

U-Multirank 2017

<http://www.umultirank.org/>

Gabinete de Estudos Estratégico e Melhoria Contínua

Reitoria da Universidade do Porto

30 de junho de 2017

Versão 2, 11 de outubro de 2017

Versão 3, 12 de outubro de 2017

(A versão 3 altera o título do Relatório, acrescenta uma nota adicional na página 3 e discrimina as várias referências à U. Lisboa nas tabelas 4.2, 4.4, 4.6, 4.8 e 4.9)

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Na edição de 2017 do U-Multirank foram disponibilizados 28 “readymade rankings”.

Em cada um, identificaram-se as posições das Instituições de Ensino Superior (IES) portuguesas.

Apenas o Readymade Research and Research Linkages Ranking (RRRLR) é elaborado sem recurso a informação disponibilizada pelas IES.

Em 2016, a Universidade do Porto deixou de responder à solicitação de informação do U-Multirank, quer a nível institucional quer a nível de áreas/ciclos de estudos. Por essa razão, nos Readymade Universities of Science and Technology Rankings (RUSTR), a U.Porto tem pontuação apenas nas áreas em que são usados dados reportados pelas IES até 2015.

1. Readymade Research and Research Linkages Ranking (RRRLR)

“This readymade ranking compares selected U-Multirank institutions in terms of seven different bibliometric performance indicators in the areas of research and research linkages.

[...]

Citation rate - The average number of times the university's research publications (over the period 2011-2014) are cited in other research; adjusted (normalized) at the global level to take into account differences in publication years and to allow for differences in citation customs across academic fields.

Research publications (absolute numbers) - The number of university's research publications (indexed in the Web of Science Core Collections database), where at least one author is affiliated to the source university or higher education institution.

Research publications (size-normalised) - The number of research publications (indexed in the Web of Science database), where at least one author is affiliated to the university (relative to the number of students).

Top cited publications - The proportion of the university's research publications that, compared to other publications in the same field and in the same year, belong to the top 10% most frequently cited worldwide.

Co-publications with industrial partners - The percentage of the university's research publications that list an author affiliate with an address referring to a for-profit business enterprises or private sector R&D unit (excludes for-profit hospitals and education organisations).

International joint publications - The percentage of the university's research publications that list at least one affiliate author's address located in another country.

Regional joint publications - The percentage of the university's research publications that list at least one co-author with an affiliate address located in the same spatial region (within a distance of 50 km).”¹

1.1 Evolução² das posições e scores da U.Porto no U-Multirank RRRLR

		2015	2016	2017
	# World	505/1086	529/1167	581/1268
	# PT	6/14	8/17	8/18
Research	Citation rate	B	B	B
Research	Research publications (absolute numbers)	A	B	B
	Research publications (size-normalised)	A	A	A
	Top cited publications	B	B	C
Knowledge Transfer	Co-publications with industrial partners	D	D	C
International Orientation	International joint publications	A	B	B
Regional Engagement	Regional joint publications	A	B	A

A (Very good); B (Good); C (Average); D (Below average); E (Weak); - Data unavailable; x - Not applicable

¹<http://www.umultirank.org/#!/readymade?trackType=illustrative&sightMode=undefined&ranking=6&sortCol=sortValues%5B0%5D&sortOrder=asc§ion=illustrativeRanking> acedido 30 de março de 2017.

² Informação de 2015 acedida em 30 de março de 2015; a de 2016 acedida em 4 de abril de 2016; a de 2017 em 30 de março de 2017.

1.2 Instituições portuguesas no U-Multirank Readymade Research and Research Linkages Ranking 2017

				Research				Knowledge Transfer	International Orientation	Regional Engagement
# 2017	# 2016	# 2015	IES	Citation rate	Research publications (absolute numbers)	Research publications (size-normalised)	Top cited publications	Co-publications with industrial partners	International joint publications	Regional joint publications
298	157	188	U Madeira	B	C	C	B	C	A	D
390	316	272	Catholic U Portugal	B	C	D	B	D	C	A
445	452	446	U Aveiro	B	B	A	B	C	A	D
463	396	447	U Nova Lisbon	B	B	A	B	C	A	A
475	464	444	U Minho	B	B	A	B	C	A	B
553	605	605	U Algarve	B	C	B	B	C	A	D
580	--	--	U Lusófona	B	C	D	C	D	B	A
581	529	505	U Porto	B	B	A	C	C	B	A
585	575	568	U Coimbra	B	B	A	C	C	A	C
589	516	523	U Lisbon	B	B	A	B	C	A	B
634	622	648	U Beira Interior	C	C	B	C	C	C	D
689	720	--	U Trás-os-Montes & Alto Douro	C	C	B	C	C	B	D
751	673	655	U Evora	C	C	B	C	D	A	D
757	1089	--	U Aberta	C	D	D	C	D	B	A
863	600	587	U Institute Lisbon	C	C	D	C	D	B	A
876	701	688	U Fernando Pessoa	C	D	C	D	D	C	A
891	173	--	U Institute Maia	C	D	D	D	E	B	A
1243	1148	1071	Portucalense U	x	D	D	x	-	x	-
#IES 1268	#IES 1167	#IES 1086								

