A Universidade do Porto no Times Higher Education: – World University Rankings 2020 – World University Rankings by subject 2020

Reitoria da Universidade do Porto Gabinete de avaliação e qualidade 20 de novembro de 2019

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A Universidade do Porto no Times Higher Education World University Rankings 2020 e World University Rankings 2020 by subject

https://www.timeshighereducation.com/world-university-rankings

https://www.timeshighereducation.com/world-university-rankings/by-subject

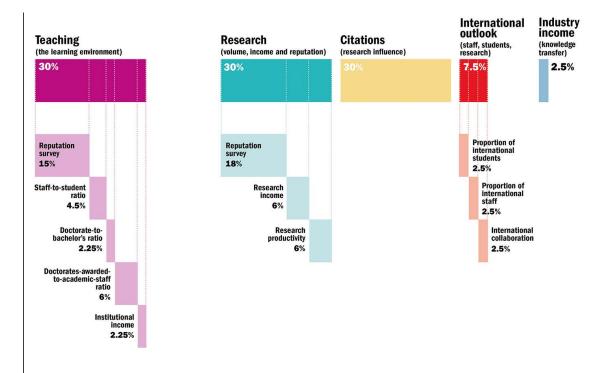
1. Metodologia do THE WUR e THE WUR by subject

1.1 Metodologia do THE WUR

"In collecting and considering data for the World University Rankings, we are scrupulous and transparent. Here we detail what goes into our assessment of almost 1,400 institutions worldwide

The *Times Higher Education* World University Rankings are the only global performance tables that judge research-intensive universities across all their core missions: teaching, research, knowledge transfer and international outlook. We use 13 carefully calibrated performance indicators to provide the most comprehensive and balanced comparisons, trusted by students, academics, university leaders, industry and governments.

The performance indicators are grouped into five areas: **Teaching** (the learning environment); **Research** (volume, income and reputation); **Citations** (research influence); **International outlook**(staff, students and research); and **Industry income** (knowledge transfer).



Teaching (the learning environment) - 30%

- Reputation survey: 15%
- Staff-to-student ratio: 4.5%
- Doctorate-to-bachelor's ration: 2.25%
- Doctorates-awarded-to-academic-staff ratio: 6%
- Institutional income: 2.25%

The most recent Academic Reputation Survey (run annually) that underpins this category was carried out between November 2018 and March 2019. It examined the perceived prestige of institutions in teaching. The responses were statistically representative of the global academy's geographical and subject mix. The 2019 data are combined with the results of the 2018 survey, giving more than 21,000 responses.

As well as giving a sense of how committed an institution is to nurturing the next generation of academics, a high proportion of postgraduate research students also suggests the provision of teaching at the highest level that is thus attractive to graduates and effective at developing them. This indicator is normalised to take account of a university's unique subject mix, reflecting that the volume of doctoral awards varies by discipline.

Institutional income is scaled against academic staff numbers and normalised for purchasing-power parity (PPP). It indicates an institution's general status and gives a broad sense of the infrastructure and facilities available to students and staff.

Research (volume, income and reputation) - 30%

- Reputation survey: 18%
- Research income: 6%
- Research productivity: 6%

The most prominent indicator in this category looks at a university's reputation for research excellence among its peers, based on the responses to our annual Academic Reputation Survey (see above).

Research income is scaled against academic staff numbers and adjusted for purchasing-power parity (PPP). This is a controversial indicator because it can be influenced by national policy and economic circumstances. But income is crucial to the development of world-class research, and because much of it is subject to competition and judged by peer review, our experts suggested that it was a valid measure. This indicator is fully normalised to take account of each university's distinct subject profile, reflecting the fact that research grants in science subjects are often bigger than those awarded for the highest-quality social science, arts and humanities research.

To measure productivity we count the number of publications published in the academic journals indexed by Elsevier's Scopus database per scholar, scaled for institutional size and normalised for subject. This gives a sense of the university's ability to get papers published in quality peer-reviewed journals. Last year, we devised a method to give credit for papers that are published in subjects where a university declares no staff.

Citations (research influence) - 30%

Our research influence indicator looks at universities' role in spreading new knowledge and ideas.

We examine research influence by capturing the average number of times a university's published work is cited by scholars globally. This year, our bibliometric data supplier Elsevier examined 77.4 million citations to 12.8 million journal articles, article reviews, conference proceedings, books and book chapters published over five years. The data include more than 23,400 academic journals indexed by Elsevier's Scopus database and all indexed publications between 2014 and 2018. Citations to these publications made in the six years from 2014 to 2019 are also collected.

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

The data are normalised to reflect variations in citation volume between different subject areas. This means that institutions with high levels of research activity in subjects with traditionally high citation counts do not gain an unfair advantage.

We have blended equal measures of a country-adjusted and non-country-adjusted raw measure of citations scores.

In 2015-16, we excluded papers with more than 1,000 authors because they were having a disproportionate impact on the citation scores of a small number of universities. In 2016-17, we designed a method for reincorporating these papers. Working with Elsevier, we developed a fractional counting approach that ensures that all universities where academics are authors of these papers will receive at least 5 per cent of the value of the paper, and where those that provide the most contributors to the paper receive a proportionately larger contribution.

International outlook (staff, students, research) - 7.5%

- Proportion of international students: 2.5%
- Proportion of international staff: 2.5%
- International collaboration: 2.5%

The ability of a university to attract undergraduates, postgraduates and faculty from all over the planet is key to its success on the world stage.

In the third international indicator, we calculate the proportion of a university's total research journal publications that have at least one international co-author and reward higher volumes. This indicator is normalised to account for a university's subject mix and uses the same five-year window as the "Citations: research influence" category.

Industry income (knowledge transfer) – 2.5%

A university's ability to help industry with innovations, inventions and consultancy has become a core mission of the contemporary global academy. This category seeks to capture such knowledge-transfer activity by looking at how much research income an institution earns from industry (adjusted for PPP), scaled against the number of academic staff it employs.

The category suggests the extent to which businesses are willing to pay for research and a university's ability to attract funding in the commercial marketplace – useful indicators of institutional quality.

Exclusions

Universities can be excluded from the World University Rankings if they do not teach undergraduates, or if their research output amounted to fewer than 1,000 relevant publications between 2014 and 2018 (with a minimum of 150 a year). Universities can also be excluded if 80 per cent or more of their research output is exclusively in one of our 11 subject areas.

Data collection

Institutions provide and sign off their institutional data for use in the rankings. On the rare occasions when a particular data point is not provided, we enter a conservative estimate for the affected metric. By doing this, we avoid penalising an institution too harshly with a "zero" value for data that it overlooks or does not provide, but we do not reward it for withholding them.

Getting to the final result

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

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

For all indicators except for the Academic Reputation Survey, we calculate the cumulative probability function using a version of Z-scoring. The distribution of the data in the Academic Reputation Survey requires us to add an exponential component.

The calculation of the *Times Higher Education* World University Rankings 2020 has been independently audited by professional services firm PricewaterhouseCoopers (PwC), making these the only global university rankings to be subjected to full, independent scrutiny of this nature."¹

¹<u>https://www.timeshighereducation.com/world-university-rankings/methodology-world-university-rankings-2020</u>, acedido 12 de setembro de 2019

1.2 Metodologia do THE WUR by Subject

"Different weights and measures

The subject tables employ the same range of <u>13 performance indicators</u> used in the overall <u>World</u> <u>University Rankings 2020</u>, brought together with scores provided under five categories.

However, the overall methodology is carefully recalibrated for each subject, with the weightings changed to suit the individual fields.

(...)

Criteria

Two criteria are included in the *THE* subject rankings: a publication threshold by discipline and an academic staff* threshold by discipline.

No institution can be included in the overall World University Rankings unless it has published a minimum of 1,000 relevant publications over the five years that we examine.

For the 11 subject tables, the publication thresholds are set differently.

(...)

There is also an academic staff criterion. Prior to the 2019 subject rankings, we expected an institution to have at least 5 per cent of its academic staff working in the arts and humanities discipline in order to include it in the subject table.

Since the 2019 subject rankings, we have made a small adjustment to the staff eligibility criterion. An institution needs a minimum proportion or number of staff in this discipline to be included in the subject ranking."²

A metodologia de cada uma das 11 áreas consta em anexo.

1.3 Participação da U.Porto

De 2010 a 2014, o THE WUR foi feito pela *Thomson Reuteurs* (atualmente *Clarivate Analytics*) e a Universidade do Porto participou no GIPP - *Global Institutional Profiles Project*³ fornecendo dados sobre estudantes, docentes, investigadores e financiamento. Até 2013, era reportada a lista de variantes de nome da Instituição na *Web of Science*; em 2014, esse pedido foi substituído pela lista de "*Divisions*" e *Affiliated Institutions*" da Universidade.

A partir de 2015, a informação sobre estudantes, docentes, investigadores e financiamento passou a ser solicitada diretamente pelo THE WUR, usando as mesmas definições dos anos anteriores. Deixou de ser pedida informação sobre variantes de nome ou estrutura da instituição.

Para esta edição, a informação solicitada dizia respeito ao ano de 2017 e foi reportada em março de 2019.

