai Jiao Tong University. The list has been published annually since 2003. Since 2007, the list has been available in five versions, i.e. the same number of scientific fields: Science, Engineering, Life Sciences, Medicine and Social Sciences. Since 2009 there has also been an alternative subject focus: Mathematics, Physics, Chemistry, Computer Sci-

ence and Economics/Business. There is also a version that is not focused on a particular subject.

The ranking was set up as part of a plan to create a number of universities in China maintaining a level of global excellence. The methodology is (relatively) open, well documented and objective.[1] The indicators used have an elite focus and a long time frame. The ranking concentrates on research rather than education.

Due to the fact that no field-normalisation is applied and because of the limited scope of the citation database, publications in biomedicine and natural sciences have much more of an impact than publications in engineering and social science subjects. Large universities have an advantage over small ones, since size normalisation is limited.

The Shanghai Jiao Tong list is designed to separate out the world's absolute top universities, with a focus on the natural sciences and medicine. The list is quite striking from the point of view of Swedish universities, as it is highly dependent on Nobel Prize winners from the first half of the 20th century.

## Indicators

*Alumni* (10%): Alumni of an institution who have been awarded the Nobel Prize in Physics, Medicine or Chemistry, the Sveriges Riksbank Prize in Economic Sciences in Memory of Alfred Nobel, or the Fields Medal. Prizes that were awarded in 1991 or later result in full points for the institution in question, but older prizes have a lower weighting – 10% is deducted per decade (90% for 1981-1990, 80% for 1971-1980, etc.).

*Awards* (20%): Alumni of an institution who have been awarded the Nobel Prize in Physics, Medicine or Chemistry, the Sveriges Riksbank Prize in Economic Sciences in Memory of Alfred Nobel, or the Fields Medal, and who were working at the institution at the time of being awarded the prize. For emeriti, the ranking counts the institution where they were last active. Prizes that were awarded in 1991 or later result in full points for the institution in question, but older prizes have a lower weighting – 10% is deducted per decade (90% for 1981-1990, 80% for 1971-1980, etc.).

*HiCi* (20%): Number of academic staff on Thomson Reuters' list of highly cited researchers. To be more precise, the indicator looks at 21 lists for as many scientific fields within natural sciences, medicine, engineering sciences and social sciences. These areas vary in size, both in terms of the number of papers and the number of researchers, but each list contains as many researchers (250). In practice this means that one does not need to be as distinguished within a small field such as *Space Sciences* as in a large field such as *Biology & Biochemistry* in order to be included in the ranking.

[1] However, in *Assessing Europe's University-Based Research*, commissioned by the European Commission and written by the Expert Group on Assessment of University-Based Research in 2011, it is claimed that the results of the Shanghai Jiao Tong ranking are not replicable (page 51).

Researchers update their details themselves regarding which institution they work at, and researchers who have died are not automatically removed. University of Gothenburg has 1 researcher in this category (Lars Wilhelmsen); Karolinska Institute has 19, Lund University has 12, Uppsala University has 4 and Stockholm University has 5.

*N&S* (20%): Number of original articles over the past five years from the institution that have appeared in the journals *Nature* and *Science*. Certain institutions that are regarded as specialising in humanities and social sciences are excluded from this indicator. It is not clear which institutions have been excluded and on what basis.

*PUB* (20%): Number of original articles in Science Citation Index Expanded (SSIE) and Social Science Citation Index (SSCI) over the past year[1]. SSCI articles get double weighting.

*PCP* (10%): The weighted point for the above five indicators divided by the number of academic staff (full-time equivalents). SJTU does not have access to information about academic staff for all countries, but they have information for, for example, Sweden, United States, the UK, Japan and Switzerland. The information used for Sweden is most likely personnel statistics retrieved from the UKÄ/HSV statistics database.

## Results for University of Gothenburg

Table 14: Positions of the Swedish universities in the Shanghai Jiao Tong ranking, 2003-2012.

| Institution | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 |
|---|---|---|---|---|---|---|---|---|---|---|
| Karolinska Institute | 39 | 46 | 45 | 48 | 53 | 51 | 50 | 42 | 44 | 42 |
| Uppsala University | 59 | 74 | 60 | 65 | 66 | 71 | 76 | 66 | 67 | 73 |
| Stockholm University | 102-151 | 97 | 93 | 84 | 86 | 86 | 88 | 79 | 81 | 81 |
| Lund University | 93 | 92 | 99 | 90 | 97 | 97 | 101-151 | 101-150 | 102-150 | 101-150 |
| University of Gothenburg | 152-200 | 153-201 | 153-202 | 201-300 | 203-304 | 201-302 | 201-302 | 201-300 | 201-300 | 151-200 |
| KTH Royal Institute of Technology | 201-250 | 153-201 | 203-300 | 201-300 | 203-304 | 201-302 | 201-302 | 201-300 | 201-300 | 201-300 |
| Umeå University | 152-200 | 202-301 | 203-300 | 201-300 | 203-304 | 201-302 | 201-302 | 201-300 | 201-300 | 201-300 |
| Chalmers Technical University | 251-300 | 202-301 | 203-300 | 201-300 | 203-304 | 201-302 | 303-401 | 201-300 | 201-300 | 301-400 |
| Linköping University | 351-400 | 404-502 | 301-400 | 301-400 | 403-510 | 402-503 | 402-501 | 401-500 | 401-500 | 301-400 |

[1] SSIE and SSCI are parts of Web of Science.

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Stockholm School of Economics | | | 301-400 | 301-400 | 305-402 | 402-503 | 402-501 | 301-400 | 301-400 | 301-400 |
| Swedish University of Agricultural Sciences | 201-250 | 202-301 | 203-300 | 201-300 | 203-304 | 201-302 | 303-401 | 201-300 | 301-400 | 301-400 |

The University of Gothenburg was in the same range 2006-2011, which is 201-300. Jiao Tong University kindly provides the values for all indicators, which makes it possible to calculate the exact ranking position for all institutions, not just the top 100. Using this calculation one can see that the University of Gothenburg had its lowest rank in 2009 (256), and from that advanced to 196 in 2012. The entire increase lies in the HiCi and N&S indicators.

The indicators Alumni, Awards and HiCi do not discriminate very well at the lower half of the list. Only about 200 universities have any Nobel alumni at all, and little more than 400 universities have any Highly Cited researchers. The University of Gothenburg has one researcher on the HiCi list, putting it in place 332-412 on that indicator. A single researcher on any of these lists can have dramatic impact on the institution's rank.

**Subject Rankings**

SJTU produces five subject rankings: Natural Sciences and Mathematics; Engineering/Technology and Computer Sciences; Life and Agriculture Sciences; Clinical Medicine & Pharmacy; and Social Science. The University of Gothenburg has been visible in Clinical Medicine & Pharmacy since 2009, with a fairly stable position in the interval 51-75. In 2012 SJTU increased the number of institutions in the subject rankings, which made University of Gothenburg visible in the rankings Life & Agricultural Sciences and Social Science too.

## Additional information

Ranking's website:
http://www.arwu.org/

Analysis for the University of Gothenburg 2012

Analysis and Evaluation (2012). *Shanghairankingen 2012. En analys av resultatet för Göteborgs universitet.*

Analysis and Evaluation (2011). *Shanghairankingen 2011. En analys av resultatet för Göteborgs universitet.*

Analysis and Evaluation (2010). *Shanghai-listan. Göteborgs universitets placering på Academic Ranking of World Universities (ARWU). Indikatorer och konklusioner 2010.*

# Times Higher Education

*Interest in the ranking*: Considerable

*World University Rankings* is produced by the magazine *Times Higher Education* (THE). THE previously worked together with analysis firm QS, but since 2010 the list has been completely redesigned and the work is now carried out by Thomson Reuters (who also owns Web of Science).

The information upon which the ranking is based is taken from three sources: a survey to researchers, Web of Science, and a questionnaire sent to the institutions themselves.

The survey measures the reputation of the institution and is conducted by the company Ipso Mori. All respondents have been invited to participate and all are established academics spread across the world according to UNESCO statistics (North America 22%, Europe 28%, Asia 41%).

THE also produces rankings per six broad subject fields: Engineering & Technology; Arts & Humanities; Clinical, Pre-clinical & Health; Life sciences; Physical sciences; and Social sciences. These lists only show the top 50 positions. The University of Gothenburg is not included in any of these lists. Karolinska Institute is ranked 20 on the list for Clinical, Pre-clinical & Health, and on the list for Life sciences we find Uppsala University on place 30 and Lund University on place 45.

The University of Gothenburg has provided basic information for the THE ranking since the start in 2010.

## Indicators

*Industry income – innovation (2.5%)*

1. Research income from industry, per academic staff (2.5%).

*Research – volume, income and reputation (30%)*

2. Reputational survey – research (19.5%)
3. Research income, scaled (5.25%)
4. Academic papers per academic and research staff (4.5%)
5. Public research income/total research income (0.75%)

*Citations – research influence (32.5%)*

6. Citation impact, normalised average citations per paper (32.5%)

*International mix – staff and students (5%)*

7. Ratio of international to domestic staff (3%)
8. Ratio of international to domestic students (2%)

*Teaching – the learning environment (30%)*

9. Reputation survey – teaching (15%)
10. PhD awards per academic (6%)
11. Undergraduates admitted per academic (4.5%)
12. Income per academic (2.25%)
13. PhD awards/bachelor's awards (2.25%)

Note:

- Some of these indicators are normalised per subject. We do not know exactly which ones, but probably indicator 1, 3, 4, 5, 10, 12 and 13 (apart from 6).[1] Nor do we know exactly how this normalisation is done, but we know that they use six broad subject areas: Arts & Humanities; Clinical, Pre-clinical and Health; Engineering and Technology; Life sciences; Physical Sciences; and Social Sciences.
- Thomson Reuters applies a "regional modification" of the citation data. We know very little about this.[2]
- THE has released a separate ranking focused on reputation, based only on the two reputational surveys (research and teaching). This ranking is only 100 records long, and it clearly shows that the reputation indicators do not work at all outside the top 100 institutions, and just barely for the 50-100 ones. The top 6 institutions receive the vast majority of mentions (Harvard, MIT, Cambridge, Stanford, Berkeley and Oxford).
- To qualify for the THE ranking, a university must teach undergraduates, they must teach more than only a single narrow subject, and they must have produced at least 1000 publications indexed by the Web of Knowledge between 2006 and 2010. Exceptions are sometimes made from this rule.