A (Very good); B (Good); C (Average); D (Below average); E (Weak); - Data unavailable; x - Not applicable

Total 1268 IES, das quais 12 com todos os 7 indicadores classificados com "- Data unavailable"

2. Readymade Teaching & Learning Rankings (RT&LR)

2.1 Biology

“1. The aims of this readymade ranking

This readymade ranking aims to show how selected U-Multirank institutions are performing in terms of eight performance indicators on teaching and learning. While it is not possible to produce a definitive list of the world's “top performing” universities in terms of teaching, U-Multirank shows top performances in different aspects of teaching and learning, including the assessment of their learning experience by the students of the institutions.

2. The selection of institutions to compare

In this comparison of the teaching and learning dimension the U-Multirank team has opted to compare institutions which are offering Master degrees in the field (the principle of comparing “like with like”). Applying this criterion gives us a group of 42 institutions to compare.

3. The selection of indicators

In U-Multirank we have a number of indicators referring to teaching and learning. For this comparison we have selected eight indicators: graduation on time, the percentage of academic staff with a completed doctorate (as an indicator of the academic qualification of the staff), contacts to work environment, the overall learning experience and the quality of courses from the student perspective, the international orientation of master programmes and the students' views on opportunities to include a stay abroad are applied in all fields. In addition we use indicators which are specific for the field; for biology we selected the assessment of laboratory facilities by students.

4. An example of an interesting result

In biology no institution scored “A” on all or most eight indicators. Two institutions out of the 42 departments achieve an “A” (very good) score on three out of the eight selected indicators. This demonstrates a quite good all-round performance in teaching. At the same time it indicates that there is no “the best” university in teaching and learning. Sorting by the indicator “international orientation of master programmes”, which looks on the existence of joint degree programmes, student exchange and the international experience of academic staff, 8 institutions have an “A” score. On the indicator “contacts to work environment”, which looks on the inclusion of work practice into the degree programmes, only five institutions have an “A” score and many of them do not perform well on international orientation. Many of the institutions which perform well in these readymade subject rankings do not feature in any of the other three major global rankings (ARWU, QS & THE) which have a strong focus on research performance. This further illustrates the U-Multirank conclusion that there are many dimensions of university performance and that many high-performing institutions are not captured by the other global university rankings.”³

³ http://www.umultirank.org/cms/wp-content/uploads/2017/06/U-Multiranks-2017-Subject-Rankings_Teaching-and-Learning_Biology_Description.pdf acedido 30 de junho de 2017

Instituições portuguesas no U-Multirank Readymade Teaching & Learning Rankings: Biology

				Teaching & Learning			Teaching & Learning (Students' views)			International Orientation		
# World		#PT		IES	Graduating on time (masters)	Academic staff with doctorates	Contact with work environment (masters)	Overall learning experience	Quality of courses & teaching	Laboratory facilities	International orientation of master programmes	Opportunities to study abroad
2017	2016	2017	2016									
5	7	1	1	Catholic U Portugal	D	C	C	B	B	A	A	-
30	32	2	5	U Beira Interior	B	A	E	C	C	B	D	C
42	312	2	14	# IES								

A (Very good); B (Good); C (Average); D (Below average); E (Weak); - Data unavailable; x - Not applicable

A última atualização dos dados, por parte das IES, foi em 2016.

2.2 Business Studies Programmes

“1. The aims of this readymade ranking

This readymade ranking aims to show how selected U-Multirank institutions are performing in terms of eight performance indicators on teaching and learning. While it is not possible to produce a definitive list of the world’s “top performing” universities in terms of teaching, U-Multirank shows top performances in different aspects of teaching and learning, including the assessment of their learning experience by the students of the institutions.