² <u>https://www.timeshighereducation.com/world-university-rankings/subject-ranking-2020-arts-and-humanities-</u>

methodology acedido 20191002

³ <u>http://ip-science.thomsonreuters.com/globalprofilesproject/</u>

2. THE WUR

2.1 A U.Porto no THE WUR

Evolução⁴ das posições da Universidade do Porto no THE WUR

	2011	2012	2013	2014	2015	2016	2017	2018	2019
Ranking do Mundo	301-350	351-400	351-400	n/d	401-500	401-500	501-600	401-500	401-500
Ranking da Europa	130-156	154-180	157-181		202-253	203-254	257-297	198-252	195-240
Ranking da Ibero- américa	7**	7-15	5-8		10-20	7-15	10-23	7-13	8-12
Ranking de Portugal	1*	1***	1(iv)		2-5	1-4	1-5	1	2

* Ex aequo com a Universidade de Aveiro. ** Ex aequo com as universidades de Aveiro e Valência.

*** Juntamente com a U.Aveiro e a U.Minho

(iv) Juntamente com a U.Minho.

n/d A U.Porto não consta nas 400 primeiras posições.

Evolução dos 5 indicadores globais

	Teaching	Research	Citations	Industry income	International outlook	Overall score ⁵	Rank
	30%	30%	30%	2,5%	7,5%		
2011	17,7	13,0	43,9	33,7	42,0	26,4	301-350
2012	26,2	21,1	50,2	36,2	43,2	33,4	351-400
2013	20,5	17,8	47,6	36,7	43,9	30,0	351-400
2014 ⁶	27	20	44	36	43	31,4 [30,9-31,8]	-
2015	32,0	28,2	37,2	38,7	45,4	33,6	401-500
2016	28,6	26,2	42,3	39,9	45,3	33,5	401-500
2017	27,1	26,9	47,0	39,8	48,3	34,9	501-600
2018	27,5	27,2	55,7	38,8	50,5	37,9	401-500
2019	27,4	27,9	62,1	38,7	53,9	40,2	401-500

Como os valores de 2014 foram retirados do Perfil onde eram apresentados sem casa decimal, optou-se por acrescentar o intervalo do *Overall score*. O limite mínimo de 2014 é superior ao valor de 2013.

⁴ Dados até 2013 retirados de "Evolução das posições da Universidade do Porto nos rankings universitários", janeiro de 2014, *in* <u>https://sigarra.up.pt/up/pt/conteudos_service.conteudos_cont?pct_id=20113&pv_cod=55GoHdmanvlq</u>; dados de 2014 a 2019 foram retirados de <u>http://www.timeshighereducation.co.uk/world-university-rankings</u> respetivamente em 2 de outubro de 2014, 1 de outubro de 2015, 22 de setembro de 2016, 5 de setembro de 2017, 26 de setembro de 2018 e 12 de setembro de 2019.

⁵ O Overall score foi calculado usando as ponderações dos 5 indicadores.

⁶ Thomson Reuters, Global Institutional Profiles Project 2014 Profile: University of Porto.

Evolução dos 13 indicadores

	2011 7	2012 8	2013 9	2014	2015	2016 12	2017 13	2018	2019 15
TEACHING INDICATORS									
Academic staff / students	34	37	35	41	39.2	38.0	40.3	38.3	39.5
Doctoral degrees awarded / undergraduate degrees awarded	34	41	40	51	47.2	48.0	47.6	52.1	51.4
Doctoral degrees awarded / academic staff	24	35	29	49	45.4	48.1	47.1	49.8	47.9
Teaching reputation	8	18	9	10	20.8	15.0	10.2	11	11.2
Institutional income / academic staff	19	24	27	26	41.0	29.0	39.3	31.9	32.4
RESEARCH INDICATORS									
Papers / academic and reseach staff (normalized)	23	39	45	47	53.4	61.5	76.5	79.2	81.5
Research income / academic staff (normalized)	24	23	25	28	30.9	31.7	33.5	33.8	33.8
Research reputation	6	15	6	8	18.9	12.6	8.2	7.6	8.1
CITATIONS									
Citation Impact	44	51	48	44	37.2	42.3	47	55.7	62.1
INDUSTRY INDICATORS									
Research income from industry / academic staff	34	36	37	36	38.7	39.9	39.8	38.8	38.7
INTERNATIONAL OUTLOOK INDICATORS									
Academic staff - international / academic staff	19	24	24	23	23.2	24.5	24.9	25.3	25.5
Students - international / students	30	35	36	38	39.9	39.5	45.5	52.7	61.9
Papers - international co-author / papers	76	71	72	68	73.2	71.9	74.3	73.4	74.2

 ⁷ Thomson Reuters, Global Institutional Profiles Project 2011 Profile: University of Porto.
 ⁸ Thomson Reuters, Global Institutional Profiles Project 2012 Profile: University of Porto.
 ⁹ Thomson Reuters, Global Institutional Profiles Project 2013 Profile: University of Porto.
 ¹⁰ Thomson Reuters, Global Institutional Profiles Project 2014 Profile: University of Porto.

 ¹¹ THEDataPoints. 2015. University of Porto.
 ¹² THEDataPoints. 2016. University of Porto.
 ¹³ THEDataPoints. 2017. University of Porto.

 ¹⁴ THEDataPoints. 2018. University of Porto.
 ¹⁵ THEDataPoints. 2019. University of Porto.

2.2. As Universidades portuguesas no THE WUR 2020

Posições

		Mundo			Europa		I	bero-Améric	a	Portugal 2019 2018 1 6-12 2 1 3 2-5 4-9 2-5 4-9 6-12 4-9 6-12 4-9 6-12 4-9 6-12 4-9 6-12 4-9 6-12 4-9 6-12 4-9 6-12 4-9 6-12 4-9 6-12 4-9 6-12 4-9 6-12 4-9 6-12 4-9 6-12 4-9 6-12 4-9 6-12 4-9 6-12 4-9 6-12 4-9 6-12 4-9 6-12		
	2019	2018	2017	2019	2018	2017	2019	2018	2017	2019	2018	2017
Catholic University of Portugal	351–400	601–800	n/c	169-194	291-368		7	24-59		1	6-12	
University of Porto	401–500	401–500	501–600	195-240	198-252	257-297	8-12	7-13	10-23	2	1	1-5
University of Lisbon	501–600	501–600	501-600	241-281	253-290	257-297	13-21	14-23	10-23	3	2-5	1-5
University of Aveiro	601–800	501–600	501-600	282-361	253-290	257-297	22-50	14-23	10-23	4-9	2-5	1-5
University of Beira Interior	601–800	601–800	601-800	282-361	291-368	298-370	22-50	24-59	24-52	4-9	6-12	6-9
University of Coimbra	601–800	501–600	501-600	282-361	253-290	257-297	22-50	14-23	10-23	4-9	2-5	1-5
ISCTE-University Institute of Lisbon	601–800	601–800	601-800	282-361	291-368	298-370	22-50	24-59	24-52	4-9	6-12	6-9
University of Minho	601–800	601–800	601-800	282-361	291-368	298-370	22-50	24-59	24-52	4-9	6-12	6-9
NOVA University of Lisbon	601–800	501–600	501-600	282-361	253-290	257-297	22-50	14-23	10-23	4-9	2-5	1-5
University of Algarve	801–1000	601–800	601-800	362-428	291-368	298-370	51-82	24-59	24-52	10-13	6-12	6-9
University of Évora	801–1000	801–1000	n/c	362-428	369-424		51-82	60-86		10-13	13	
Polytechnic Institute of Porto	801–1000	601–800	n/c	362-428	291-368		51-82	24-59		10-13	6-12	
University of Trás-os-Montes and Alto Douro	801–1000	601–800	n/c	362-428	291-368		51-82	24-59		10-13	6-12	
# IES	1396	1258	1102	539	487	444	159	138	104	13	13	9