## Results for University of Gothenburg

Table 2: Positions of the Swedish universities on the THE list, 2010-2012.

| Institution | 2010 | 2011 | 2012 |
|---|---|---|---|
| Karolinska institute | 43 | 32 | 42 |
| Lund University | 89 | 80 | 82 |
| Uppsala University | 147 | 87 | 106 |
| Stockholm University | 129 | 132 | 117 |
| KTH Royal Institute of Technology | 193 | 187 | 140 |
| University of Gothenburg | 281 | 204 | 218 |

[1] http://www.timeshighereducation.co.uk/story.asp?sectioncode=26&storycode=417345&c=1
[2] http://www.timeshighereducation.co.uk/story.asp?sectioncode=26&storycode=417200&c=2

| Institution | 2010 | 2011 | 2012 |
|---|---|---|---|
| Chalmers | 223 | 236 | 229 |
| Umeå University | 273 | 227 | 268 |
| Swedish University of Agricultural Sciences | 199 | 240 | 286 |
| Linköping University | 305 | 324 | 331 |

Analyses of the changes can be found in the detailed reports listed below.

## Change History

**2011**

- The indicator "proportion of internationally co-authored research papers" is new.
- More indicators have been normalised on subject. Research income, papers per staff, and international co-authoring, at least.
- The citation window has been extended by one year, and now covers the period 2005-2010.[1]
- The threshold for participation has been levered from 50 to 200 publications per year.
- The mysterious regional normalisation of data has been weakened. THE has disclosed very little about this.
- In 2010 the calculation of teachers per student was made from the student intake on three-year programmes. In 2011 it was based on the total number of students, on all levels.
- The weights of the indicators have changed somewhat:
    - *Reputational survey – research* from 19,5 % to 18 %.
    - *Ratio of international to domestic staff* from 3 % to 2,5 %
    - *Ratio of international to domestic students* from 2 % to 2,5 %.
    - *Citations* from 32,5 % to 30 %.
    - *Research income* from 5,25 % to 6 %.
    - *Academic papers* from 4,5 % to 6 %.

## Additional information

Ranking's website:

http://www.timeshighereducation.co.uk/world-university-rankings

Detailed analyses:

Analys & utvärdering (2012). *Universitetsrankingen från Times Higher Education 2012. En analys av resultaten för Göteborgs universitet*. PM 2012:03. University of Gothenburg,

[1] This means that all publications are measured with at least a 1-year citation window (i.e. one counts only citations from papers published the same year as the cited paper, or the year after), instead of as before at least a 0-year citation window (one counts only citations from papers published the same year as the cited paper). When 0-year citation windows are used the results become very instable, i.e. papers that are identified as highly cited may after a few years turn out to be not very highly cited at all. With a 1-year citation window the results are somewhat more stable.

Division of Analysis and Evaluation.

Analys & utvärdering (2011). *Universitetsrankingen från Times Higher Education 2011. En analys av resultaten för Göteborgs universitet*. PM 2011:08. University of Gothenburg, Division of Analysis and Evaluation.

Analys & utvärdering (2010). *Resultatet av universitetsrankingen från Times Higher Education, 2010*. PM 2010:05. University of Gothenburg, Division of Analysis and Evaluation.

Comparison between THE and Jiao Tong:

Cavallin, M., & Lindblad, S. (*2006*). *Världsmästerskap i vetenskap? En granskning av internationella rankinglistor och deras sätt att hantera kvaliteter hos universitet (An investigation into international university ranking lists)*. University of Gothenburg.

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# University of Texas at Dallas

*Interest in the ranking*: Almost none

*The UTD Top 100 World Wide Business School Ranking* is created by UT Dallas' Naveen Jindal School of Management. They track publications in 24 leading business journals, and create a ranking of business school from that. There is a single indicator: number of fractionalised publications during the last five years in this set of journals.

The ranking is 100 records long. The only Nordic institution to get into this list is Copenhagen Business School, on place 91.

## Additional information

Ranking's website:

http://jindal.utdallas.edu/the-utd-top-100-business-school-research-rankings/

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# Webometrics

*Interest in the ranking*: Moderate

*Webometrics Ranking of World Universities* is produced by Cyber metrics Lab, which is a sub division of the Spanish National Research Council (CSIC). The list has been published since 2004 and ranks all the world's universities according to their online presence. Attempts are made to award points for electronic publications and Open Access, but the producers of the list maintain that online presence is important and that it measures other

key aspects compared with rankings based solely on bibliometric indicators. It is published twice a year (January and July).

Cybermetrics Lab endeavours to identify all universities, university colleges and institutes around the world, and uses several different databases to find them. They then build their own database, which maps the organisation to one or more Internet domain names.

## Indicators

*Impact* (3/6): number of links to the institution's websites from other sites.

*Presence* (1/6): number of unique hits on the institution using Google, including rich files.

*Openness* (1/6): number of documents with the file extension pdf, ps, doc or pps that are available under the institution's web domain and that can be found via Google Scholar.

*Excellence* (1/6): number of highly cited publications in the Scopus database. *Highly cited* is defined as belonging to the 10 % most cited of that subject/publication type/year.

## Results for University of Gothenburg

The Swedish institutions that are included in the top 500 are displayed in the table below.

Table 3: Results for the Swedish institutions on the Webometrics list, 2009-2013.

| Institution | Jan 2009 | Jul 2009 | Jan 2010 | Jul 2010 | Jan 2011 | Jul 2011 | Jan 2012 | Jul 2012 | Jan 2013 |
|---|---|---|---|---|---|---|---|---|---|
| Lund University | 191 | 108 | 194 | 192 | 134 | 140 | 183 | 128 | 100 |
| University of Gothenburg | 209 | 184 | 260 | 243 | 143 | 120 | 156 | 179 | 141 |
| Uppsala University | 104 | 80 | 107 | 129 | 100 | 129 | 177 | 135 | 146 |
| KTH Royal Institute of Technology | 84 | 103 | 103 | 123 | 148 | 140 | 145 | 134 | 182 |
| Stockholm University | 258 | 191 | 258 | 247 | 248 | 265 | 288 | 147 | 188 |
| Linköping University | 107 | 92 | 117 | 146 | 130 | 148 | 218 | 215 | 197 |
| Karolinska Institute | - | 410 | - | 495 | 433 | 446 | 300 | 199 | 232 |
| Umeå University | 242 | 325 | 283 | 312 | 385 | 330 | 322 | 271 | 318 |
| Chalmers | 269 | 340 | 358 | 339 | 396 | 393 | 286 | 305 | 321 |
| Swedish University of Agricultural Sciences | | | | | 473 | - | - | | 484 |
| Luleå University of Technology | - | 492 | - | - | - | - | - | | - |
| Lund University Faculty of Engineering | 438 | - | 463 | - | - | - | - | | - |

As the table shows, Cybermetrics Lab treated Lund University Faculty of Engineering as a separate institution, at least until the January 2010 ranking (this error has now been corrected). Closer examination of the Swedish institutions reveals that several errors of this

kind remained until January 2012. Most of these have now been corrected, although 'Stockholm University Fysikum Physics Department' is still separate, as is the IT Faculty at University of Gothenburg/Chalmers.

Several changes in the methodology have been made over the years, and it is difficult to know how much of the changes in rank are caused by changes in the web presence of the ranked institutions and how much is caused by methodology changes. The drops that Gothenburg, Uppsala, Lund, Linköping and Stockholm made between July 2011 and January 2012 are almost certainly due to methodology changes, as are the simultaneous rises by KTH, Chalmers and Karolinska. Looking at the individual indicators, the changes between these two points of measurement are massive. Also the changes in July 2012 and January 2013 are most likely mainly due to methodological changes.

## Change History

**2012 July – 2013 January**[1]

- The indicator *size* (number of unique hits on the institution using Google, excluding rich files) was replaced by the indicator *presence*.
- The indicator *rich files* was renamed *openness* and changed to use only Google Scholar; previously it made use of ordinary Google searches.
- The indicator *scholar*, which counted the number of publications found by Google Scholar, was replaced by the indicator *excellence*.
- The weights for presence, openness and excellence were set to 1/6 each.

**2012 January**

- The indicator Visibility was changed from using Google with PageRank and Yahoo Site Explorer to Majestic SEO. It was also split into two parts: I) number of links to the domain from outside the domain, and ii) number of other domains linking to the domain.
- All institutions in the directory are now ranked. This probably affects the lower part of the ranking more than the top part.
- Number of publications in Scimago was added, with a weight of 15 %.
- The size indicator now uses only Google.
- The weights changed for several indicators:
    - Size from 20 % to 10 %.
    - Rich files from 15 % to 10 %.
    - Scholar from 15 % to 30 %

**2011 January**

- The different parts of University of Gothenburg, such as Sahlgrenska Academy, were merged into one record.

[1] We do not know exactly when the changes took place.

Other changes might have been made previous years.

## Additional information

Ranking's website:
http://www.webometrics.info/

# EUROPEAN RANKINGS

## CHE (Die Zeit)

*Interest in the ranking*: Considerable[1]

*The Centre for Higher Education Development* (CHE) is a non-profit organisation, which is largely financed by the Bertelsmann Foundation. CHE defines itself as a reform think tank for higher education. They compile several ranking lists, one of which is known as CHE Excellence Ranking. In this ranking, CHE compares the biggest European universities in seven separate areas: biology, chemistry, mathematics, physics, economics, political science and psychology. The main purpose is to help students choosing master's and PhD programmes.

The comparison contains several interesting indicators (see below), and is also interesting in that it does not result in a total, numerical score. The universities are instead awarded stars if they, for a given indicator, are among the best performing institution.

Those universities that earn three stars or more are included in the excellence group for the subject area in question[2]. The universities are never assessed in total, but rather per subject.

CHE has endeavoured to overcome many of the problems that other ranking lists have brought with them and for which they have been criticised. They have managed to achieve this to a respectable degree. The list is quite useful for a student looking for a master's or PhD programme in one of the subjects examined. One should remember, however, that the list does not provide a strict ranking but a rough grading. Several universities can come top in a particular subject.

However, a number of weaknesses remain: the subject areas that are used are still very broad, which means that research environments of world class can be lumped together with environments of mediocre quality; only a few of the subjects have been investigated; only awarding points for EU-funded research projects and educational programmes favours universities that happen to be used to, or have a preference for such projects/programmes; and there is no indicator to measure actual results for master's and PhD programmes.

The first ranking was carried out in 2007 for the subjects mathematics, physics, biology and chemistry. The second round was carried out in 2009 for the subjects political science, psychology and economics. The natural sciences were investigated again in 2010.