2. The selection of institutions to compare

In this comparison of the teaching and learning dimension the U-Multirank team has opted to compare institutions which are offering Master degrees in the field (the principle of comparing “like with like”). Applying this criterion gives us a group of 135 institutions to compare.

3. The selection of indicators

In U-Multirank we have a number of indicators referring to teaching and learning. For this comparison we have selected eight indicators: graduating on time, the percentage of academic staff with a completed doctorate (as an indicator of the academic qualification of the staff), contacts to work environment, the overall learning experience, the quality of courses and the contacts to teachers from the student perspective as well as the international orientation of master programmes and the students’ views on opportunities to include a stay abroad.

4. An example of an interesting result

In business studies one out of the 135 departments achieve an “A” (very good) score on five out of the eight selected indicators; another three institutions had four “A” scores. This demonstrates a good all-round performance in teaching. At the same time it indicates that there is no “the best” university in teaching and learning. Sorting by the indicator “contacts to work environment” which looks on the inclusion of work experience into the programmes (by internships and teaching by people from business) 9 institutions are ranked top (with an “A” score). Three of them at the same time have an “A” score on the international orientation of master programmes.

Most of those institutions are private business schools or universities of applied science and do not feature at all in any of the other three major global rankings (ARWU, QS & THE) which have a strong focus on research performance. This further illustrates the U-Multirank conclusion that there are many dimensions of university performance and that many high-performing institutions are not captured by the other global university rankings.”⁴

⁴ http://www.umultirank.org/cms/wp-content/uploads/2017/06/U-Multiranks-2017-Subject-Rankings_Teaching-and-Learning_Business-Studies_Description.pdf acedido a 30 de junho de 2017.

Instituições portuguesas no U-Multirank Readymade Teaching & Learning Rankings: Business Studies Programmes

				IES	Teaching & Learning			Teaching & Learning (Students' views)			International Orientation		
# World		# PT			Graduating on time (masters)	Academic staff with doctorates	Contact with work environment (masters)	Overall learning experience	Quality of courses & teaching	Contact with teachers	International orientation of master programmes	Opportunities to study abroad	
2017	2016	2017	2016										
6	--	1	--	U Beira Interior	C	C	-	A	A	A	B	B	
14	--	2	--	U Institute Lisbon	B	-	A	C	C	B	A	C	
78	253	3	7	U Lisbon	B	C	-	C	C	C	A	D	
94	59	4	1	Catholic U Portugal	B	D	C	C	C	C	A	C	
126	325	5	10	Polytech. Inst. Lisbon	D	D	-	D	D	C	B	-	
129	--	6	--	U Lusófona	C	C	-	D	D	D	B	D	
135	401	6	15	# IES									

A (Very good) ; B (Good); C (Average); D (Below average); E (Weak); - Data unavailable; x - Not applicable

A última atualização dos dados, por parte das IES, foi em 2017.

2.3 Chemical Engineering

“1. The aims of this readymade ranking

This readymade ranking aims to show how selected U-Multirank institutions are performing in terms of eight performance indicators on teaching and learning. While it is not possible to produce a definitive list of the world’s “top performing” universities in terms of teaching, U-Multirank shows top performances in different aspects of teaching and learning, including the assessment of their learning experience by the students of the institutions.

2. The selection of institutions to compare

In this comparison of the teaching and learning dimension the U-Multirank team has opted to compare institutions which are offering Master degrees in the field (the principle of comparing “like with like”). Applying this criterion gives us a group of 15 institutions to compare.

3. The selection of indicators

In U-Multirank we have a number of indicators referring to teaching and learning. For this comparison we have selected eight indicators: graduating on time, the percentage of academic staff with a completed doctorate (as an indicator of the academic qualification of the staff), contacts to work environment, the overall learning experience, the quality of courses and the contacts to teachers from the student perspective as well as the international orientation of master programmes and the students’ views on opportunities to include a stay abroad.

4. An example of an interesting result

In chemical engineering two out of the 15 departments achieve an “A” (very good) score on two out of the eight selected indicators; another six institutions with one “A” score. This demonstrates a good all-round performance in teaching. At the same time it indicates that there is no “the best” university in teaching and learning. Sorting by the indicator “international orientation of master programmes”, five institutions have an “A” score.