n/c – não consta

Indicadores

	-	Feaching 30%	g	F	Researcl 30%	ı	(Citations 30%	6	Indu	stry Inc 2,5%	ome		ernation Outlook 7,5%			Overall Score	
	2019	2018	2017	2019	2018	2017	2019	2018	2017	2019	2018	2017	2019	2018	2017	2019	2018	2017
Catholic University of Portugal	18,3	19,7		15	8		94,6	64,3		35,9	36,4		47,4	51,9		42,4–44,4	26.0–33.4	
University of Porto	27,4	27,5	27,1	27,9	27,2	26,9	62,1	55,7	47	38,7	38,8	39,8	53,9	50,5	48,3	38,8–42,3	37.1–41.6	30,7-34,9
University of Lisbon	25,2	23,1	24	29,8	25,6	22,6	52,7	52,4	53,2	39,2	38,8	36,8	53,8	52,3	49,4	35,3–38,7	33.5–37.0	30,7-34,9
University of Aveiro	24,7	29,2	23,5	25,5	25,8	26,3	40,7	43,4	45,5	41,4	40,3	39,8	52,5	51	49	28,3–35,2	33.5–37.0	30,7-34,9
University of Beira Interior	17,9	17,1	20	16,5	16,1	15	48,7	50,7	48,7	34,7	34,4	32	52,7	45,1	41,8	28,3–35,2	26.0–33.4	21,5-30,6
University of Coimbra	23,7	22,7	25,3	28,1	26,3	23,4	47,4	46,3	48,2	41	40,1	37,8	58,7	56,3	55,1	28,3–35,2	33.5–37.0	30,7-34,9
ISCTE-University Institute of Lisbon	23	25,5	24,6	26,4	24,9	24,7	29,3	25	17,5	39,8	37,3	33,5	49,3	49,1	46,6	28,3–35,2	26.0–33.4	21,5-30,6
University of Minho	22,5	21,4	23,2	19,4	19,2	22,8	34,6	39,4	35,8	62,6	57,8	67,6	50,3	48	47,3	28,3–35,2	26.0–33.4	21,5-30,6
NOVA University of Lisbon	24,9	26,4	24,8	25,7	24,5	24,8	46,6	45,6	46,5	46,7	46,8	43,9	60,2	59,9	55,9	28,3–35,2	33.5–37.0	30,7-34,9
University of Algarve	17,3	18,5	19,5	13,5	12,5	11,2	40,2	41,1	42,3	35,3	35,8	33,2	63,1	58,7	56,9	22,2–28,2	26.0–33.4	21,5-30,6
University of Évora	19,6	18,1		14,6	13,8		31,3	32,2		35,6	35,5		53,7	53,5		22,2–28,2	19.0–25.9	
Polytechnic Institute of Porto	13,5	12,2		8,7	7,8		48,5	64,9		34,6	34,1		32,8	31,6		22,2–28,2	26.0–33.4	
University of Trás-os- Montes and Alto Douro	21,2	22,3		13,9	20,8		32,3	34,1		34,4	34		37,5	37,3		22,2–28,2	26.0–33.4	

3. THE WUR by subject

3.1 A U.Porto no THE WUR by subject

Evolução¹⁶ das posições

		Mundo			Europa		lbe	ero-Amér	ica		Portuga	l
	2017	2018	2019	2017	2018	2019	2017	2018	2019	2017	2018	2019
Arts and humanities	301-400	301-400	301-400	158-200	155-207	158-211	14-26	13-25	15-28	3-5	2-4	3-6
Business and economics	n/c	401-500	401-500		171-216	172-220		18-33	17-34		4-7	4-9
Clinical, pre-clinical and health	251-300	251-300	251-300	119-140	113-137	109-129	8	9-10	9-13	1	1	1
Computer science	n/c	401-500	401-500		188-228	178-223		20-29	14-28		3-4	2-4
Education	n/c	126-150	176-200		46-59	69-77		3	9-12		1	2-3
Engineering and technology	301-400	401-500	301-400	117-172	160-208	109-151	5-20	14-31	4-12	2-6	3-7	1-2
Law	n/c	n/c	n/c									
Life sciences	301-400	301-400	301-400	149-189	144-187	140-188	8-18	7-13	6-13	2-4	1-4	1-3
Physical sciences	401-500	401-500	401-500	203-244	194-237	194-232	10-28	11-24	11-18	1-5	1-4	1-2
Psychology	n/c	301-400	401+		134-184	180+		14-21	16+		5	4-5
Social sciences	301-400	301-400	401-500	137-182	140-181	178-228	11-18	10-19	18-29	3-5	2-5	5-7

n/c- não consta

¹⁶Dados de 2017 a 2019 retirados de <u>https://www.timeshighereducation.com/world-university-rankings/by-subject</u> respetivamente entre 13 de setembro e 27 de novembro de 2017; entre 17 de outubro e 29 de novembro 2018; e entre 2 de outubro e 19 de novembro de 2019.

Evolução dos indicadores

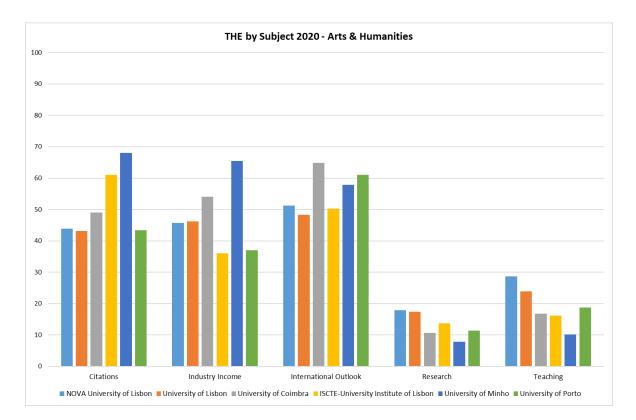
		Overall			Citations	5	Indu	ustry Inc	ome	Interna	ational C	utlook	I	Researcl	า	-	Teaching	J
	2017	2018	2019	2017	2018	2019	2017	2018	2019	2017	2018	2019	2017	2018	2019	2017	2018	2019
Arts and humanities	19,7-24,6	21,5-26,0	21,8-25,9	38	50,5	43,4	53,4	37,3	37	39,6	56,2	61	11,7	10,8	11,4	21,8	22	18,8
Business and economics		23,0-27,8	24.8-29.3		48,6	47,6		31,1	31,4		22,8	26,8		19,3	16,1		20,8	17,4
Clinical, pre-clinical and health	35,8-39,4	37,6-40,4	36,4-38,8	46,5	56,9	56,1	38,8	41,8	41,9	44,9	45,7	48,7	27,6	22,7	23,2	27,9	25,2	26,6
Computer science		26,0-31,1	28,6-32,8		50,1	53,2		47,5	44		34,5	34,8		14,7	15,7		16,5	18,8
Education		41,6-43,8	38,7-39,7		33,7	40,1		39,5	38,7		50,6	53,4		52,3	40,8		37,8	33,6
Engineering and technology	29,7-34,8	29,0-32,7	34,7-38,7	51,1	53,4	56,2	36,3	37,2	37,8	43,6	45,5	48,4	17,2	16,4	20,9	21,9	22,3	26,1
Law																		
Life sciences	31,0-38,3	34,3-40,8	35,9-41,9	48,9	53,3	59,6	48,3	35,8	33,7	50,5	53	57,7	27,3	27,3	28,2	18,3	20,3	23,8
Physical sciences	29,5-35,1	32,4-37,5	34,1-38,6	45,3	48,8	54	50,6	40,8	41,1	44,6	45,4	47,6	25,2	22,4	23,5	16,6	19,4	20,9
Psychology		27,1-32,6	14,0-28,5		34,8	33,7		42,2	39,3		48,4	51,3		19,2	14,1		37	23
Social sciences	26,4-32,2	28,5-33,1	25,6-29,9	41,1	50,7	51,3	39,1	34,9	36	60,4	60,4	62,2	18,8	16,9	17,5	23,8	16,9	16,7

3.2 As Universidades portuguesas no THE WUR by subject 2020

3.2.1 Arts and humanities

		Mundo			Europa		lbe	ero-amér	ica		Portuga	I
	2017	2018	2019	2017	2018	2019	2017	2018	2019	2017	2018	2019
NOVA University of												
Lisbon	251-300	201–250	201–250	134-157	101-128	102-125	10-13	8-10	7-10	1-2	1	1
University of Lisbon	251-300	301–400	251–300	134-157	155-207	126-157	10-14	13-25	11-14	1-3	2-4	2
University of Coimbra	301-400	401+	301–400	158-200	208+	158-211	14-26	26+	15-28	3-7	5	3-6
ISCTE-University Institute of Lisbon	n/c	n/c	301–400			158-211			15-28			3-6
University of Minho	301-400	301–400	301–400	158-200	155-207	158-211	14-26	13-25	15-28	3-5	2-5	3-6
University of Porto	301-400	301–400	301–400	158-200	155-207	158-211	14-26	13-25	15-28	3-6	2-6	3-6
№ de IES	401	506	536	200	253	278	26	52	61	5	5	6

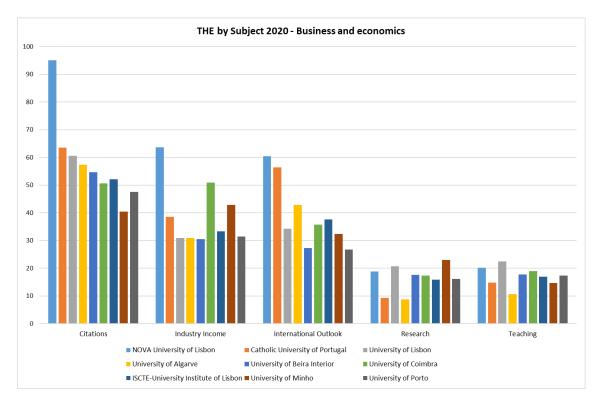
	Overall	Citations	Industry Income	International Outlook	Research	Teaching
NOVA University of						
Lisbon	29,0–32,2	43,9	45,7	51,2	17,9	28,7
University of Lisbon	26,0–28,9	43,1	46,2	48,3	17,4	23,9
University of Coimbra	21,8–25,9	49	54,1	64,9	10,6	16,8
ISCTE-University Institute of Lisbon	21,8–25,9	61,1	36	50,2	13,7	16,2
University of Minho	21,8–25,9	68	65,5	57,9	7,8	10,2
University of Porto	21,8–25,9	43,4	37	61	11,4	18,8