[1] The ranking generates a lot of interest in Germany, but hardly any outside the country.
[2] The exact criteria for the excellence group have varied somewhat, so that certain indicators are deemed more important.

## Indicators

1. Number of publications in Web of Science.
2. Field-normalised citations (CROWN), excluding self-citations.
3. Number of (active) academic staff awarded the Nobel Prize, Fields Medal or on the Thomson Reuters list of highly cited researchers. (Only used for the four natural sciences.)
4. Number of Marie Curie projects. (Only used for the four natural sciences.)
5. Number of doctoral and master's students who completed part of their course at another university. (It is not clear exactly how this is calculated.)
6. Number of teachers who taught at another university within the ERASMUS programme.
7. Number of master's programmes that receive Erasmus-Mundus funding from the EU.
8. Number of ERC-funded research projects. (Only used for the four natural sciences.)
9. Book citations. Only as a supplement to the publications indicator. (Only used for the three social sciences.)

Additional indicator information was compiled on top of these nine basic indicators, and information that later proved to maintain a high quality and function across country borders formed the basis of the awarding of additional stars. The following indicators satisfied the requirements for this:

10. Students' judgement
11. Proportion of international members of staff.
12. Percentage of international doctoral and master's students.
13. Gender balance (deviation from a 50/50 distribution)
    a. Among staff.
    b. Among master's students.
    c. Among doctoral students.
14. Number of subject-specific scientific journals available in the library. (Only used for the three social sciences.)
15. Number of memberships in editorial boards of major scientific journals per ten members of the scientific staff.
16. Number of renowned scientific prizes won by staff members. (Political science only.)
17. Number of international conferences held or organised by the department in 5 recent years per ten members of the scientific staff. (Political science only.)
18. Average percentage per year of scientific staff teaching in summer schools. (Political science only.)

## Results for University of Gothenburg

The University of Gothenburg is judged as excellent in political science, psychology and biology. In political science, the Department of Political Science was awarded excellence stars for citations and teaching staff mobility (indicators 2 and 6). No data were submitted for indicators 9-17.

In psychology, the Department of Psychology was awarded excellence stars for publications and citations (indicators 1 and 2). No data were submitted for indicators 9-17.

In biology, the Department of Cell and Molecular Biology was awarded excellence stars for publications, citations, Marie Curie projects and teaching staff mobility (indicators 1, 2, 4 and 6). The department was also awarded four excellence stars under Students' judgements (transparent and fair examinations, good laboratories, good support regarding formal procedures, as well as good study rooms), and excellence stars for the percentage of international master's students, the staff gender balance and the gender balance among master's students (indicators 9, 11, 12a and 12b).

The following other Swedish universities were awarded at least two[1] stars in a subject (number of subjects stated in brackets): Uppsala University (6), Lund University (5), Stockholm University (3), KTH Royal Institute of Technology (3), Karolinska Institute (2), Chalmers (2), Stockholm School of Economics (1), Örebro University(1), Swedish University of Agricultural Sciences (1).

## Additional information

Description of ranking, including results:

Berghoff, S. et al., 2010. *Identifying the Best: the CHE ExcellenceRanking 2010*, Gütersloh, Germany: CHE. [Electronic resource: http://www.che.de/downloads/CHE_AP137_ExcellenceRanking_2010.pdf]

[1] At least three stars in biology, chemistry, mathematics, physics, and at least two stars in economics, political science and psychology.

# European Research Ranking

*Interest in the ranking*: <not measured>

The European Research Ranking is produced by Robert Huber, a researcher at the University of Bremen. The ranking uses data from EU's research database Cordis and can be said to express how much funding the institutions get from the EU.

## Indicators

### Funding & Projects

*Total Project Funding*: The total funding allocated to projects the institution has participated in. Note that this is not the total funding received by the institutions.

*Total Project Funding per Partner*: Total funding allocated to projects the institution has participated in, divided by the number of partners in that project.

*Total Number of Projects*: The total number of projects the institution has participated in.

### Networking

*Networking Rank*: Each institution is considered a node, and co-participation creates links between nodes. That way the CORDIS database describes a network of institutions. An algorithm similar to Google PageRank is used to create a score that describes how popular an institution is – the more cooperation, the higher the score.

*Partner Constancy*: The number of other institutions that an institution has cooperated with more than once, divided by the number of other institutions that institution has cooperated with only once.

*Project Leadership Index*: The number of projects the institution has coordinated divided by the number of projects the institution has participated in without coordinating. The ratio is then multiplied with 2(1-1/N), where N is the total number of projects the institutions has participated in, coordinator or not. This is to balance for institutions with very few projects, where it has coordinated one of them.

### Diversity

*Diversity Index*: Each project is tagged with one or more subjects. Using the Herfindahl index[1], and construing the subjects as markets and institutions as firms, a score is calculated that is high for institutions active in many subjects.

All indicators have the same weight.

[1] http://en.wikipedia.org/wiki/Herfindahl_index

### Results for the University of Gothenburg

Table 15: Results for Swedish universities in the top 100 of the European Research Ranking, 2007-2011.

| Institution | 2007 | 2008 | 2009 | 2010 | 2011 |
|---|---|---|---|---|---|
| Lund university | 8 | 21 | 30 | 25 | 23 |
| Karolinska Institute | 41 | 24 | 22 | 49 | 32 |
| University of Gothenburg | 68 | 85 | 82 | 98 | 43 |
| KTH Royal Institute of Technology | 71 | 27 | 23 | 28 | 54 |
| Uppsala University | 68 | 29 | 71 | 35 | 60 |
| Chalmers | 65 | 54 | 24 | 55 | 86 |
| Stockholm University | 42 | 100+ | 50 | 100+ | 100+ |
| Swedish University of Agricultural Sciences | 88 | 100+ | 100+ | 100+ | 100+ |

As can be seen in the table above, the ranking is very unstable.

When looking more closely at the ranking, it seems that there is some name harmonisation done, but that there still remains a lot of work to be done. "Lunds universitet" and "Lund University" are treated separately, as is "Uppsala universitet" and "Uppsala University".

### Additional information

Ranking web site:
http://www.researchranking.org

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## U-Multirank (Unpublished)

*U-Multirank* is a project paid for by the European commission, with the aim of producing a multidimensional ranking better suited for European universities. A two-year pilot study finished in 2011, and a second pilot is being procured. The first pilot was performed by a consortium called Cherpa Network, which included the bibliometric division at Leiden University, CWTS (see CWTS list), and the German institute, CHE (see CHE list).

The result of the first pilot study (feasibility study) has been published (see *Additional information* below), and it includes an outline of the basic concept behind the project. Two different rankings will be established, one for the entire institution ("focused institutional") and one for smaller divisions (faculties, departments) that match a subject area ("field-based"). It will also be possible to limit the ranking to organisations that are similar to each other, e.g. only fully fledged universities with a focus on education.

The sources of information that will be used include a bibliometric database (Scopus or Web of Science), official national statistics databases, data submitted by the institutions themselves, student surveys and if necessary patent databases. Surveys for academics (equivalent to those used by Times Higher Education and QS) will not be used.

The first version of U-Multirank is to be released in early 2014.

U-Multirank is an interesting project and its aim commendable, but a few things need to be kept in mind:

- U-Multirank does not exist. It is only being planned. The basic difficulties of any international ranking are still there: there is no consensus on what university quality really means, it is difficult to conceive of good indicators for the aspects of quality one would like to measure, data for the indicators you would like to have is not available and difficult to create, and the different national systems for the university sector makes international comparison of some features inherently flawed.
- U-Multirank is an ambitious project, and it participating in it will require a considerable amount of work. Universities outside of Europe will see few incentives to participate, and even within Europe the participation rate is very uncertain.

## Indicators

It has not yet been decided which indicators will be used, but the indicators listed below were used in the first pilot study and considered good/important enough to keep.

**The focused institutional ranking**

*International orientation*

- Educational programmes in foreign language
- Percentage of international academic staff
- International doctorate graduation rate
- International joint research publications
- Percentage of students in international joint degree programmes
- Percentage foreign degree-seeking students
- Percentage students coming in on exchange
- Percentage students sent out on exchange

*Knowledge transfer*

- Incentives for knowledge exchange
- Patents awarded
- Co-patenting
- Start-ups per FTE academic staff
- Technology transfer office staff per FTE academic staff
- Continuous professional development courses offered per FTE academic staff
- Third party funding
- University-industry joint research publications

*Regional engagement*

- Income from regional/local sources
- Regional joint research publications
- Percentage of student internships in local/regional enterprises
- Research contracts with regional business
- Percentage of graduates working in the region

*Research*

- Share of highly cited research publications
- Field-normalized citation rate
- Research publication output
- Interdisciplinary research activities
- Number of art related outputs per FTE academic staff
- Expenditure on research
- Research income from competitive sources
- Share of post-doc positions

*Teaching and learning*

- Expenditure on teaching
- Graduation rate
- Interdisciplinary of programmes
- Relative rate of graduate unemployment
- Time to degree

**The field-based ranking**

*International orientation*

- International doctorate graduation rate
- International academic staff
- Incoming and outgoing students
- Percentage of international students
- International research grants
- Joint international research publications
- International orientation of programmes
- Student satisfaction: Opportunities to study abroad

*Knowledge exchange*

- University-industry joint publications
- Academic staff with work experience outside higher education
- Joint research contracts with private sector

*Regional engagement*

- Degree theses in cooperation with regional enterprises
- Graduates working in the region
- Student internships in local/regional enterprises
- Regional joint research publications

*Research*

- Research publication output
- External research income
- Doctorate productivity

- Highly cited research publications
- Post-doc positions per PhD completed
- Field-normalised citation rate
- Student satisfaction: research orientation of programme

*Teaching and learning*

- Qualification of academic staff
- Percentage of students graduating within norm period
- Inclusion of work experience into the programme
- Student gender balance
- Interdisciplinarity of programmes
- Graduation rate
- Relative rate of graduate unemployment
- Student-staff ratio
- Student satisfaction:
    - Support by teachers
    - Quality of courses
    - Overall judgement of programme
    - Evaluation of teaching
    - Computer facilities
    - Organisation of programme
    - Promotion of employability (inclusion of work experience)
    - Social climate
    - Libraries
    - Laboratories

## Additional information

Ranking's website:
http://www.u-multirank.eu/

Feasibility study (first pilot):
http://ec.europa.eu/education/higher-education/doc/multirank_en.pdf

Critique:
Bolton, G. (2010). *University rankings: Diversity, excellence and the European initiative* (Advice paper No. 3, June 2010). League of European Research Universities.