Many of the institutions which perform well in these readymade subject rankings do not feature in any of the other three major global rankings (ARWU, QS & THE) which have a strong focus on research performance. This further illustrates the U-Multirank conclusion that there are many dimensions of university performance and that many high-performing institutions are not captured by the other global university rankings.”⁵

Neste novo ranking, entre as 15 instituições listadas não está nenhuma portuguesa.

⁵ http://www.umultirank.org/cms/wp-content/uploads/2017/06/U-Multiranks-2017-Subject-Rankings_Teaching-and-Learning_Chemical-Engineering_Description.pdf acedido 30 de junho de 2017

2.4 Chemistry

“1. The aims of this readymade ranking

This readymade ranking aims to show how selected U-Multirank institutions are performing in terms of eight performance indicators on teaching and learning. While it is not possible to produce a definitive list of the world’s “top performing” universities in terms of teaching, U-Multirank shows top performances in different aspects of teaching and learning, including the assessment of their learning experience by the students of the institutions.

2. The selection of institutions to compare

In this comparison of the teaching and learning dimension the U-Multirank team has opted to compare institutions which are offering Master degrees in the field (the principle of comparing “like with like”). Applying this criterion gives us a group of 36 institutions to compare.

3. The selection of indicators

In U-Multirank we have a number of indicators referring to teaching and learning. For this comparison we have selected eight indicators: graduation on time, the percentage of academic staff with a completed doctorate (as an indicator of the academic qualification of the staff), contacts to work environment, the overall learning experience and the quality of courses from the student perspective, the international orientation of master programmes and the students’ views on opportunities to include a stay abroad are applied in all fields. In addition we use indicators which are specific for the field; for chemistry we selected the assessment of laboratory facilities by students.

4. An example of an interesting result

In chemistry no institution scored “A” on all or most eight indicators. Two institutions out of the 36 departments achieve an “A” (very good) score on three out of the eight selected indicators. This demonstrates a quite good all-round performance in teaching. At the same time it indicates that there is no “the best” university in teaching and learning. Sorting by the indicator “international orientation of master programmes”, which looks on the existence of joint degree programmes, student exchange and the international experience of academic staff, 3 institutions have an “A” score. On the indicator “contacts to work environment”, which looks on the inclusion of work practice into the degree programmes, only six institutions have an “A” score and many of them do not perform well on international orientation.

Many of the institutions which perform well in these readymade subject rankings do not feature in any of the other three major global rankings (ARWU, QS & THE) which have a strong focus on research performance. This further illustrates the U-Multirank conclusion that there are many dimensions of university performance and that many high-performing institutions are not captured by the other global university rankings.”⁶

Na edição 2017 deste ranking, entre as 36 instituições listadas não está nenhuma portuguesa. Na edição de 2016, entre 287 estavam 8 portuguesas.

⁶ http://www.umultirank.org/cms/wp-content/uploads/2017/06/U-Multiranks-2017-Subject-Rankings_Teaching-and-Learning_Chemistry_Description.pdf acessido 30 de junho de 2017

2.5 Civil Engineering

“ 1. The aims of this readymade ranking

This readymade ranking aims to show how selected U-Multirank institutions are performing in terms of eight performance indicators on teaching and learning. While it is not possible to produce a definitive list of the world's “top performing” universities in terms of teaching, U-Multirank shows top performances in different aspects of teaching and learning, including the assessment of their learning experience by the students of the institutions.

2. The selection of institutions to compare

In this comparison of the teaching and learning dimension the U-Multirank team has opted to compare institutions which are offering Master degrees in the field (the principle of comparing “like with like”). Applying this criterion gives us a group of 35 institutions to compare.

3. The selection of indicators

In U-Multirank we have a number of indicators referring to teaching and learning. For this comparison we have selected eight indicators: graduating on time, the percentage of academic staff with a completed doctorate (as an indicator of the academic qualification of the staff), contacts to work environment, the overall learning experience, the quality of courses and the contacts to teachers from the student perspective as well as the international orientation of master programmes and the students' views on opportunities to include a stay abroad.

4. An example of an interesting result

In civil engineering two out of the 35 departments achieve an “A” (very good) score on two out of the eight selected indicators; another three institutions had four “B” scores. This demonstrates a good all-round performance in teaching. At the same time it indicates that there is no “the best” university in teaching and learning. Sorting by the indicator “contacts to work environment” which looks on the inclusion of work experience into the programmes (by internships and teaching by people from business) just one institution is ranked top (with an “A” score). But at the same time it has a “C” score on the international orientation of master programmes.