3.2.2 Business and economics

		Mundo			Europa		lbe	ero-amér	ica		Portuga	I
	2017	2018	2019	2017	2018	2019	2017	2018	2019	2017	2018	2019
NOVA University of Lisbon	151-175	176–200	151–175	72-84	72-82	60-69	5	4-6	3-4	1	1	1
Catholic University of Portugal	n/c	n/c	301-400			130-171			9-16			2-3
University of Lisbon	n/c	251–300	301–400		108-127	130-171		9-10	9-16		2	2-3
University of Algarve	n/c	n/c	401–500			172-220			17-34			4-9
University of Beira Interior	n/c	301–400	401–500		128-170	172-220		11-17	17-34		3	4-9
University of Coimbra	n/c	401–500	401–500		171-216	172-220		18-33	17-34		4-7	4-9
ISCTE-University Institute of Lisbon	n/c	401–500	401–500		171-216	172-220		18-33	17-34		4-8	4-9
University of Minho	n/c	401–500	401–500		171-216	172-220		18-33	17-34		4-9	4-9
University of Porto	n/c	401–500	401–500		171-216	172-220		18-33	17-34		4-10	4-9
№ de IES	200	585	632	95	262	287	6	52	60	1	7	9

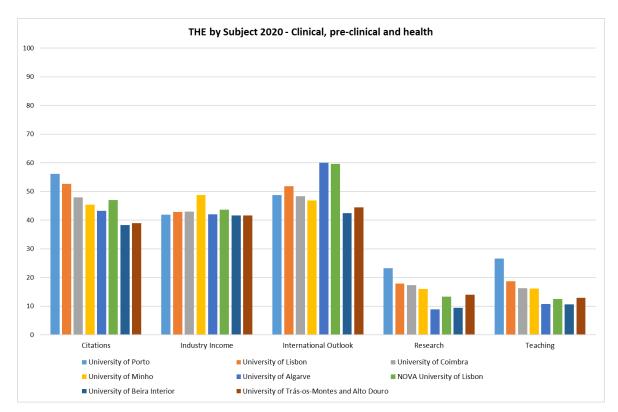
	Overall	Citations	Industry Income	International Outlook	Research	Teaching
NOVA University of						
Lisbon	42,4–44,2	95,1	63,7	60,4	18,8	20,2
Catholic University of						
Portugal	29,5–33,7	63,5	38,6	56,4	9,3	14,8
University of Lisbon	29,5–33,7	60,6	30,9	34,2	20,7	22,5
University of Algarve	24,8–29,3	57,3	30,9	42,8	8,7	10,7
University of Beira						
Interior	24,8–29,3	54,7	30,5	27,3	17,6	17,8
University of Coimbra	24,8–29,3	50,6	50,9	35,8	17,3	19,0
ISCTE-University						
Institute of Lisbon	24,8–29,3	52,1	33,3	37,6	15,9	16,9
University of Minho	24,8–29,3	40,5	42,8	32,4	23,0	14,7
University of Porto	24,8–29,3	47,6	31,4	26,8	16,1	17,4



3.2.3 Clinical, pre-clinical and health

		Mundo			Europa		lbo	ero-améri	ca		Portuga	I
	2017	2018	2019	2017	2018	2019	2017	2018	2019	2017	2018	2019
University of Porto	251-300	251–300	251–300	119-140	113-137	109-129	8	9-10	9-13	1	1	1
University of Lisbon	401-500	401–500	301–400	186-229	181-224	130-169	22-39	23-43	14-22	4-7	2-5	2
University of Coimbra	301-400	401–500	401–500	141-185	181-224	170-215	9-21	23-43	23-35	2-3	2-5	3-4
University of Minho	301-400	401–500	401–500	141-185	181-224	170-215	9-21	23-43	23-35	2-3	2-5	3-4
University of Algarve	401-500	501–600	501–600	186-229	225-259	216-256	22-39	44-55	36-57	4-7	6-8	5-6
NOVA University of Lisbon	401-500	401–500	501–600	186-229	181-224	216-256	22-39	23-43	36-57	4-7	2-5	5-6
University of Beira Interior	401-500	501–600	601+	186-229	225-259	257+	22-39	44-55	58+	4-7	6-8	7-8
University of Trás-os- Montes and Alto Douro	n/c	501–600	601+		225-259	257+		44-55	58+		6-8	7-8
№ de IES	501	721	775	229	283	304	39	88	103	7	8	8

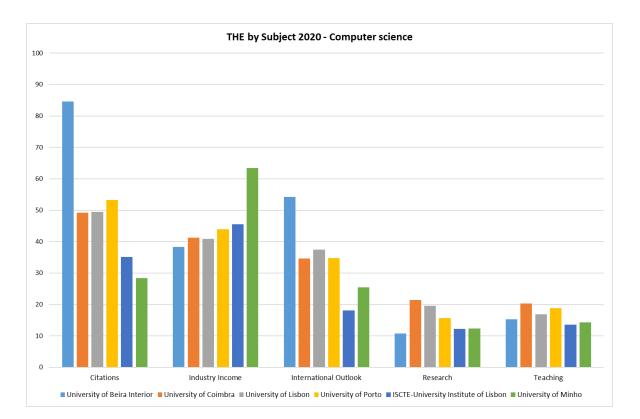
	Overall	Citations	Industry Income	International Outlook	Research	Teaching
University of Porto	36,4–38,8	56,1	41,9	48,7	23,2	26,6
University of Lisbon	32,4–36,2	52,7	42,9	51,9	17,9	18,7
University of Coimbra	29,2–32,3	48	43	48,3	17,4	16,3
University of Minho	29,2–32,3	45,4	48,7	46,9	16	16,2
University of Algarve	26,0–29,1	43,2	42	60,1	8,9	10,8
NOVA University of Lisbon	26,0–29,1	47	43,7	59,7	13,3	12,5
University of Beira Interior	17,1–25,9	38,3	41,6	42,4	9,5	10,6
University of Trás-os-Montes and Alto Douro	17,1–25,9	39	41,6	44,5	14	12,9



3.2.4 Computer science

		Mundo		Europa			lb	ero-amér	ica	Portugal		
	2017	2018	2019	2017	2018	2019	2017	2018	2019	2017	2018	2019
University of Beira Interior	201-250	251–300	301–400	92-120	116-140	133-177	3-6	4-10	7-13	1	1	1
University of Coimbra	251-300	301–400	401–500	121-147	141-187	178-223	7-10	11-19	14-28	2	2	2-4
University of Lisbon	n/c	401–500	401–500		188-228	178-223		20-29	14-28		3-4	2-4
University of Porto	n/c	401–500	401–500		188-228	178-223		20-29	14-28		3-4	2-4
ISCTE-University Institute of Lisbon	n/c	501–600	601+		229-270	268+		30-48	41+		5-6	5-6
University of Minho	n/c	501–600	601+		229-270	268+		30-48	41+		5-6	5-6
№ de IES	302	684	749	147	279	303	10	58	64	2	6	6

	Overall	Citations	Industry Income	International Outlook	Research	Teaching
University of Beira Interior	33,0–37,3	84,6	38,3	54,2	10,8	15,3
University of Coimbra	28,6–32,8	49,2	41,3	34,6	21,4	20,3
University of Lisbon	28,6–32,8	49,4	40,9	37,4	19,6	16,9
University of Porto	28,6–32,8	53,2	44	34,8	15,7	18,8
ISCTE-University Institute of Lisbon	11,2–23,4	35,1	45,6	18,1	12,2	13,6
University of Minho	11,2–23,4	28,4	63,4	25,4	12,3	14,3

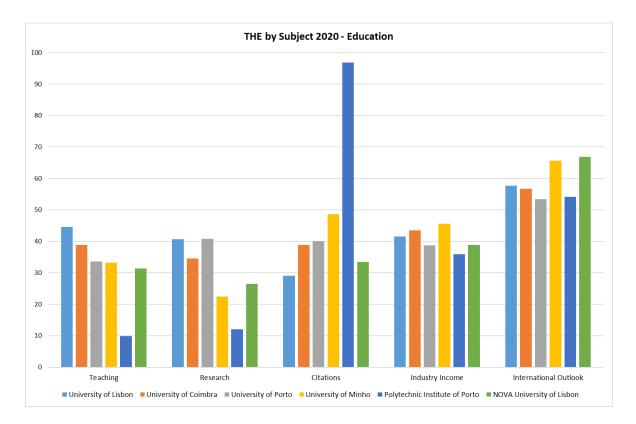


3.2.5 Education

	Mu	ndo	Eur	ора	Ibero-a	mérica	Port	ugal
	2018	2019	2018	2019	2018	2019	2018	2019
University of								
Lisbon	176–200	151–175	71-80	58-68	8-10	5-8	2	1
University of Coimbra	201–250	176–200	81-101	69-77	11-14	9-12	3-4	2-3
University of Porto	126–150	176–200	46-59	69-77	3	9-12	1	2-3
University of Minho	201–250	201–250	81-101	78-98	11-15	13-17	3-4	4-5
Polytechnic Institute of Porto	n/c	201–250		78-98		13-17		4-5
NOVA University of Lisbon	301–400	251–300	120-165	99-123	19-38	18-19	5	6
N⁰ de IES	428	477	181	208	51	68	5	6

Em 2017, não constava nenhuma Universidade portuguesa no top 100.