# SWEDISH RANKINGS

## Ekonomistudenten

*Interest in the ranking (in Sweden)*: Almost none

Ekonomistudenten ("the business student") is a web site/blog about business studies, for business students. It is run by a three business students (one in Gothenburg and two in Copenhagen) and one web programmer based in Gothenburg.

Ekonomistudenten has created a ranking of business programmes (the definition is unclear) in Sweden, where surveys made by the trade union Civilekonomerna in 2010 and 2011 constitutes the main data set. Other data comes from admission statistics from the Swedish Higher Education Authority (Universitetskanslerämbetet), and from a survey of their own to "the largest companies in Sweden" (we do not know which companies or how the survey was made).

### Indicators

**Admission (26 %)**

Average entry test scores (*antagningspoäng på högskoleprovet*) (10.4 %)

Average school grade scores (*betygsintag*) (15.6 %)

**Studying (17 %)**

Share of students who have studied abroad at least one semester (11.9 %)

Share of students who have had at least one internship period as part of the programme (5.1 %)

**After Degree (51 %)**

Share of students with employment within six months after they have left the programme (21.42 %)

Salary three years after graduation (19.38 %)

Number of times the institution is mentioned as the preferred institution by interviewed companies (10.2 %)

**Relevance of Education (6 %)**

Share of students who say the education has been very useful or quite useful to them (6 %)

## Results for the University of Gothenburg

Table 16: The position of Swedish universities at the Ekonomistudenten ranking 2011-2012.

| University | 2011 | 2012 |
|---|---|---|
| Stockholm School of Economics | 1 | 1 |
| Jönköping International Business School | 2 | 2 |
| Lund University | 2 | 2 |
| University of Gothenburg | 2 | 2 |
| Uppsala University | 2 | 2 |
| Stockholm University | 3 | 2 |
| Linköping University | 3 | 3 |
| Halmstad University | 4 | 4 |
| Örebro University | 4 | 4 |
| Umeå University | 4 | 4 |
| Linnæus University | 5 | 4 |
| Södertörn University | 5 | 4 |
| University of Borås | 4 | 5 |
| Kristianstad University | 5 | 5 |
| University West | 6 | 5 |
| University of Gävle | 7 | 5 |
| Mälardalen University | 5 | 6 |
| Mid Sweden University | 6 | 6 |
| Karlstad University | 7 | 6 |
| Gotland University | 6 | 7 |
| Blekinge Institute of Technology | 7 | 7 |
| Dalarna University | 7 | 7 |
| University of Skövde | 7 | 7 |
| Swedish University of Agricultural Sciences | 5 | - |
| Luleå University of Technology | 6 | - |

As can be seen in the table above, the ranking allows many universities to share rank.

## Change History

2012

- All weights were adjusted:
  - Average entry test scores: from 9.6 % to 10.4 %.
  - Average school grade scores: from 14.4 % to 15.6 %.
  - Share of students who have studied abroad at least one semester: from 12 % to 11.9 %.
  - Share of students who have had at least one internship period as part of the programme: from 4 % to 5.1 %.

- Share of students with employment within six months after they have left the programme: from 25 % to 21.42 %.
- Salary three years after degree: from 20 % to 19.38 %.
- Number of times the institution is mentioned as the preferred institution by interviewed companies: from 5 % to 10.2 %.
- Share of students who say the education has been very useful or quite useful to them: from 10 % to 6 %.

### Additional information

Ranking web page:
http://www.ekonomistudenten.se/rankning-2012

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## Fokus

*Interest in the ranking (in Sweden)*: Little

The Swedish weekly magazine Fokus published a ranking of Swedish universities in 2008. It was a somewhat modified version of Urank, but they also added an alternative ranking, called "breddranking", using three other indicators:

- Share of first-generation students (i.e. their parents did not go to university).
- Share of students with a foreign background.
- Share of students following courses with an even gender balance.

These three indicators were later added to Urank.

In 2012 Fokus published a new ranking, produced by two master students at the Stockholm School of Economics. These students made a huge effort at making the indicator weighting good and objective, and made several surveys to students concerning their preferences as regards higher education institutions. They did not spend quite as much time on finding indicators that matched these preferences.

The Fokus 2012 contains a few subject rankings. These are not, as one might expect, some or all indicators applied to those parts of the institutions' activities in the respective subjects, but rather a set of weights for the indicators applied to each institution as a whole. The business ranking is thus the ranking of all institutions as wholes according to the preferences of business students

## Indicators

(UKÄ = Swedish Higher Education Authority, UHR = Universitets- och högskolerådet)

**Premises and practical issues (14 %)**

- *Library*. Number of library staff per student. (Source: UKÄ)
- *Group study rooms*. (Source: a survey to students about what they think of the availability of group study rooms.)
- *Lavish premises*. Share of total expenditure that the institution spends on premises. (Source: UKÄ)
- *Non-academic staff*. Share of staff whom are not teachers or researchers. (Source: UKÄ)
- *Student accommodation*. The availability of student accommodation. (Source: a report made by the Swedish National Union of Students, SFS).

**Students (13 %)**

- *Salary after graduation*. What salary the students have received 6-18 months after graduation. (Source: a survey to graduates made by the Confederation of Swedish Enterprise, Svenskt näringsliv).
- *Employment after graduation*. Share of graduates with employment approximately one year after graduation, according to a study made by the Swedish National Agency for Higher Education (Source: UKÄ).
- *Applicants with high marks/test scores*. On average, the lowest school mark and score from the National University Test (Högskoleprovet) sufficient to enter the university. (Source: UHR)
- *Student efficiency*. Number of graduations at the institution divided by the number of FTE students. (Source: UKÄ)
- *Many applications per seat*. Number of applications divided by number of entrants. (Source: UHR)
- *Student performance*. Number of credits that students received divided by the number of credits the students registered for. (Source: UKÄ)
- *Many students*. The total number of students. (Source: UKÄ)

**Social life (15 %)**

- *Many international students*. Number of incoming exchange students and free movers. (Source: UKÄ)
- *Membership rate for the student union*. Share of the students with a membership in the student union. (Source: The student magazine Studentliv.)

**Teaching (4 %)**

- *Teacher-student ratio*. Number of teachers per FTE student. (Source: UKÄ)
- *Number of hours per week with a teacher*. (Source: A report from the trade union TCO.)

**City (30 %)**

- *Affordable city*. (Source: a report made by the National Pensioner's Organisation, PRO)
- *Share of students among the city population*. (Source: Statistics Sweden, SCB)
- *Leisure activities*. (Source: A ranking of Swedish municipalities by Fokus. They got their data from Statistics Sweden, SCB; from Swedish National Institute of Public Health, Folkhälsoinstitutet; and from Riksidrottsförbundet. )
- *Exchange chances*. Number of outgoing exchange students divided by the total number of students. (Source: UKÄ)

**Academic values (24 %)**

- *Highly educated teachers*. The share of teachers with a PhD. (Source: UKÄ)
- *International cooperation*. Number of international cooperation programmes that the institution participate in with the International Programme Office for Education and Training, IPK. (Source: IPK)
- *Well-paid teachers*. Average pay for teachers. (Source: UKÄ)

## Results for the University of Gothenburg

Table 17: Results from Fokus's university ranking 2012.

| Institution | Rank |
|---|---|
| Stockholm School of Economics | 1 |
| Lund University | 2 |
| Chalmers | 3 |
| Uppsala University | 4 |
| Swedish University of Agricultural Sciences | 5 |
| Umeå University | 6 |
| KTH Royal Institute of Technology | 7 |
| Jönköping University | 8 |
| Karolinska institute | 9 |
| Linköping University | 10 |
| University of Gothenburg | 11 |
| Blekinge Institute of Technology | 12 |
| Luleå University of Technology | 13 |
| University of Borås | 14 |
| Stockholm University | 15 |
| Halmstad University | 16 |
| University of Gävle | 17 |
| Mid Sweden University | 18 |
| Linnaeus University | 19 |
| Malmö University | 20 |
| Karlstad University | 21 |
| Örebro University | 22 |
| Mälardalen University | 23 |
| The Swedish School of Sport and Health Sciences | 24 |
| University of Skövde | 25 |
| Södertörn University | 26 |

**Comment**

The ranking as such is not particularly interesting, since it tries to reduce a large number of quality dimensions to a single one. But the construction of the ranking has some interesting aspects, since it is based on a survey investigating student preferences. First of all it is interesting to note that the category 'teaching' has a very low weight, only 4 %. The category 'academic values' carries more weight, 24 %, but still not very much. Students do not seem to be very interested in those aspects of a university that are traditionally associated with 'university quality'.

There are also a few indicators of interest, such as the one called 'Non-academic staff'. According to this ranking it is a good thing to have a lot of staff that do not teach or do research. This is probably meant to be a sign of good support services for students.

### Additional information

The ranking's web site:
http://www.fokus.se/fokus-rankar/

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## Svenskt näringsliv ("Högskolekvalitet")

*Interest in the ranking (in Sweden)*: Little

*Högskolekvalitet* ("University Quality") is produced by the business federation Confederation of Swedish Enterprise (Svenskt Näringsliv). The list has been updated a number of times, last of which was in 2012. It is a ranking of higher education programmes, not institutions, and it is targeted at people that are about to choose where and what to study. The producers have attempted to include all programmes leading to a degree on basic or advanced level, with some important exceptions:

> *Programmes that have not been included in this survey are for example teacher, physician, nurse, veterinary and police officer. These types of programmes always have mandatory internship to a specified degree, which means that they are not relevant for this survey.*
>
> The web site hogskolekvalitet.se, May 1, 2013. [My translation.]

Svenskt Näringsliv does not give very much information about the data behind the ranking. They have interviewed about 10 000 students that graduated between July 1, 2011 and June 30, 2012. The interviews were performed during the spring of 2012. We do not know how many people they tried to contact, so the response rate is unknown. We do not know how many programmes are included, nor how many students were interviewed per programme.

One good thing about this ranking is that it does not attempt to capture the quality of entire institutions, but ranks individual programmes. One weakness is that it assumes that all students have followed programmes, disregarding the fact that a degree can be achieved in many different ways (several different programmes at the same institution may lead to the same degree, and students can pick-and-mix freestanding courses to make up a degree that other students have reached via a programme).

The Swedish National Agency for Higher Education (Högskoleverket, now Universitetskansletämbetet) has published scathing criticism against Högskolekvalitet; see *Additional information* below.