Many of the institutions which perform well in these readymade subject rankings do not feature in any of the other three major global rankings (ARWU, QS & THE) which have a strong focus on research performance. This further illustrates the U-Multirank conclusion that there are many dimensions of university performance and that many high-performing institutions are not captured by the other global university rankings.”⁷

⁷ http://www.umultirank.org/cms/wp-content/uploads/2017/06/U-Multiranks-2017-Subject-Rankings_Teaching-and-Learning_Civil-Engineering_Description.pdf acedido 30 de junho de 2017

Instituições portuguesas no U-Multirank Readymade Teaching & Learning Rankings: Civil Engineering

			Teaching & Learning			Teaching & Learning (Students' views)			International Orientation	
# World	# PT	IES	Graduating on time (masters)	Academic staff with doctorates	Contact with work environment (masters)	Overall learning experience	Quality of courses & teaching	Contact with teachers	International orientation of master programmes	Opportunities to study abroad
9	1	Polytech. Inst. Leiria	D	C	-	C	B	B	A	C
19	2	U Beira Interior	D	-	-	B	B	B	C	C
35	2	# IES								

A (Very good); B (Good); C (Average); D (Below average); E (Weak); - Data unavailable; x - Not applicable

A última atualização dos dados, por parte das IES, foi em 2017.

2.6 Computer Science Programmes

“1. The aims of this readymade ranking

This readymade ranking aims to show how selected U-Multirank institutions are performing in terms of eight performance indicators on teaching and learning. While it is not possible to produce a definitive list of the world’s “top performing” universities in terms of teaching, U-Multirank shows top performances in different aspects of teaching and learning, including the assessment of their learning experience by the students of the institutions.

2. The selection of institutions to compare

In this comparison of the teaching and learning dimension the U-Multirank team has opted to compare institutions which are offering Master degrees in the field (the principle of comparing “like with like”). Applying this criterion gives us a group of 96 institutions to compare.

3. The selection of indicators

In U-Multirank we have a number of indicators referring to teaching and learning. For this comparison we have selected eight indicators: the student-staff-ratio, the percentage of academic staff with a completed doctorate (as an indicator of the academic qualification of the staff), contacts to work environment, the overall learning experience and the quality of courses from the student perspective, the international orientation of master programmes and the students’ views on opportunities to include a stay abroad are applied in all fields. In addition we use indicators which are specific for the field; for computer science we selected the assessment of IT provision by students.

4. An example of an interesting result

In computer science no institution scored “A” on all or at least more than half of the indicators. Three institutions out of the 96 departments achieve an “A” (very good) score on three out of the eight selected indicators. On the one hand this demonstrates a quite good all-round performance in teaching of those institutions. On the other hand it indicates that there is no “the best” university in teaching and learning. Sorting by the indicator “international orientation of master programmes”, which looks on the existence of joint degree programmes, student exchange and the international experience of academic staff, 21 institutions have an “A” score. Four of them were also assessed positively (at least a “B” score) by their students in terms of support to study broad – they may be particularly interesting for students who are looking for an international experience. Those examples show that different institutions score highest on different indicators.

Many of the institutions which perform well in these readymade subject rankings do not feature in any of the other three major global rankings (ARWU, QS & THE) which have a strong focus on research performance. This further illustrates the U-Multirank conclusion that there are many dimensions of university performance and that many high-performing institutions are not captured by the other global university rankings.⁸

⁸ http://www.umultirank.org/cms/wp-content/uploads/2017/06/U-Multiranks-2017-Subject-Rankings_Teaching-and-Learning_Computer-Science_Description.pdf accedido 30 de junho de 2017

Instituições portuguesas no U-Multirank Readymade Teaching & Learning Rankings: Computer Science Programmes

				Teaching & Learning			Teaching & Learning (Students' views)			International Orientation		
# World		# PT		IES	Student-staff ratio	Academic staff with doctorates	Contact with work environment (masters)	Overall learning experience	Quality of courses & teaching	IT provision	International orientation of master programmes	Opportunities to study abroad
2017	2016	2017	2016									
43	242	1	11	U Lisbon	C	A	D	C	D	C	C	-
57	271	2	13	U Institute Lisbon	C	-	D	B	B	C	-	B
66		3		U Lisbon	C	-	D	C	C	B	B	-
75	218	4	9	U Madeira	B	C	D	-	D	D	C	-
86		5		U Lusófona	B	C	C	D	D	D	C	D
96	397	5	19	# IES								

A (Very good) ; B (Good); C (Average); D (Below average); E (Weak); - Data unavailable; x - Not applicable

A U.Lisboa é listada duas vezes.