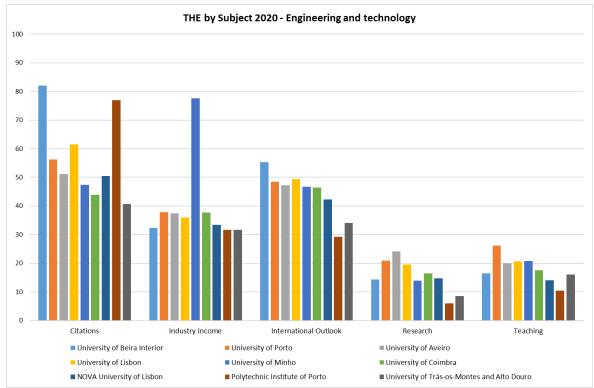
	Overall	Teaching	Research	Citations	Industry Income	International Outlook
University of Lisbon	39,8–42,4	44,6	40,7	29,1	41,6	57,7
University of Coimbra	38,7–39,7	38,8	34,6	38,9	43,5	56,7
University of Porto	38,7–39,7	33,6	40,8	40,1	38,7	53,4
University of Minho	34,9–38,6	33,2	22,4	48,6	45,6	65,6
Polytechnic Institute of Porto	34,9–38,6	9,9	12	96,8	35,9	54,1
NOVA University of Lisbon	30,4–34,8	31,4	26,5	33,5	38,8	66,9



3.2.6 Engineering and technology

		Mundo			Europa		lbe	ero-améri	са		Portuga	I
	2017	2018	2019	2017	2018	2019	2017	2018	2019	2017	2018	2019
University of Beira Interior	251-300	301–400	301–400	95-116	113-159	109-151	2-4	5-13	4-12	1	1-2	1-2
University of Porto	301-400	401–500	301–400	117-172	160-208	109-151	5-20	14-31	4-12	2-6	3-7	1-2
University of Aveiro	301-400	401–500	401–500	117-172	160-208	152-188	5-20	14-31	13-21	2-6	3-7	3-5
University of Lisbon	301-400	301–400	401–500	117-172	113-159	152-188	5-20	5-13	13-21	2-6	1-2	3-5
University of Minho	301-400	401–500	401–500	117-172	160-208	152-188	5-20	14-31	13-21	2-6	3-7	3-5
University of Coimbra	301-400	401–500	501–600	117-172	160-208	189-238	5-20	14-31	22-41	2-6	3-7	6-8
NOVA University of Lisbon	401-500	501–600	501–600	173-207	209-236	189-238	21-35	32-42	22-41	7	8	6-8
Polytechnic Institute of Porto	n/c	401–500	501–600		160-208	189-238		14-31	22-41		3-7	6-8
University of Trás- os-Montes and Alto Douro	n/c	601–800	601–800		237-288	239-292		43-74	42-69		9	9
№ de IES	501	903	1008	207	308	349	35	93	110	7	9	9

	Overall	Citations	Industry Income	International Outlook	Research	Teaching
University of Beira Interior	34,7–38,7	82	32,3	55,3	14,3	16,5
University of Porto	34,7–38,7	56,2	37,8	48,4	20,9	26,1
University of Aveiro	30,8–34,6	51,1	37,4	47,3	24,2	20
University of Lisbon	30,8–34,6	61,5	35,9	49,4	19,6	20,7
University of Minho	30,8–34,6	47,4	77,6	46,7	13,9	20,8
University of Coimbra	26,9–30,7	43,9	37,7	46,5	16,5	17,5
NOVA University of Lisbon	26,9–30,7	50,4	33,4	42,3	14,7	14,1
Polytechnic Institute of Porto	26,9–30,7	76,9	31,7	29,3	6	10,5
University of Trás-os-Montes and Alto Douro	18,5–26,8	40,6	31,6	34,1	8,6	16,1



3.2.7 Law

Em 2017, não constava nenhuma Universidade portuguesa no top 100.

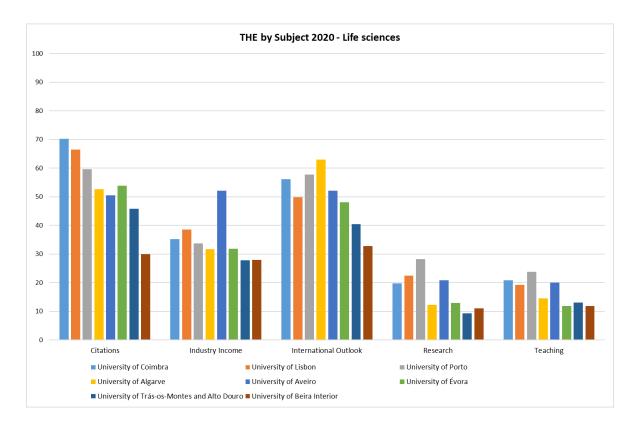
	Mu	ndo	Р	т
	2018	2019	2018	2019
University of Lisbon		126–150		1
University of Coimbra	151+	151+	1	2
Nº de IES	187	190	1	2

	Overall	Teaching	Research	Citations	Industry Income	International Outlook
University of Lisbon	30.0–34.6	22.5	7.6	57.4	39.3	54.8
University of Coimbra	13.5–29.7	8.2	21.9	35.1	56.2	47.9

3.2.8 Life sciences

		Mundo			Europa		lbe	ero-améri	ca		Portuga	i
	2017	2018	2019	2017	2018	2019	2017	2018	2019	2017	2018	2019
University of												
Coimbra	251-300	301–400	301–400	124-148	144-187	140-188	6-7	7-13	6-13	1	1-4	1-3
University of Lisbon	301-400	301–400	301–400	149-189	144-187	140-188	8-18	7-13	6-13	2-4	1-4	1-3
University of Porto	301-400	301–400	301–400	149-189	144-187	140-188	8-18	7-13	6-13	2-4	1-4	1-3
University of Algarve	401-500	401–500	401–500	190-222	188-228	189-236	19-37	14-31	14-32	5	5-6	4-6
University of Aveiro	301-400	301–400	401–500	149-189	144-187	189-236	8-18	7-13	14-32	2-4	1-4	4-6
University of Évora	n/c	401–500	401–500		188-228	189-236		14-31	14-32		5-6	4-6
University of Trás- os-Montes and Alto Douro	n/c	501–600	501–600		229-252	237-269		32-53	33-55		7	7
University of Beira Interior	n/c	601+	601+		253+	270+		54+	56+		8	8
№ de IES	502	751	821	222	277	310	37	99	116	5	8	8

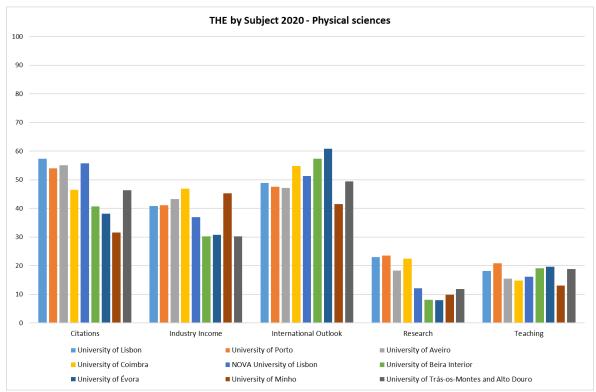
	Overall	Citations	Industry Income	International Outlook	Research	Teaching
University of Coimbra	35,9–41,9	70,2	35,2	56,1	19,8	20,8
University of Lisbon	35,9–41,9	66,5	38,6	49,8	22,5	19,2
University of Porto	35,9–41,9	59,6	33,7	57,7	28,2	23,8
University of Algarve	29,6–35,7	52,7	31,7	63	12,3	14,5
University of Aveiro	29,6–35,7	50,5	52,1	52,1	20,9	20
University of Évora	29,6–35,7	53,8	31,8	48,1	12,9	11,9
University of Trás-os-Montes and Alto Douro	23,3–29,5	45,8	27,8	40,5	9,3	13,1
University of Beira Interior	7,2–23,2	30	28	32,8	11,1	11,9



3.2.9 Physical sciences

	Mundo				Europa		Ibero-américa			Portugal		
	2017	2018	2019	2017	2018	2019	2017	2018	2019	2017	2018	2019
University of Lisbon	401-500	401–500	401–500	203-244	194-237	194-232	10-28	11-24	11-18	1-5	1-4	1-2
University of Porto	401-500	401–500	401–500	203-244	194-237	194-232	10-28	11-24	11-18	1-5	1-4	1-2
University of Aveiro	401-500	401–500	501–600	203-244	194-237	233-275	10-28	11-24	19-36	1-5	1-4	3-5
University of Coimbra	401-500	401–500	501–600	203-244	194-237	233-275	10-28	11-24	19-36	1-5	1-4	3-5
NOVA University of Lisbon	401-500	501–600	501–600	203-244	238-273	233-275	10-28	25-37	19-36	1-5	5-6	3-5
University of Beira Interior	n/c	601–800	601–800		274-334	276-343		38-71	37-65		7-9	6-9
University of Évora	n/c	601–800	601–800		274-334	276-343		38-71	37-65		7-9	6-9
University of Minho	n/c	601–800	601–800		274-334	276-343		38-71	37-65		7-9	6-9
University of Trás- os-Montes and Alto												
Douro	n/c	501–600	601–800		238-273	276-343		25-37	37-65		5-6	6-9
N⁰ de IES	501	963	1054	244	366	400	28	107	116	5	9	9