## Indicators and data sources

The ranking is based a survey to students, information from the national student register Ladok, and official statistics from Statistics Sweden (SCB). The survey was made via telephone to 10 846 students that graduated in the period July 2010 – June 2011. The response rate has not been published. The survey included questions covering the following areas:

- Whether the students had got employment after graduation, and how long it took.
- Whether the students had got a skilled job.
- How satisfied the students were with industry contacts in the programme.
- What the starting salary had been.
- The reasons for choosing higher education (before entering the programme).
- Whether the students would choose the same programme today.

The resulting ranking list can be sorted by five parameters:

1. Probability for getting a job.
2. Probability for getting a job suitable to the level of qualification.
3. Expected salary.
4. Amount of international internships and exchange periods that are part of the programme.
5. How well the higher education institution cooperates with the industry.

## Additional information

Ranking's website:
http://www.hogskolekvalitet.se/

Criticism from the Swedish National Agency for Higher Education:
http://www.hsv.se/omhogskoleverket/pressrum/universitetskanslerntycker/2010/svensktnaringslivgorvilseledandehogskolerankningar.5.1819d9e0127f0fc07128000473.html

# Sydsvenska handelskammaren (†)

The Chamber of Commerce and Industry of Southern Sweden (Sydsvenska industri- och handelskammaren) published a ranking of Swedish universities between 2006 and 2009. Both research and teaching were assessed. The purpose was somewhat unclear, but it can perhaps be concluded from the preface of the report:

*The quality of higher education is vital for the competitiveness of companies. The companies need to be able to recruit qualified and well-educated work force and to be informed about the research done [at the universities].*

Högskoleranking 2009, Chamber of Commerce and Industry of Southern Sweden.

All data, except the number of research publications, were taken from the Swedish National Agency for Higher Education (Högskoleverket, now Universitetskanslersämbetet). The Technical University of Denmark (DTU) using the Web of Science calculated the number of research publications.

## Indicators

The overall score was calculated from eight parameters, which were given the same weight:

*Efficiency of undergraduate training*: Number of undergraduate degrees per number of undergraduate students; the average score for three years.

*Popularity among students*: The development of first-time applications during the last two years.

*Teaching resources:* Number of teachers per FTE student.

*Teacher qualifications*: The share of teachers with a PhD.

*International exchange:* Share of foreign students in exchange programmes.

*Popularity among companies*: The share of external research funding[1].

*Efficiency of doctoral training:* Number of degrees (licentiate and doctoral) per number of active PhD candidates.

*Research productivity*: Number of research publications divided by research income.

[1] The name of this parameter was misleading, since private companies provide only a minuscule share of the external funding. Almost everything comes from research councils, foundations, and similar.

For each parameter an average was calculated and given the score 100, and all values were expressed proportionately to this (with a maximum of 300).

## Results for the University of Gothenburg

The results for 2007-2009 are shown in the table below.

Table 18: Results of the university ranking from the Chamber of Commerce and Industry of Southern Sweden, 2007-2009.

| Institution | 2007 | 2008 | 2009 |
|---|---|---|---|
| Karolinska institute | 1 | 1 | 1 |
| Stockholm School of Economics | 3 | 3 | 2 |
| Swedish University of Agricultural Sciences | 2 | 2 | 3 |
| Chalmers | 5 | 5 | 4 |
| KTH Royal Institute of Technology | 4 | 4 | 5 |
| Uppsala University | 6 | 7 | 6 |
| Lund University | 7 | 6 | 7 |
| Linköping University | 8 | 8 | 8 |
| Umeå University | 12 | 13 | 9 |
| Jönköping University | 10 | 11 | 10 |
| University of Gothenburg | 9 | 14 | 11 |
| Luleå University of Technology | 13 | 10 | 12 |
| Stockholm University | 15 | 15 | 13 |
| Växjö University | 18 | 12 | 14 |
| Blekinge Institute of Technology | 27 | 19 | 15 |
| Mälardalen University | 21 | 23 | 16 |
| Halmstad University | 17 | 18 | 17 |
| Kalmar University | 20 | 22 | 18 |
| Dalarna University | 19 | 16 | 19 |
| Mid Sweden University | 26 | 27 | 20 |
| University of Skövde | 14 | 9 | 21 |
| Södertörn University | 22 | 20 | 22 |
| University West | 28 | 26 | 23 |
| Kristianstad University | 16 | 25 | 24 |
| Malmö University | 23 | 21 | 25 |
| Karlstad University | 24 | 17 | 26 |
| Örebro University | 25 | 28 | 27 |
| University of Borås | 11 | 24 | 28 |
| University of Gävle | 29 | 29 | 29 |
| Gotland University | 30 | 30 | 30 |

### Additional information

The ranking report:
http://www.handelskammaren.com/press/arkiv/rapporter/archive/2009/select_category/13/

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# Universitetsranking – ekonomprogram

*Interest in the ranking (in Sweden)*: <not measured>

Two master students at Stockholm School of Economics made a ranking of Swedish bachelor business programmes in 2011. The data source was a survey sent to 2544 students at 24 business programmes (most of the students at their third and last year), and 1312 of these responded. The selection and weighting of the indicators was made through interviews and two smaller surveys.

The ranking has two main strengths: it is limited to three-year business programmes in Sweden, and it is limited to student experience. The first limitation removes many of the difficulties connected to the comparability of ranked units, and the second limitation removes many of the problems connected to the meaning of "university quality".

A third strength is that the producers have made the input data available, and they have been very transparent about their method.

### Indicators

- Number of teacher-led hours (6.63 %)
- Size of classes (6.57 %)
- Mandatory parts of the programme where the students were in touch with external partners (7.65 %)
- Teacher availability (7.71 %)
- Possibilities to visit an attractive university as an exchange student (6.48 %)
- Possibilities to meet recruiters/companies outside curriculum (6.97 %)
- Availability of group study rooms and study places (9.33 %)
- Average salary (7.73 %)
- Share of students that are employed six months after graduation (9.45 %).
- Average school grade scores (6.47 %)
- Overall impression of the teaching quality of the programme (6.25 %)
- Overall impression of the chances of getting an interesting job after graduation (6.25 %)
- Share of students being satisfied with their programme, overall. (6.25 %)
- Share of students that would choose the same programme today. (6.25 %)

## Results for the University of Gothenburg

Table 19: Results of Universitetsranking.

| Segment | Institution | Score |
|---|---|---|
| 75.00+ | Stockholm School of Economics | 82.01 |
| 75.00-72.01 | University of Gothenburg | 74.47 |
| | Kristianstad University | 73.31 |
| 72.00-69.01 | Jönköping University | 70.95 |
| | Umeå University | 70.66 |
| | Gotland University | 69.16 |
| 69.00-66.01 | Linnaeus University | 67.91 |
| | Lund University | 67.39 |
| | University of Borås | 67.28 |
| | Linköping University | 67.24 |
| | Halmstad University | 67.05 |
| 66.00-63.01 | Mälardalen University | 65.98 |
| | Örebro University | 64.89 |
| | Luleå University of Technology | 64.73 |
| | Uppsala University | 64.51 |
| | Södertörn University | 64.37 |
| | University West | 64.16 |
| | University of Gävle | 63.83 |
| | Karlstad University | 63.28 |
| 63.00-60.01 | Stockholm University | 62.35 |
| | University of Skövde | 61.86 |
| | Dalarna University | 61.54 |
| | Mid Sweden University | 60.33 |
| 60.00- | Blekinge Institute of Technology | 57.65 |

The segments are there to point out that the precise score is perhaps not so important.

## Additional information

Ranking web page:
http://universitetsranking.blogg.se/

# Urank

*Interest in the ranking (in Sweden)*: Little

The "independent association" Urank produces a ranking of Swedish universities and colleges since 2007, somewhat irregularly but approximately once every year. (no ranking was produced in 2009).[1] The institutions are primarily assessed as institutions for higher education than for research.

Apart from the overall ranking, Urank produces four broad area rankings (technology, science, humanities/social sciences, and medical/nursing), and three specialised subject rankings (business and economy programmes, social worker programmes and psychologist programmes). The indicators used for these rankings are said to the be same as for the total ranking, but that seems highly unlikely, since there is no available data for several of the indicators on that detailed level, and sometimes they simply do not make sense. For example, the indicator category 'research and third cycle teaching' cannot be applied to an undergraduate programme.

Up until 2011 the ranking was published in the Urank web site, but in March 2012 the results was published in the Swedish newspaper Dagens Nyheter. At the same time the web site had a complete overhaul, and very much information disappeared. In 2011 all input values for Urank were published, which made it possible to use that information as some sort of benchmark. However, in 2012 no such details were published, and not even the method was properly explained. The same thing happened in 2013.

All data for the ranking is fetched from the Swedish Higher Education Authority (UKÄ) and from Statistics Sweden (SCB).

## Indicators

*Students (20 %)*

- Number of eligible first choice applications (behöriga förstagångssökande) per accepted student (30 %)
- Share of applicants(?) with a National University Test score (högskoleprovspoäng) above 1.0 (10 %)
- Share of entrants moving in from another region (län) (10%)
- Average secondary school mark (gymnasiebetyg) for entrants aged 25 or less (10%)
- Share of students that are still registered on their third semester (20%)

[1] The naming of Urank publications is somewhat confusing. "Urank 2007" and "Urank 2008" were published in 2007 and 2008 respectively, but used data from the preceding year, i.e. 2006 and 2007 respectively. "Urank 2009" and "Urank 2010" were published in 2010 and 2011 respectively and used data from the years that the titles indicate, i.e. 2009 and 2010 respectively.

- Share of students that have graduated, or have collected 180 credits, within 6 years (20%)

*Teachers (20%)*

- Share of teachers with a PhD (40%)
- Share of teachers that are professors (40%)
- Share of the teachers with PhD who got their PhD from another institution (20 %)

*First and second cycle teaching (20%)*

- Teachers per student. The number of teachers (FTE) is reduced in proportion to the institution's income dedicated for research and third-cycle teaching. (20 %[1])
- Number of passed credits per registered credits (HPR per HST). This is calculated per broad subject area. (20%)
- Mobility. Share of the first-time graduates that started their first tertiary education at this institution. (20%)
- Employability. The share of graduates that gain an employment, according to the surveys made by the Swedish National Agency for Higher Education (HSV). In 2011 this was calculated per broad subject area; we do not know about 2012. (20%)
- Share of students (FTE) in second cycle (advanced level). (20 %)

*Research and third cycle teaching (20 %)*

- Share of research income among the institution's total income (20 %)
- Share of research income gained in competition[2] (20 %)
- Share of (first and second cycle) graduates that continue to third cycle (20 %)
- Number of PhD degrees per professor (20 %)
- Recruitment of PhD candidates from other institutions (20 %)

*Internationalisation (10 %)*

- Share of graduates that have spent at least one semester abroad (20 %)
- Share of outgoing exchange students among first-time graduates (20 %[3])
- Share of incoming exchange students among all students (20 %)
- Share of international students in third cycle (20 %)

[1] The web site states that the weight is 30 %, but that seems to be a typo.
[2] Only funding from the Swedish Research Council (VR), the Swedish Council for Working Life and Social Research (FAS), and the Swedish Research Council Formas.
[3] The web site states that the weight is 10 %, but that seems to be a typo.