A última atualização dos dados, por parte das IES, foi em 2017.

2.7 Economics

“1. The aims of this readymade ranking

This readymade ranking aims to show how selected U-Multirank institutions are performing in terms of eight performance indicators on teaching and learning. While it is not possible to produce a definitive list of the world’s “top performing” universities in terms of teaching, U-Multirank shows top performances in different aspects of teaching and learning, including the assessment of their learning experience by the students of the institutions.

2. The selection of institutions to compare

In this comparison of the teaching and learning dimension the U-Multirank team has opted to compare institutions which are offering Master degrees in the field (the principle of comparing “like with like”). Applying this criterion gives us a group of 54 institutions to compare.

3. The selection of indicators

In U-Multirank we have a number of indicators referring to teaching and learning. For this comparison we have selected eight indicators: graduating on time, the percentage of academic staff with a completed doctorate (as an indicator of the academic qualification of the staff), contacts to work environment, the overall learning experience, the quality of courses and the contacts to teachers from the student perspective as well as the international orientation of master programmes and the students’ views on opportunities to include a stay abroad.

4. An example of an interesting result

In economics one out of the 54 departments achieve an “A” (very good) score on three out of the eight selected indicators; another one institution had six “B” scores. This demonstrates a good all-round performance in teaching. At the same time it indicates that there is no “the best” university in teaching and learning. Sorting by the indicator “contacts to work environment” which looks on the inclusion of work experience into the programmes (by internships and teaching by people from business) three institutions are ranked top (with an “A” score). None of them at the same time have an “A” score on the international orientation of master programmes.

Many of the institutions which perform well in these readymade subject rankings do not feature in any of the other three major global rankings (ARWU, QS & THE) which have a strong focus on research performance. This further illustrates the U-Multirank conclusion that there are many dimensions of university performance and that many high-performing institutions are not captured by the other global university rankings.”⁹

⁹ http://www.umultirank.org/cms/wp-content/uploads/2017/06/U-Multiranks-2017-Subject-Rankings_Teaching-and-Learning_Economics_Description.pdf acedido 30 de junho de 2017

Instituições portuguesas no U-Multirank Readymade Teaching & Learning Rankings: Economics

			Teaching & Learning			Teaching & Learning (Students' views)			International Orientation	
# World	# PT	IES	Graduating on time (masters)	Academic staff with doctorates	Contact with work environment (masters)	Overall learning experience	Quality of courses & teaching	Contact with teachers	International orientation of master programmes	Opportunities to study abroad
31	1	U Institute Lisbon	C	-	D	C	C	B	A	C
33	2	U Lisbon	C	B	-	C	D	D	A	D
34	3	Catholic U Portugal	D	D	-	C	C	C	A	C
49	4	U Beira Interior	C	B	D	C	C	C	-	C
54	4	# IES								

A (Very good) ; B (Good); C (Average); D (Below average); E (Weak); - Data unavailable; x - Not applicable

A última atualização dos dados, por parte das IES, foi em 2017.

2.8 Electrical Engineering Programmes

“1. The aims of this readymade ranking

This readymade ranking aims to show how selected U-Multirank institutions are performing in terms of eight performance indicators on teaching and learning. While it is not possible to produce a definitive list of the world’s “top performing” universities in terms of teaching, U-Multirank shows top performances in different aspects of teaching and learning, including the assessment of their learning experience by the students of the institutions.

2. The selection of institutions to compare

In this comparison of the teaching and learning dimension the U-Multirank team has opted to compare institutions which are offering Master degrees in the field (the principle of comparing “like with like”). Applying this criterion gives us a group of 54 institutions to compare.

3. The selection of indicators

In U-Multirank we have a number of indicators referring to teaching and learning. For this comparison we have selected eight indicators: student-staff-ratio, the percentage of academic staff with a completed doctorate (as an indicator of the academic qualification of the staff), contacts to work environment, the overall learning experience and the quality of courses from the student perspective, the international orientation of master programmes and the students’ views on opportunities to include a stay abroad are applied in all fields. In addition we use indicators which are specific for the field; for electrical engineering we selected the assessment of laboratory facilities by students.