	Overall	Citations	Industry Income	International Outlook	Research	Teaching
University of Lisbon	34,1–38,6	57,3	40,8	48,9	23	18,1
University of Porto	34,1–38,6	54	41,1	47,6	23,5	20,9
University of Aveiro	30,1–34,0	55,1	43,2	47,2	18,3	15,5
University of Coimbra	30,1–34,0	46,5	46,9	54,8	22,5	14,8
NOVA University of Lisbon	30,1–34,0	55,7	37	51,3	12,1	16,1
University of Beira Interior	20,5–30,0	40,7	30,3	57,3	8,1	19,1
University of Évora	20,5–30,0	38,1	30,8	60,9	7,9	19,7
University of Minho	20,5–30,0	31,6	45,3	41,5	9,8	13
University of Trás-os-Montes and Alto Douro	20,5–30,0	46,3	30,3	49,5	11,9	18,8

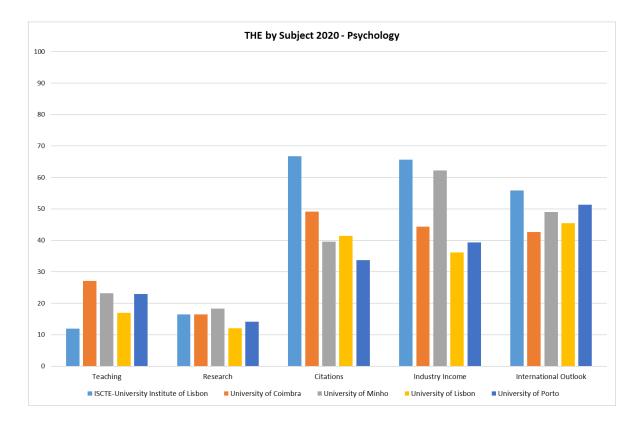


3.2.10 Psychology

Em 2017, não constava nenhuma Universidade p	portuguesa no top 100.
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	Mundo		Eur	ора	Ibero-a	mérica	Portugal	
	2018	2019	2018	2019	2018	2019	2018	2019
ISCTE-University Institute of Lisbon	251–300	201–250	109-133	87-113	8-13	3-5	1-4	1
University of Coimbra	251–300	301–400	109-133	138-179	8-13	8-15	1-4	2-3
University of Minho	251–300	301–400	109-133	138-179	8-13	8-15	1-4	2-3
University of Lisbon	251–300	401+	109-133	180+	8-13	16+	1-4	4-5
University of Porto	301–400	401+	134-184	180+	14-21	16+	5	4-5
№ de IES	463	494	214	226	41	49	5	5

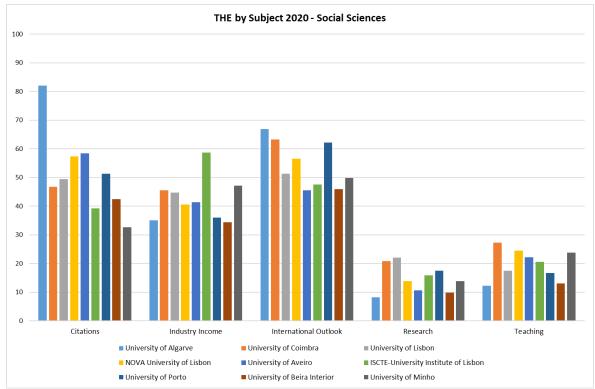
	Overall	Teaching	Research	Citations	Industry Income	International Outlook
ISCTE-University Institute of						
Lisbon	36,8–40,1	11,9	16,5	66,7	65,6	55,9
University of Coimbra	28,6–33,9	27,1	16,5	49,1	44,3	42,6
University of Minho	28,6–33,9	23,2	18,3	39,6	62,2	49
University of Lisbon	14,0–28,5	17	12,1	41,4	36,2	45,4
University of Porto	14,0–28,5	23	14,1	33,7	39,3	51,3



3.2.11 Social sciences

	Mundo				Europa			Ibero-américa			Portugal		
	2017	2018	2019	2017	2018	2019	2017	2018	2019	2017	2018	2019	
University of Algarve	n/c	n/c	301–400			140-177			10-17			1-4	
University of Coimbra	251-300	301–400	301–400	118-136	140-181	140-177	8-10	10-20	10-17	2	2-5	1-4	
University of Lisbon	201-250	201–250	301–400	101-117	101-118	140-177	3-7	3-6	10-17	1	1	1-4	
NOVA University of Lisbon	301-400	301–400	301–400	137-182	140-181	140-177	11-18	10-21	10-17	3-5	2-5	1-4	
University of Aveiro	301-400	301–400	401–500	137-182	140-181	178-228	11-18	10-19	18-29	3-5	2-5	5-7	
ISCTE-University Institute of Lisbon	n/c	401–500	401–500		182-228	178-228		20-27	18-29		6	5-7	
University of Porto	301-400	301–400	401–500	137-182	140-181	178-228	11-18	10-22	18-29	3-6	2-5	5-7	
University of Beira Interior	n/c	501–600	501–600		229-271	229-273		30-46	30-43		7-8	8-9	
University of Minho	n/c	501–600	501–600		229-271	229-273		30-46	30-43		7-8	8-9	
Nº delES	400	666	720	182	299	326	18	71	83	5	8	9	

	Overall	Citations	Industry Income	International Outlook	Research	Teaching
University of Algarve	30,0–34,6	82,1	35,1	66,9	8,2	12,2
University of Coimbra	30,0–34,6	46,8	45,6	63,2	20,8	27,3
University of Lisbon	30,0–34,6	49,5	44,7	51,3	22	17,5
NOVA University of Lisbon	30,0–34,6	57,4	40,6	56,6	13,8	24,5
University of Aveiro	25,6–29,9	58,4	41,4	45,5	10,6	22,2
ISCTE-University Institute of Lisbon	25,6–29,9	39,2	58,7	47,5	15,9	20,6
University of Porto	25,6–29,9	51,3	36	62,2	17,5	16,7
University of Beira Interior	20,9–25,5	42,5	34,4	45,9	9,8	13,1
University of Minho	20,9–25,5	32,6	47,2	49,8	13,9	23,8



Anexo – Metodologia do THE WUR 2020 by subject

Arts and humanities

"The *Times Higher Education* World University Rankings 2020 arts and humanities subject ranking includes a range of narrower subject areas.

The subjects used to create this ranking are:

- Art, performing arts and design
- Languages, literature and linguistics
- History, philosophy and theology
- Architecture
- Archaeology

Different weights and measures

The subject tables employ the same range of <u>13 performance indicators</u> used in the overall <u>World</u> <u>University Rankings 2020</u>, brought together with scores provided under five categories.

However, the overall methodology is carefully recalibrated for each subject, with the weightings changed to suit the individual fields.

The weightings for the arts and humanities ranking are:

- Teaching: the learning environment 37.4 per cent
- Research: volume, income and reputation 37.6 per cent
- Citations: research influence
 15 per cent
- International outlook: staff, students and research 7.5 per cent
- Industry income: innovation 2.5 per cent

Criteria

Two criteria are included in the *THE* subject rankings: a publication threshold by discipline and an academic staff* threshold by discipline.

No institution can be included in the overall World University Rankings unless it has published a minimum of 1,000 relevant publications over the five years that we examine.

For the 11 subject tables, the publication thresholds are set differently. For arts and humanities, the threshold drops to 250 papers published in this discipline over the past five years.

There is also an academic staff criterion. Prior to the 2019 subject rankings, we expected an institution to have at least 5 per cent of its academic staff working in the arts and humanities discipline in order to include it in the subject table.

Since the 2019 subject rankings, we have made a small adjustment to the staff eligibility criterion. An institution needs a minimum proportion or number of staff in this discipline to be included in the subject ranking.

For arts and humanities, we expect an institution to have at least 5 per cent of its academic staff or at least 50 academic staff members in the discipline.

*Academic staff is defined as the full-time equivalent number of staff employed in an academic post, for example, lecturer, reader, professor."¹⁷

¹⁷ <u>https://www.timeshighereducation.com/world-university-rankings/subject-ranking-2020-arts-and-humanities-</u> methodology acedido 20191002

Business and economics

"The *Times Higher Education* World University Rankings 2020 business and economics subject ranking includes narrower subject areas.

The subjects used to create this ranking are:

- Business and management
- Accounting and finance
- Economics and econometrics

Different weights and measures

The subject tables employ the same range of <u>13 performance indicators</u> used in the overall <u>World</u> <u>University Rankings 2020</u>, brought together with scores provided under five categories.

However, the overall methodology is carefully recalibrated for each subject, with the weightings changed to suit the individual fields.

The weightings for the business and economics ranking are:

Teaching: the learning environment

30.9 per cent

- Research: volume, income and reputation
- 32.6 per cent
- Citations: research influence
- 25 per cent
- International outlook: staff, students and research
- 9 per cent
- Industry income: innovation
- 2.5 per cent

Criteria

Two criteria are to be included in the subject rankings: a publication threshold by discipline and an academic staff* threshold by discipline.