- Share of teachers born abroad (but not by two Swedish parents) (20 %)

*Social indicators (10 %)*

- Share of first generation students (of all entrants) (40 %)
- Comparison score for students with a foreign background[1] (30 %).
- Share of students taking courses with even gender balance (30 %)

All indicators are z-normalised.

The broad subject areas that are used in some indicators are medicine, science, technology, humanities and social sciences.[2]

## Results for the University of Gothenburg

Table 20: Urank results, 2007-2013.

| Institution | 2007 | 2008 | 2010 | 2011 | 2012 | 2013 | |
|---|---|---|---|---|---|---|---|
| | Rank | Rank | Rank | Rank | Rank | Score | Rank |
| Karolinska institute | 2 | 2 | 1 | 2 | 1 | 1,2 | 1 |
| Stockholm School of Economics | 1 | 1 | 2 | 1 | 2 | 1,1 | 2 |
| Swedish University of Agricultural Sciences | 3 | 3 | 3 | 3 | 3 | 0,7 | 3 |
| KTH Royal Institute of Technology | 9 | 9 | 9 | 4 | 4 | 0,6 | 4 |
| Uppsala University | 5 | 6 | 4 | 5 | 6 | 0,5 | 5 |
| Chalmers | 6 | 5 | 6 | 6 | 5 | 0,5 | 6 |
| Lund University | 4 | 4 | 5 | 7 | 7 | 0,5 | 7 |
| Linköping University | 7 | 7 | 7 | 10 | 9 | 0,4 | 8 |
| University of Gothenburg | 8 | 8 | 7 | 8 | 8 | 0,3 | 9 |
| Stockholm University | 10 | 11 | 10 | 9 | 10 | 0,2 | 10 |
| Umeå University | 12 | 10 | 11 | 11 | 11 | 0,1 | 11 |
| Örebro University | 14 | 13 | 15 | 12 | 12 | 0,1 | 12 |
| Jönköping University | 19 | 20 | 21 | 15 | 15 | 0 | 13 |
| Luleå University of Technology | 13 | 12 | 12 | 14 | 13 | -0,1 | 14 |

[1] This is a score comparing the share of students with a foreign background to the corresponding share in the institution's average uptake area. 'Foreign background' is defined as being born abroad or having both parents born abroad.
[2] First the z-score is calculated per subject area, and then a weighted average is calculated from these numbers based on the institution's size within each subject area.
Example for mobility: Smalltown University has 10 % of their students in technology, 25 % in the humanities and 65 % in Science. The mobility for students in technology is 0.8; in the humanities 0.6 and in science 0.7. 0.8 is a little bit less than the national average for technology, or more precisely 0.2 standard deviations less, yielding a score for Smalltown University of -0.2 as regards mobility in technology. In the corresponding way the mobility in humanities is recalculated to 0.4 and in science to -0.3. These mobility values is combined to form a weighted average according to the sizes of these subject areas at Smalltown University: -0.2 x 0.1 + 0.4 x 0.25 – 0.3 x 0.65 = -0.115.

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Södertörns University | 11 | 14 | 14 | 13 | 14 | -0,1 | 15 |
| Malmö University | 18 | 16 | 18 | 17 | 16 | -0,2 | 16 |
| Karlstad University | 17 | 18 | 19 | 23 | 22 | -0,3 | 17 |
| Linnaeus University | | | | | 18 | -0,3 | 18 |
| Växjö University | 16 | 15 | 17 | 16 | - | - | - |
| Kalmar University | 27 | 28 | 25 | 18 | - | - | - |
| Mälardalen University | 22 | 22 | 20 | 21 | 19 | -0,3 | 19 |
| Blekinge Institute of Technology | 25 | 27 | 27 | 19 | 21 | -0,3 | 20 |
| University of Borås | 15 | 17 | 13 | 19 | 17 | -0,4 | 21 |
| Halmstad University | 21 | 23 | 26 | 22 | 20 | -0,4 | 22 |
| Mid Sweden University | 26 | 19 | 16 | 26 | 25 | -0,4 | 23 |
| University of Gävle | 28 | 26 | 28 | 25 | 26 | -0,4 | 24 |
| Dalarna University | 24 | 24 | 24 | 27 | 24 | -0,5 | 25 |
| University West | 23 | 29 | 23 | 29 | 28 | -0,5 | 26 |
| University of Skövde | 29 | 25 | 29 | 24 | 23 | -0,5 | 27 |
| Kristianstad University | 20 | 21 | 22 | 28 | 27 | -0,6 | 28 |
| University of Gotland | 30 | 30 | 30 | 30 | 29 | -0,8 | 29 |

The results are fairly stable.

## Change History

**2013 ("Urank 2013")**

- The indicator 'Share of the teachers with PhD who got their PhD from another institution' was added.
- The indicator "Share of outgoing exchange students among all exchange students was removed

**2012 ("Urank 2011")**

- The indicator 'number of teachers per students' had the adjustment for share of research funding added to the calculation. In 2011 this indicator was adjusted per subject; it is unclear whether this was done in 2012.

**2011 ("Rank 2010")**

Three indicators were removed:

- The library's acquisition budget divided by the number of students (5.6 %)
- Research block grants per teacher with a PhD (4 %)

Several indicators were added:

- Average secondary school mark (medelbetyg i gymnasieskolan) for entrants aged 25 or less

- Share of students in second cycle
- Recruitment of PhD candidates from other institutions
- Share of first generation students (of entrants)
- Comparison score for students with a foreign background
- Share of students taking courses with even gender balance
- Share of graduates that have spent at least one semester abroad
- Share of outgoing exchange students among first-time graduates
- Share of outgoing exchange students among all exchange students
- Share of incoming exchange students among all students
- Share of international students in third cycle
- Share of teachers born abroad (but not by two Swedish parents)

The new indicators got some of their weights from the indicators that were removed and some from the other indicators, proportionately.

The indicator concerning National University Test score had its threshold value changed from 1.1 to 1.0.

**2010 ("Urank 2009")**

These indicators were removed:

- Student ranking according to the student survey Studentspegeln (5 %)
- Student satisfaction according to the student survey Studentspegeln (5 %)

**2008**

These indicators were removed:

- The library's income as share of the institution's total turnover (5 %)
- All periodicals of the library divided by the number of students (5 %)

These indicators were added:

- The share of National University Test scores above 1.1 (2 %).
- The library's income from the institution as a share of the institution's total turnover (5 %).
- Acquisitions (printed and electronic resources) of the library divided by the number of students (5 %).

## Additional information

Ranking web page:
http://urank.se/ranking.html

Detailed analysis for University of Gothenburg:

Analysis & Evaluation (2013). Urank 2013. En analys av universitets- och högskolerankingen Urank.

# OTHER RANKINGS OF INTEREST

## Best Colleges, The

At the web site thebestcolleges.org you find many different rankings of US American college programmes. These include Most Beautiful Campuses, Most Affordable programme, and Best Partying College. They specialise in rankings of online programmes.

There is no information on the web site of what kind of organisation it is that produces these rankings.

Web site: http://www.thebestcolleges.org/

## Complete University Guide, The

A company called Mayfield University Consultants have produced a ranking of British universities since 2007 (when it was called Good University Guide), aimed at people who want to start studying at a British university. It has been published by Daily Telegraph, The Independent, or Daily Mail. The ranking focuses on teaching, but includes one indicator related to research (results from the British Research Assessment exercise).

Web site: http://www.thecompleteuniversityguide.co.uk/

## FindTheBest

FindTheBest is a web site for price comparison, similar to the Swedish prisjakt.nu or pricerunner.se. US American colleges and universities are ranked by combining their score from U.S. News & World Report, Forbes Magazine, and ARWU (the Shanghai ranking).

Web site: http://colleges.findthebest.com/

## Forbes Magazine – CCAP

The Centre for College Affordability and Productivity, CCAP, was founded in 2006 with the mission of 'researching the rising costs and stagnant efficiency in higher education'. They produce several rankings of US American colleges, and these are published by Forbes Magazine.

The rankings include *America's 100 Best College Buys*, where the quality score of each college is divided by the average fee for tuition etc.

Web site: http://centerforcollegeaffordability.org/rankings/2011-rankings

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## Guardian, The

The British newspaper The Guardian produces a University Guide aimed at people who want to start studying at a British university. This guide includes a league table, trying to capture "teaching excellence". The ranking uses publicly available data and is only based on indicators related to teaching, not research.

Web site: http://www.guardian.co.uk/education/universityguide

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## iF ranking (design awards)

iF International Forum Design GmbH is a German organisation for design, of some sort. They run three design competitions, one of which is directed towards university students, *iF design concept award for students*. iF use the statistics of their competition results to build rankings, and the student competition is used to produce a ranking of universities (the student's host universities).

Web site: http://www.ifdesign.de/ranking_tabellen_e

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## ISC University Ranking of the Islamic Countries

The Islamic World Science Citation Center, ISC, seems to be a government owned institute in Iran. It aims to produce a ranking of universities in Islamic Countries, but judging from the web site only a ranking of Iranian universities and research centres have been produced so far.

Web site: http://ur.isc.gov.ir/Default.aspx?Lan=en

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## MacLeans

The Canadian newspaper MacLeans has produced a ranking of Canadian universities since 1991. It has a rather general aim of rating university quality. Users are given the opportunity to assign their own weights to the indicators, though.

This ranking constituted an important influence on the Swedish Urank.

Web site: http://oncampus.macleans.ca/education/rankings/

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## MUP Top American Research Universities

The Centre for Measuring University Performance, MUP, is a 'research enterprise' derived from efforts to measure the performance of the University of Florida. They do not produce a strict ranking, but identify the best research universities in groups of 25. Funding available for research weighs heavily.

The ranking is very transparent, as MUP only uses publically available data, and provides all input data in a single Excel file.