4. An example of an interesting result

In electrical engineering no institution scored “A” on all or most eight indicators. Seven institutions out of the 54 departments achieve an “A” (very good) score on two out of the eight selected indicators. This demonstrates a quite good all-round performance in teaching. At the same time it indicates that there is no “the best” university in teaching and learning. Sorting by the indicator “international orientation of master programmes”, which looks on the existence of joint degree programmes, student exchange and the international experience of academic staff, 14 institutions have an “A” score. On the indicator “contacts to work environment”, which looks on the inclusion of work practice into the degree programmes, only two institutions have an “A” score and many of them do not perform well on international orientation.

Many of the institutions which perform well in these readymade subject rankings do not feature in any of the other three major global rankings (ARWU, QS & THE) which have a strong focus on research performance. This further illustrates the U-Multirank conclusion that there are many dimensions of university performance and that many high-performing institutions are not captured by the other global university rankings.”¹⁰

¹⁰http://www.umultirank.org/cms/wp-content/uploads/2017/06/U-Multiranks-2017-Subject-Rankings_Teaching-and-Learning_Electrical-Engineering_Description.pdf acedido 30 de junho de 2017

Instituições portuguesas no U-Multirank Readymade Teaching & Learning Rankings: Electrical Engineering Programmes

				Teaching & Learning			Teaching & Learning (Students' views)			International Orientation		
# World		# PT		IES	Student-staff ratio	Academic staff with doctorates	Contact with work environment (masters)	Overall learning experience	Quality of courses & teaching	Laboratory facilities	International orientation of master programmes	Opportunities to study abroad
2017	2016	2017	2016									
8		1		U Beira Interior	B	A	-	B	B	-	B	B
37	19	2	1	U Lisbon	C	-	-	C	C	C	B	C
54	210	2	11	# IES								

A (Very good) ; B (Good); C (Average); D (Below average); E (Weak); - Data unavailable; x - Not applicable

A última atualização dos dados, por parte das IES, foi em 2017.

2.9 History

“1. The aims of this readymade ranking

This readymade ranking aims to show how selected U-Multirank institutions are performing in terms of eight performance indicators on teaching and learning. While it is not possible to produce a definitive list of the world’s “top performing” universities in terms of teaching, U-Multirank shows top performances in different aspects of teaching and learning, including the assessment of their learning experience by the students of the institutions.

2. The selection of institutions to compare

In this comparison of the teaching and learning dimension the U-Multirank team has opted to compare institutions which are offering Master degrees in the field (the principle of comparing “like with like”). Applying this criterion gives us a group of 54 institutions to compare.

3. The selection of indicators

In U-Multirank we have a number of indicators referring to teaching and learning. For this comparison we have selected eight indicators: student-staff-ratio, the percentage of academic staff with a completed doctorate (as an indicator of the academic qualification of the staff), contacts to work environment, the overall learning experience and the quality of courses from the student perspective, the international orientation of master programmes and the students’ views on opportunities to include a stay abroad are applied in all fields. In addition we use indicators which are specific for the field; for electrical engineering we selected the assessment of laboratory facilities by students.

4. An example of an interesting result

In electrical engineering no institution scored “A” on all or most eight indicators. Seven institutions out of the 54 departments achieve an “A” (very good) score on two out of the eight selected indicators. This demonstrates a quite good all-round performance in teaching. At the same time it indicates that there is no “the best” university in teaching and learning. Sorting by the indicator “international orientation of master programmes”, which looks on the existence of joint degree programmes, student exchange and the international experience of academic staff, 14 institutions have an “A” score. On the indicator “contacts to work environment”, which looks on the inclusion of work practice into the degree programmes, only two institutions have an “A” score and many of them do not perform well on international orientation.

Many of the institutions which perform well in these readymade subject rankings do not feature in any of the other three major global rankings (ARWU, QS & THE) which have a strong focus on research performance. This further illustrates the U-Multirank conclusion that there are many dimensions of university performance and that many high-performing institutions are not captured by the other global university rankings.”¹¹

Na edição 2017 deste ranking, entre as 33 instituições listadas não está nenhuma portuguesa. Na edição de 2016, entre 154 estavam 8 portuguesas.