No institution can be included in the overall World University Rankings unless it has published a minimum of 1,000 research papers over the five years that we examine.

For each of the 11 subject rankings, the publication thresholds are different. For business and economics, the threshold drops to 200 papers published in this discipline over the past five years.

There is also an academic staff eligibility criterion. Prior to 2019 subject rankings, we expected an institution to have at least 5 per cent of its academic staff working in business and economics in order to include it in the subject table.

Since 2019 subject rankings, we have made a small adjustment to the staff eligibility criterion. An institution needs to have either at least a proportion of staff or a specific number of staff in this discipline to be included in the subject ranking.

For business and economics, we expect an institution either to have at least 5 per cent of its academic staff in the discipline or to have at least 50 academic staff in the discipline.

*Academic staff is defined as the full-time equivalent number of staff employed in an academic post, for example lecturer, reader or professor.

Note: For the 2018 business and economics subject ranking, institutions that did not teach undergraduates were included. For the 2019 and 2020 tables, institutions need to teach at the undergraduate level in order to be included, as per the World University Rankings methodology..^{4 18}

¹⁸ In <u>https://www.timeshighereducation.com/world-university-rankings/subject-ranking-2020-business-and-economics-methodology</u> acedido 20191106

Computer science

"Different weights and measures

The subject tables employ the same range of <u>13 performance indicators</u> used in the overall <u>World</u> <u>University Rankings 2020</u>, brought together with scores provided under five categories.

However, the overall methodology is carefully recalibrated for each subject, with the weightings changed to suit the individual fields.

The weightings for the computer science ranking are:

Teaching: the learning environment 30 per cent
Research: volume, income and reputation 30 per cent
Citations: research influence 27.5 per cent
International outlook: staff, students and research 7.5 per cent
Industry income: innovation 5.0 per cent

Criteria

Two criteria are to be included in the subject rankings: a publication threshold by discipline and an academic staff* threshold by discipline.

No institution can be included in the overall World University Rankings unless it has published a minimum of 1,000 research papers over the five years that we examine.

For the 11 subject rankings, the publication thresholds are different. For computer science, the threshold drops to 500 papers published in this discipline over the past five years.

There is also an academic staff eligibility criterion. Prior to 2019 subject rankings, we expected an institution to have at least 1 per cent of its academic staff working in the computer science discipline in order to include it in the subject table.

Since the 2019 subject rankings, we have made a small adjustment in the staff eligibility criterion. An institution needs either to have a minimum proportion of its staff or a minimum number of staff in this discipline in order to be included in the subject ranking.

For computer science, we expect an institution either to have at least 1 per cent of its academic staff in the computer science discipline or to have at least 20 academic staff in the computer science discipline.

*Academic staff is defined as the full-time equivalent number of staff employed in an academic post, for example lecturer, reader or professor.¹⁹

¹⁹ https://www.timeshighereducation.com/world-university-rankings-subject-ranking-2020-computer-sciencemethodology acedido 20191016

Clinical, pre-clinical and health

"The *Times Higher Education* World University Rankings 2020 clinical, pre-clinical and health subject ranking includes a range of narrower subject areas.

The subjects used to create this ranking are:

- Medicine and dentistry
- Other health

Different weights and measures

The subject tables employ the same range of <u>13 performance indicators</u> used in the overall <u>World</u> <u>University Rankings 2020</u>, brought together with scores provided under five categories.

However, the overall methodology is carefully recalibrated for each subject, with the weightings changed to suit the individual fields.

The weightings for the clinical, pre-clinical and health ranking are:

Teaching: the learning environment 27.5 per cent

Research: volume, income and reputation 27.5 per cent

Citations: research influence 35 per cent

International outlook: staff, students and research 7.5 per cent

Industry income: innovation 2.5 per cent

Criteria

There are two criteria to be included in the subject rankings: a publication threshold by discipline and an academic staff* threshold by discipline.

No institution can be included in the overall World University Rankings unless it has published at least 1,000 research papers over the five years that we examine.

For the 11 subject tables, the publication thresholds are set differently. For clinical, pre-clinical and health, the threshold drops to 500 papers published in this discipline over the past five years.

There is also an academic staff eligibility criterion. Prior to the 2019 subject rankings, an institution had to have at least 5 per cent of its academic staff working in the clinical, pre-clinical and health discipline to be included in the subject table.

Since the 2019 subject rankings, we have made a small adjustment in the staff eligibility criterion. An institution must have at least a minimum proportion of its staff or at least a minimum specific number of its staff in this discipline to be included in the subject ranking.

For clinical, pre-clinical and health, an institution must have at least 5 per cent of its academic staff or *at* least 50 academic staff in the discipline.

*Academic staff is defined as the full-time equivalent number of staff employed in an academic post, eg, lecturer, reader, professor."²⁰

²⁰ <u>https://www.timeshighereducation.com/world-university-rankings/subject-ranking-2020-clinical-pre-clinical-and-health-methodology</u> acedido 20191119

Education

"The *Times Higher Education* World University Rankings 2020 education subject ranking includes narrower subject areas.

The subjects used to create this ranking are:

- Education
- Teacher training
- Academic studies in education

Different weights and measures

The subject tables employ the same range of <u>13 performance indicators</u> used in the overall <u>World</u> <u>University Rankings 2020</u>, brought together with scores provided under five categories.

However, the overall methodology is carefully recalibrated for each subject, with the weightings changed to suit the individual fields.

The weightings for the education ranking are:

• Teaching: the learning environment

- 32.7 per cent
- Research: volume, income and reputation
- 29.8 per cent
- Citations: research influence
- 27.5 per cent
- International outlook: staff, students and research
- 7.5 per cent
- Industry income: innovation
- 2.5 per cent

Criteria

Two criteria are to be included in the subject rankings: a publication threshold by discipline and an academic staff* threshold by discipline.

No institution can be included in the overall World University Rankings unless it has published a minimum of 1,000 research papers over the five years that we examine.

For each of the 11 subject rankings, the publication thresholds are different. For education, the threshold drops to 100 papers published in this discipline over the past five years.

There is also an academic staff eligibility criterion. Prior to 2019 subject rankings, we expected an institution to have at least 1 per cent of its academic staff working in education in order to include it in the subject table.

Since the 2019 subject rankings, we have made a small adjustment to the staff eligibility criterion. An institution needs to have either at least a proportion of staff or a specific number of staff in this discipline to be included in the subject ranking.

For education, we expect an institution either to have at least 1 per cent of its academic staff in education or to have at least 20 academic staff in education.

*Academic staff is defined as the full-time equivalent number of staff employed in an academic post, for example lecturer, reader or professor.^{*21}

²¹ In <u>https://www.timeshighereducation.com/world-university-rankings/subject-ranking-2020-education-methodology</u>acedido 20191106

Engineering and technology

"The *Times Higher Education* World University Rankings 2020 engineering and technology subject ranking includes a range of narrower subject areas.

The subjects used to create this rankings are:

- General engineering
- Electrical and electronic engineering
- Mechanical and aerospace engineering
- Civil engineering
- Chemical engineering

Different weights and measures

The subject tables employ the same range of <u>13 performance indicators</u> used in the overall <u>World</u> <u>University Rankings 2019</u>, [SIC] brought together with scores provided under five categories.

However, the overall methodology is carefully recalibrated for each subject, with the weightings changed to suit the individual fields.

The weightings for the engineering and technology ranking are:

• Teaching: the learning environment

30.0 per cent

- Research: volume, income and reputation
- 30.0 per cent
- Citations: research influence
- 27.5 per cent
- International outlook: staff, students and research

7.5 per cent

Industry income: innovation

5.0 per cent

Criteria

Two criteria are to be included in the subject rankings: a publication threshold by discipline and an academic staff* threshold by discipline.

No institution can be included in the overall World University Rankings unless it has published a minimum of 1,000 research papers over the five years that we examine.

For the 11 subject rankings, the publication thresholds are different. For engineering and technology, the threshold drops to 500 papers published in this discipline over the past five years.

There is also an academic staff eligibility criterion. Prior to the 2019 subject rankings, we expected an institution to have at least 4 per cent of its academic staff working in the engineering and technology discipline in order to include it in the subject table.

Since the 2019 subject rankings, we have made a small adjustment in the staff eligibility criterion. An institution needs to have either at least a proportion of staff or a minimum number of staff in this discipline to be included in the subject ranking.

For engineering and technology, we expect an institution either to have at least 4 per cent of its academic staff in the engineering and technology discipline or to have at least 40 academic staff in the engineering and technology discipline.

*Academic staff is defined as the full-time equivalent number of staff employed in an academic post, for example lecturer, reader or professor."²²

²² <u>https://www.timeshighereducation.com/world-university-rankings/subject-ranking-2020-engineering-and-technology-</u> methodology_acedido 20191016

Law

"Different weights and measures

The subject tables employ the same range of <u>13 performance indicators</u> used in the overall <u>World</u> <u>University Rankings 2020</u>, brought together with scores provided under five categories.

However, the overall methodology is carefully recalibrated for each subject, with the weightings changed to suit the individual fields.