Web site: http://mup.asu.edu/

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## Princeton Review, The

The Princeton Review is a company that annually publishes the book The Best 376 Colleges. They select these (US American) colleges rather subjectively. For these selected colleges, a whole lot of rankings (62!) are produced. All the rankings are based on a student survey made by The Princeton Review.

The rankings include Best College Library, Schools Run Like Butter, Class Discussions Encouraged, Most Religious Students, LGBT-Friendly, Party Schools, and Most Politically Active. Few of the rankings demonstrate more traditional aspects of academic quality.

Web site: http://www.princetonreview.com/college-rankings.aspx

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## Sunday Times, The

The British newspaper The Sunday Times produces a University Guide aimed at people who want to start studying at a British university. This guide includes a league table, which uses publicly available data and is focused on indicators related to teaching.

To access the ranking one has to subscribe to The Sunday Times.

## Times, The

The British newspaper The Times produces a University Guide aimed at people who want to start studying at a British university. This guide includes a league table, which uses publicly available data and is focused on indicators related to teaching.

To access the ranking one has to subscribe to The Times.

## Universities Europe (tuition fees)

On the web site universitieseurope.net one can search for universities by subject, location or tuition fee range. The universities are sorted after their position on the QS ranking, but tuition fees are given.

The web site is run by the company *Venture an Idea* in Dublin.

Web site: http://www.universitieseurope.net

## U.S. News & World Report

U.S. News & World Report is a US American, electronic, weekly news magazine. They produce the most influential rankings of colleges in the USA, and also a number of other rankings (graduate schools, high schools, and on-line education), and they also publish the international university ranking produced by QS (see above).

USN&WR produces a number of college rankings, including National University Ranking, Liberal Arts College Ranking, Regional Colleges, Best Value Schools, Most International Students, and Top Public Schools. They also make a ranking that is similar to the Paris MinesTech – *Where the Fortune 500 CEOs Went to School*.[1]

In 2011 the National Association for College Admissions Counselling (NACAC) presented a report examining the USN&WR rankings. The study had been performed over two years and was largely based on a survey of NACAC members. Officials from USN&WR worked closely with the committee throughout the process. The report criticised the ranking, particularly the use of test scores and reputation survey. USN&WR decided not to make any significant changes to their rankings.[2]

[1] http://www.usnews.com/education/best-graduate-schools/top-business-schools/articles/2012/05/14/where-the-fortune-500-ceos-went-to-school
[2] http://www.insidehighered.com/news/2011/09/26/us-news-rankings-will-not-adopt-nacac-recommendations

## Indicators

Their national ranking of universities is based on the following indicators

- *Undergraduate academic reputation*. This is based on a survey sent to presidents, provosts, deans of admissions, and counsellors at public high schools. (22.5 %)
- *Retention* (20 %)
    - Six-year graduation rate. The ratio of students that have graduated six years after admission. (80 % of Retention)
    - Freshman retention rate. The ratio of entrants that return for a second year. (20 % of Retention)
- *Faculty resources* (20 %).
    - Class size 1. Share of classes with fewer than 20 students. (30 %)
    - Class size 2. Share of classes with more than 50 students. (10 %)
    - Faculty salary. Average faculty pay, taken from the consulting firm Runzheimer International. (35 %)
    - The share of professors with the highest degree in their field. (15 %)
    - Student-faculty ratio. (5 %)
    - Share of faculty that are full-time. (5 %)
- *Student selectivity* (15 %)
    - Test scores from all enrolees from two admission tests (SAT and ACT). (50 %)
    - The share of enrolled freshmen that graduated in the top 10 % of their high school classes. (40 %)
    - The acceptance rate. The ratio of students admitted to all applicants. (10 %)
- *Financial resources*. Average spending per student on instruction, research, student services, and related educational expenditures. (10 %)
- *Graduation rate performance*. The rankers use some formula to predict the six-year graduation rate for the last six-year period (probably using historical data), and if the actual graduation rate is higher than that, the score goes up. This is a way to measure if the graduation rate has *improved*. (7.5 %)
- *Alumni giving rate*. The average percentage of living alumni which bachelor's degree who gave money to their school during the last two academic years. (5 %)

# NON-ACADEMIC RANKINGS

## Best Student Cities (QS)

QS have made a ranking of which city is best to live in as a student. They included all cities with a population of at least 250 000 and home to at least two universities on the standard QS university ranking.

Web site: http://www.topuniversities.com/student-life/best-student-cities/2012/

## CIMHEMIG - UK University Twitter Influence Ranking

The Chartered Institute of Marketing (CIM) is a British organisation 'for professional marketers'. They support a number of market interest groups, MIGs, one of which is named Higher Education MIG. CIMHEMIG produces a ranking of British universities according to Twitter influence, using a number of Twitter statistics.

Ranking: http://www.cimhemig.co.uk/blog/?p=86

Comparison of universities between UK and US: http://www.sociagility.com/universities

## GreenMetric

*GreenMetric World University Ranking* is produced by Universitas Indonesia. The ranking aims to raise interest in and awareness of important global environmental issues such as climate change, energy and water supply, waste recycling and green transportation.

The University of Gothenburg submitted data to the GreenMetric list for the 2010 ranking, but because of the low level of transparency and the peculiarities of the indicators data was not submitted for the 2011 or 2012 rankings.

### Indicators

The ranking is entirely based on data from the universities themselves, which participate on a voluntary basis. All data is collected from the participating universities using a web form. It is not clear how the answers are converted to numbers.

- Setting and Infrastructure: 24%
    - Open space area / total area (3 %)

    - Open space area / total people (3 %)
    - Total electricity use / total people (3 %)
    - Total car entering campus daily / total people (2 %)
    - Total bicycles found on campus daily / total people (2 %)
    - Number of courses related to environment and sustainability / Total number of courses (3 %)
    - Research funds related to environmental and sustainability research / Total research fund (2 %)
    - Percentage of university budget for sustainability effort (1 %)
    - Scholarly publications related to environment and sustainability (1 %)
    - Scholarly events related to environment and sustainability (2 %)
    - Student organizations related to environment and sustainability (1 %)
    - Existence of a university-run sustainability web site (3 %)
- Energy and Climate Change: 28%
    - Energy efficient appliances usage (3 %)
    - Renewable energy usage policy (3 %)
    - Energy conservation programme (3 %)
    - Green building element (3 %)
    - Climate change adaptation and mitigation programme (3 %)
    - Greenhouse gas emission reductions policy (3 %)
    - Percentage of area on campus covered in vegetation in the form of forest (2 %)
    - Percentage of area on campus covered in planted vegetation (2 %)
    - Policy to reduce the use of paper and plastic on campus (3 %)
    - Policy for a smoke-free and drug-free campus environment (3 %)
- Waste: 15%
    - Recycling programme for university waste (3 %)
    - Toxic waste recycling (3 %)
    - Organic waste treatment (3 %)
    - Inorganic waste treatment (3 %)
    - Sewerage disposal (3 %)
- Water: 15%
    - Water conservation programme (5 %)
    - Retention: non-retentive surfaces on campus as percentage of total area (5 %)
    - Piped water (5 %)
- Transportation: 18%
    - Transportation policy designed to limit the number of motor vehicles used on campus (5 %)
    - Transportation policy designed to limit or decrease the parking area on campus (3 %)
    - Campus buses (5 %)
    - Bicycle and pedestrian on campus (5 %)

### Comment

From a Swedish perspective, many of the indicators are not very valid, and some of them are quite difficult to understand. For example, the indicator "piped water" seems to be constructed so that using piped water is better than other water – why is that? A water conservation programme may be a good thing to have, but mostly to save energy, which is better measured in other indicators. Many indicators assume a campus clearly separate from the surrounding area, something that does not make much sense for many Swedish universities, including the University of Gothenburg. Few people would argue against the good in trying to reduce the use of tobacco and drugs, but it is hard to see how that is part of the sustainability effort.

### Results for the University of Gothenburg

Table 21: Swedish universities on the Green Metric ranking.

| Institution | 2010 | 2011 | 2012 |
|---|---|---|---|
| Linköping University | | 5 | 12 |
| Blekinge Institute of Technology | | 110 | 129 |
| Stockholm University | | 129 | 158 |
| Mälardalen University | 50 | 121 | 167 |
| University of Gothenburg | 41 | 95 | 200 |

### Additional information

Ranking's website:
http://greenmetric.ui.ac.id

## University Usability

An English language blog is ranking Swedish universities according to their presence on Facebook. Several versions are made, based on the number of Facebook pages, the number of comments, or the number of friends.

The blog: http://universityusability.wordpress.com

## Webometrics Publication Repositories

The Cybermetrics Lab of the Spanish research institute CSIC produces not only the standard Webometrics ranking, but also a ranking of web repositories, that is open access databases of scholarly papers. The indicators used seem to be the same as for the standard ranking. They only include repositories with their own domain name, such as repository.gu.se.

Ranking: http://repositories.webometrics.info/toprep.asp

## 4ICU Web Popularity Ranking

4 International Colleges and Universities (4ICU) is primarily a portal aimed at students who are looking for a university. The ranking measures popularity on the university's websites using an algorithm that they have developed themselves, which is based on Google Page Rank, Yahoo Inbound Links and Alexa Traffic Rank. 4ICU states that it is not an academic ranking.

Ranking: http://www.4icu.org/

# MORE: COLLECTIONS OF RANKINGS

There are several web pages that list university rankings:

- ARWU - http://www.arwu.org/resources.jsp
- IHEP - http://www.ihep.org/Research/rankingsystemsclearinghouse.cfm
- University of Illinois - http://www.library.illinois.edu/edx/rankings

# ASSESSMENT OF INTEREST

## Introduction

One important reason why universities care about ranking lists is that people are interested in them: prospective students and employers are influenced by the lists (Adams & Baker 2010; Högskoleverket 2008). So trying to compare the level of interest in each ranking list can be a useful exercise, although it is not easy to measure this in a reliable way.

## Google Insights for Search

One way of assessing interest in any concept is the website *Google Insights for Search*. This tool shows how often words are used as search terms in Google search. It does not show statistics on web pages or hits, only which words people search for.

Comparing the search strings for the various ranking lists with each other can give us an idea of the level of public interest in the lists. The figure below shows hom many times the phrases "times unversity ranking", "shanghai ranking" and "leiden ranking" have been used in google searches during the period Jan 2007 – Nov 2010.

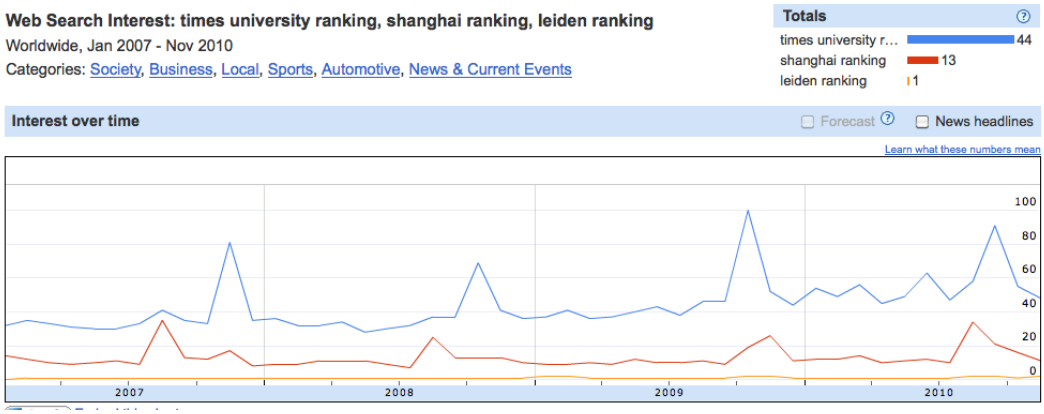


Figure 1: Screenshot from Google Insights for Search.

There are two problems with this method. The first is that the results displayed in Google Insights for Search are not absolute, but instead only show the size relationship between the strings entered. Since the most well-known rankings are much more popular than the least known ones, the result for the latter is 0 as soon as they are compared with the most well-known lists.

The second problem is that you can search for a particular ranking list in several different ways, which is why it is not obvious which search strings should be compared with each other in Google Insights for Search. For example, the Leiden ranking can be captured

with 'leiden ranking', 'leiden university ranking' or maybe 'cwts university ranking'. For some lists, a short search string works well, while other rankings need a longer string. For example, 'leiden ranking' produces hits almost exclusively for CWTS university ranking, while 'taiwan ranking' brings up hits that include various different ranking lists containing the word 'Taiwan'. This is quite a serious methodological dilemma. We have chosen to use search strings that are as simple as possible, for which the first ten Google hits refer to the ranking in question. For the Leiden ranking, the short and simple string 'leiden ranking' works, but for the THE list a slightly longer string is needed, 'times university ranking'. For the HEEACT list, we need to use the fairly specialised string 'heeact ranking', and we assume that many of those interested are not aware that the organisation that produces the ranking is called HEEACT, which is why the statistics for the search presumably underestimate the level of interest in the Taiwan list.

## Presstext and Mediearkivet

One alternative to Google Insights for Search is the databases Presstext and Mediearkivet. Presstext contains newspaper text from a large number of Swedish daily newspapers, including Göteborgs-Posten, Dagens Nyheter, Svenska Dagbladet, Aftonbladet, Sydsvenskan, Expressen, GT, and Kvällsposten. Mediearkivet contains newspaper texts from a large number of Swedish daily newspapers (with a considerable overlap with Presstext), but also several specialist publications.

Unlike Google Insights for Search, a search for a particular ranking list in Presstext does not produce an answer to the number of times different people have tried to find texts about that particular ranking, but instead the number of times the list in question has been written about. A selection of comparative words is shown in the table below (all searches relate to the period 1 January 2007 - 1 September 2010).

| Search | Hits in Presstext | Hits in Mediearkivet |
|---|---|---|
| fredrik reinfeldt[1] | 14,255 | 45,263 |
| göteborgs universitet (University of Gothenburg) | 4,651 | 14,129 |
| lantbruksmässa (agricultural fair) | 41 | 148 |

## Interest in Rankings

Since there are significant methodological deficiencies in the method described here, we have chosen a simple classification of the ranking lists. The lists have been divided into four categories: *considerable interest, moderate interest, little interest* and *almost no interest*. The

[1] The name of the Swedish Prime Minister.

category 'considerable interest' includes THE, Financial Times, Shanghai Jiao Tong, Die Zeit and QS, with the THE list (which generates the most interest of all) having just over four times as many searches as the Die Zeit list (which generates the least amount of interest among the lists in the group).

Several of the lists are also mentioned in Presstext and Mediearkivet. Between July 2011 and July 2012 THE was mentioned about 60 times in Mediearkivet and about 20 times in Presstext; QS and Shanghai Jiao Tong were mentioned 5-15 times each. Financial Times, Business Week and Webometrics gets a handful of mentions in Presstext, but none at all in Mediearkivet. None of the other international rankings are mentioned.

The category 'moderate interest' includes Webometrics, Business Week and CWTS, with the Webometrics list (which generates the most interest among the lists in the group) having just over two times as many searches as the CWTS list (which generates the least amount of interest among the lists in the group). Newsweek and Webometrics are mentioned a few times in Presstext and Mediearkivet.

The category 'little interest' includes only Scimago. It has so much fewer searches than CWTS that it cannot be compared, but at the same time there are enough searches for this list to generate statistics in Google Insights for Search. Scimago is not mentioned in Presstext or Mediearkivet.

Finally, the category 'almost no interest' includes five ranking lists, Mines ParisTech, HEEACT, EduRoute, University of Texas at Dallas and URAP. Searches for these rankings are not common enough to be able to analyse them using Google Insights for Search, and the lists are mentioned neither in Presstext nor Mediearkivet.

For Microsoft Academic Search and European Research Ranking we could not find any reasonable search phrases that lead to the ranking lists. The interest for these lists cannot be classified using this method.

Table 4: How much interest is generated by international ranking lists? Results from Google Insights for Search, the period July 2011 – July 2012.

| **Ranking** | **Interest** |
|---|---|
| Financial Times | Considerable |
| Shanghai Jiao Tong | Considerable |
| QS | Considerable |
| Times Higher Education | Considerable |
| Zeit | Considerable |
| Business Week | Moderate |
| CHE | Moderate |
| CWTS | Moderate |
| Webometrics | Moderate |
| Scimago | Little |
| EduRoute | Almost none |
| HEEACT | Almost none |

| | |
|---|---|
| Mines ParisTech | Almost none |
| University of Texas at Dallas | Almost none |
| Urap | Almost none |
| European Research Ranking | <not measured> |
| Microsoft Academic Search | <not measured> |

The Swedish ranking lists do not generate enough attention to be analysed with Google Insights for Search, but Presstext and Mediearkivet do contain references to some Swedish lists. Urank was mentioned in Mediearkivet 45 times last year (July 2011-July 2012), and 10 times in Presstext. Högskolekvalitet was mentioned about 30 times in Mediearkivet and 8 times in Presstext. The Fokus ranking was mentioned approximately 30 times in Mediearkivet and 7 times in Presstext. Ekonomistudenten was mentioned once in Mediearkivet and 0 times in Presstext.

Table 22: How much interest is generated by Swedish ranking lists? Results from Presstext and Mediearkivet, July 2011 - July 2012.

| **Ranking** | **Interest** |
|---|---|
| Urank | Little |
| Fokus | Little |
| Högskolekvalitet | Little |
| Ekonomistudenten | Almost none |
| Universitetsranking – ekonomprogram | <not measured> |

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# APPENDIX 1: BIBLIOMETRIC GLOSSARY

**Citations**

When a publication refers to another published work, this is called a *citation*. In addition to bibliographic information about scientific articles, the Scopus and Web of Science databases also contain the articles' reference lists, which enable us to count the number of citations a given article has had from other articles in the database.

Interest in citations is derived from the assumption that citations reflect impact, and impact reflects quality. A good article is more likely to have an impact in the research world and thus more likely to be referred to in other articles. The assumption is that there is a statistical correlation between the number of citations and the article's scientific quality.

**Fractionalised counting**

A research article often has more than one author, and the authors often come from more than one institution. So when attempting to come up with a total number of articles from a particular institution we are faced with the issue of how to handle co-authored articles – should all the institutions represented be assigned one article each, or should they share the article? If we opt for the first option and assign one article to each institution it is called *whole counts*, and if the institutions split the article it is called *fractionalised counting*. With whole counts, the total of all institutions' articles becomes greater than the number of articles in the database.

The above approach to institutions can be applied correspondingly to entire countries or individual authors.

**Field normalisation, field-normalised citation score**

Traditions regarding how to refer to other articles and the number of references a researcher can include in an article vary depending on the subject areas. The citation databases also contain different percentages of the total production for different subject areas (approx. 95% of medical publications, approx. 5% of humanities publications). The average number of citations for articles therefore varies significantly between the subject areas – a chemistry article with five citations can be fairly ordinary, while a history of literature article with five citations is exceptionally highly cited.

In order to deal with this it is possible to divide the number of citations for an article by the average for the article's subject area (field). This process is called field normalisation and the result is known as field-normalised citation score. So a value of 1 means 'as many citations as the world average for the subject area' and a value of 2 means 'twice as many citations as the world average for the subject area'.

In the Web of Science, each journal belongs to one or more subject areas. Classifications of articles is usually based on the journal – an article appearing in a chemistry journal is a chemistry article.

**_h_-index**

The bibliometric indicator *h-index* or *Hirsch-index* was presented by Jorge E. Hirsch (2005). The *h*-index is the highest number of papers a scientist has that have each received at least that number of citations. E.g.: A person who has an *h*-index of 7 has 7 articles, each with a minimum of 7 citations. The person does not have 8 articles with at least 8 citations.

**Raw citations**

You can use the term 'raw citations' to indicate that you are not using field-normalised citations.

**Scopus**

Three general citation databases currently exist: *Scopus* from Elsevier, *Web of Science* from Thomson Reuters and *Google Scholar* from Google. Scopus and Web of Science are commercial enterprises, while Google Scholar is free. However, the basis of Google Scholar is extremely unclear, and the quality of the material it contains is at times very low, which is why analyses using Google Scholar are not terribly reliable.

Scopus and Web of Science are fierce competitors, and in many respects equally good. Scopus includes a few more journals/conferences than Web of Science, but on the other hand it does not go back as far in time.

Web of Science is essentially an online service, which has now changed its name to Web of Knowledge. The underlying database is based on several different products, which are sold separately (and that can overlap): *Science Citation Index, Science Citation Index Expanded, Social Science Citation Index, Arts & Humanities Citation Index*, and *Conference Proceedings Citation Index*.

**Web of Science**

See *Scopus*.

**Whole counts**

See *fractionalised counting*.

**Z-normalisation**

To z-normalised a value one first calculates the average for that parameter, and then express the value in terms of number of standard deviations from the average. A score of 1.0 means that the underlying value is 1 standard deviation above the average.