The weightings for the law ranking are:

- Teaching: the learning environment
- 32.7 per cent

Research: volume, income and reputation

- 30.8 per cent
 Citations: research influence
- 25 per cent
- International outlook: staff, students and research
- 9 per cent
- Industry income: innovation
- 2.5 per cent

Criteria

Two criteria are to be included in the subject rankings: a publication threshold by discipline and an academic staff* threshold by discipline.

No institution can be included in the overall World University Rankings unless it has published a minimum of 1,000 research papers over the five years that we examine.

For each of the 11 subject rankings, the publication thresholds are different. For law, the threshold drops to 100 papers published in this discipline over the past five years.

There is also an academic staff eligibility criterion. Prior to 2019 subject rankings, we expected an institution to have at least 1 per cent of its academic staff working in the law discipline in order to include it in the subject table.

Since the 2019 subject rankings, we have made a small adjustment to the staff eligibility criterion. An institution needs to have either at least a proportion of staff or a specific number of staff in this discipline to be included in the subject ranking.

For law, we expect an institution either to have at least 1 per cent of its academic staff in the discipline or to have at least 20 academic staff in the discipline.

*Academic staff is defined as the full-time equivalent number of staff employed in an academic post, for example lecturer, reader or professor.²³

²³ In <u>https://www.timeshighereducation.com/world-university-rankings/subject-ranking-2020-law-methodology</u> acedido 20191106

Life sciences

"The *Times Higher Education* World University Rankings 2020 life sciences subject ranking includes a wide range of narrower subject areas.

The subjects used to create this ranking are:

- Agriculture and forestry
- Biological sciences
- Veterinary science
- Sport science

Different weights and measures

The subject tables employ the same range of <u>13 performance indicators</u> used in the overall <u>World</u> <u>University Rankings 2020</u>, brought together with scores provided under five categories.

However, the overall methodology is carefully recalibrated for each subject, with the weightings changed to suit the individual fields.

The weightings for the life sciences ranking are:

- Teaching: the learning environment
- 27.5 per cent
- Research: volume, income and reputation
- 27.5 per cent
- Citations: research influence
- St per cent
 International outlook: staff, students and research
- 7.5 per cent
- Industry income: innovation
- 2.5 per cent

Criteria

Two criteria are included in the subject rankings: a publication threshold by discipline and an academic staff* threshold by discipline.

No institution can be included in the overall World University Rankings unless it has published a minimum of 1,000 research papers over the five years that we examine.

For the 11 subject tables, the publication thresholds are set differently. For life sciences, the threshold drops to 500 papers published in this discipline over the past five years.

There is also an academic staff eligibility criterion. Prior to the 2019 subject rankings, we expected an institution to have at least 5 per cent of its academic staff working in the life sciences discipline in order to include it in the subject table.

Since the 2019 subject rankings, we have made a small adjustment in the staff eligibility criterion. An institution needs to have either a minimum proportion of its staff or a minimum number of staff in this discipline to be included in the subject ranking.

For life sciences, we expect an institution either to have at least 5 per cent of its academic staff in the life sciences discipline or to have at least 50 academic staff in the life sciences discipline.

*Academic staff is defined as the full-time equivalent number of staff employed in an academic post, for example, lecturer, reader, professor."²⁴

²⁴ <u>https://www.timeshighereducation.com/world-university-rankings/subject-ranking-2020-life-sciences-methodology</u> acedido 20191119

Physical sciences

"The *Times Higher Education* World University Rankings 2020 physical sciences subject ranking includes a narrower range of subject areas.

The subjects used to create this ranking are:

- Mathematics and statistics
- Physics and astronomy
- Chemistry
- Geology, environmental, earth and marine sciences

Different weights and measures

The subject tables employ the same range of <u>13 performance indicators</u> used in the overall <u>World</u> <u>University Rankings 2020</u>, brought together with scores provided under five categories.

However, the overall methodology is carefully recalibrated for each subject, with the weightings changed to suit the individual fields.

The weightings for the physical sciences ranking are:

- Teaching: the learning environment
- 27.5 per cent
- Research: volume, income and reputation
- 27.5 per cent
- Citations: research influence
- 35 per cent
 International outlook: staff, students and research
- 7.5 per cent
- Industry income: innovation
- 2.5 per cent

Criteria

Two criteria are included in the subject rankings: a publication threshold by discipline and an academic staff* threshold by discipline.

No institution can be included in the overall World University Rankings unless it has published a minimum of 1,000 research papers over the five years that we examine.

For the 11 subject tables, the publication thresholds are set differently. For physical sciences, the threshold drops to 500 papers published in this discipline over the past five years.

There is also an academic staff eligibility criterion. Prior to the 2019 subject rankings, we expected an institution to have at least 5 per cent of its academic staff working in the physical sciences discipline in order to include it in the subject table.

Since the 2019 subject rankings, we have made a small adjustment in the staff eligibility criterion. An institution needs to have either a minimum proportion of its staff or a minimum number of staff in this discipline to be included in the subject ranking.

For physical sciences, we expect an institution either to have at least 5 per cent of its academic staff in the physical sciences discipline or to have at least 50 academic staff in the physical sciences discipline.

*Academic staff is defined as the full-time equivalent number of staff employed in an academic post, for example, lecturer, reader, professor.²⁵

²⁵ https://www.timeshighereducation.com/world-university-rankings/subject-ranking-2020-physical-sciencesmethodology acedido 20191119

Psychology

"The *Times Higher Education* World University Rankings 2020 psychology subject ranking includes a range of narrower subject areas.

The subjects used to create this ranking are:

- Psychology
- Educational/sport /business/animal psychology
- Clinical psychology

Different weights and measures

The subject tables employ the same range of <u>13 performance indicators</u> used in the overall <u>World</u> <u>University Rankings 2020</u>, brought together with scores provided under five categories.

However, the overall methodology is carefully recalibrated for each subject, with the weightings changed to suit the individual fields.

The weightings for the psychology ranking are:

Teaching: the learning environment

27.5 per cent

Research: volume, income and reputation

27.5 per cent

- Citations: research influence
- 35 per cent
- International outlook: staff, students and research

7.5 per cent

Industry income: innovation

2.5 per cent

Criteria

There are two criteria to be included in the subject rankings: a publication threshold by discipline and an academic staff * threshold by discipline.

No institution can be included in the overall World University Rankings unless it has published at least 1,000 research papers over the five years that we examine.

For the 11 subject tables, the publication thresholds are set differently.

For psychology, the threshold drops to 150 papers published in this discipline over the past five years.

There is also an academic staff eligibility criterion. Prior to the 2019 subject rankings, an institution had to have at least 1 per cent of its academic staff working in the psychology discipline to be included in the subject table.

Since the 2019 subject rankings, we have made a small adjustment in the staff eligibility criterion. An institution needs to have either a minimum proportion of its staff or a minimum number of staff members in this discipline to be included in the subject ranking.

For psychology, an institution must have at least 1 per cent of its academic staff or at least 20 academic staff in this discipline.

*Academic staff is defined as the full-time equivalent number of staff employed in an academic post, eg, lecturer, reader, professor."²⁶

²⁶ <u>https://www.timeshighereducation.com/world-university-rankings/subject-ranking-2020-psychology-methodology</u> acedido 20191119

Social sciences

"The *Times Higher Education* World University Rankings 2020 social sciences subject ranking includes a range of narrower subject areas.

The subjects used to create this ranking are:

- Communication and media studies
- Politics and international studies (including development studies)
- Sociology
- Geography

Different weights and measures

The subject tables employ the same range of <u>13 performance indicators</u> used in the overall <u>World</u> <u>University Rankings 2020</u>, brought together with scores provided under five categories.

However, the overall methodology is carefully recalibrated for each subject, with the weightings changed to suit the individual fields.

The weightings for the social sciences ranking are:

• Teaching: the learning environment

32.4 per cent

- Research: volume, income and reputation
- 32.6 per cent
- Citations: research influence
- 25 per cent
- International outlook: staff, students and research
- 7.5 per cent
- Industry income: innovation
- 2.5 per cent

Criteria

Two criteria are to be included in the subject rankings: a publication threshold by discipline and an academic staff* threshold by discipline.

No institution can be included in the overall World University Rankings unless it has published a minimum of 1,000 research papers over the five years that we examine.

For each of the 11 subject rankings, the publication thresholds are different. For social sciences, the threshold drops to 200 papers published in this discipline over the past five years.

There is also an academic staff eligibility criterion. Prior to 2019 subject rankings, we expected an institution to have at least 4 per cent of its academic staff working in the social sciences discipline in order to include it in the subject table.

Since the 2019 subject rankings, we have made a small adjustment to the staff eligibility criterion. An institution needs to have either at least a proportion of staff or a specific number of staff in this discipline to be included in the subject ranking.

For social sciences, we expect an institution either to have at least 4 per cent of its academic staff in the social sciences discipline or to have at least 40 academic staff in the social sciences discipline.

*Academic staff is defined as the full-time equivalent number of staff employed in an academic post, for example lecturer, reader or professor."²⁷

²⁷ <u>https://www.timeshighereducation.com/world-university-rankings/subject-ranking-2020-social-sciences-methodology</u> acedido 20191106