¹¹ http://www.umultirank.org/cms/wp-content/uploads/2017/06/U-Multiranks-2017-Subject-Rankings_Teaching-and-Learning_History_Description.pdf acedido 30 de junho de 2017

2.10 Mathematics

“ 1. The aims of this readymade ranking

This readymade ranking aims to show how selected U-Multirank institutions are performing in terms of eight performance indicators on teaching and learning. While it is not possible to produce a definitive list of the world's “top performing” universities in terms of teaching, U-Multirank shows top performances in different aspects of teaching and learning, including the assessment of their learning experience by the students of the institutions.

2. The selection of institutions to compare

In this comparison of the teaching and learning dimension the U-Multirank team has opted to compare institutions which are offering Master degrees in the field (the principle of comparing “like with like”). Applying this criterion gives us a group of 51 institutions to compare.

3. The selection of indicators

In U-Multirank we have a number of indicators referring to teaching and learning. For this comparison we have selected eight indicators: graduation on time, the percentage of academic staff with a completed doctorate (as an indicator of the academic qualification of the staff), contacts to work environment, the overall learning experience and the quality of courses from the student perspective, the international orientation of master programmes and the students' views on opportunities to include a stay abroad are applied in all fields. In addition we use indicators which are specific for the field; for mathematics we selected the assessment of library facilities by students.

4. An example of an interesting result

In mathematics no institution scored “A” on all or most eight indicators. Nine institutions out of the 51 departments achieve an “A” (very good) score on two out of the eight selected indicators. This indicates that there is no “the best” university in teaching and learning. Sorting by the indicator “international orientation of master programmes”, which looks on the existence of joint degree programmes, student exchange and the international experience of academic staff, 10 institutions have an “A” score. On the indicator “contacts to work environment”, which looks on the inclusion of work practice into the degree programmes, only one institution has an “A” score and a “B” on international orientation.

Many of the institutions which perform well in these readymade subject rankings do not feature in any of the other three major global rankings (ARWU, QS & THE) which have a strong focus on research performance. This further illustrates the U-Multirank conclusion that there are many dimensions of university performance and that many high-performing institutions are not captured by the other global university rankings.”¹²

Na edição 2017 deste ranking, entre as 51 instituições listadas não está nenhuma portuguesa. Na edição de 2016, entre 289 estavam 9 portuguesas.

¹² http://www.umultirank.org/cms/wp-content/uploads/2017/06/U-Multiranks-2017-Subject-Rankings_Teaching-and-Learning_Mathematics_Description.pdf acessado 30 de junho de 2017

2.11 Mechanical Engineering Programmes

“ 1. The aims of this readymade ranking

This readymade ranking aims to show how selected U-Multirank institutions are performing in terms of eight performance indicators on teaching and learning. While it is not possible to produce a definitive list of the world's “top performing” universities in terms of teaching, U-Multirank shows top performances in different aspects of teaching and learning, including the assessment of their learning experience by the students of the institutions.

2. The selection of institutions to compare

In this comparison of the teaching and learning dimension the U-Multirank team has opted to compare institutions which are offering Master degrees in the field (the principle of comparing “like with like”).

Applying this criterion gives us a group of 51 institutions to compare.

3. The selection of indicators

In U-Multirank we have a number of indicators referring to teaching and learning. For this comparison we have selected eight indicators: student-staff-ratio, the percentage of academic staff with a completed doctorate (as an indicator of the academic qualification of the staff), contacts to work environment, the overall learning experience and the quality of courses from the student perspective, the international orientation of master programmes and the students' views on opportunities to include a stay abroad are applied in all fields. In addition we use indicators which are specific for the field; for mechanical engineering we selected the assessment of laboratory facilities by students.

4. An example of an interesting result

In mechanical engineering one out of the 51 physics departments achieve an “A” (very good) score on three out of the eight selected indicators (UAS Reutlingen); another five on two indicators. This demonstrates a good all-round performance in teaching. At the same time it indicates that there is no “best” university in teaching and learning in mechanical engineering. On different indicators different institutions rank best. Looking on the indicator “international orientation of master programmes”, which looks on the existence of joint degree programmes, student exchange and the international experience of academic staff, 10 institutions have an “A” score. On “academic staff with completed doctorate” (which measures the academic qualification of staff) 15 institutions have an “A” score – most of them do not perform top on international orientation.

Many of the institutions which perform well in these readymade subject rankings do not feature in any of the other three major global rankings (ARWU, QS & THE) which have a strong focus on research performance. This further illustrates the U-Multirank conclusion that there are many dimensions of university performance and that many high-performing institutions are not captured by the other global university rankings.”¹³

¹³ http://www.umultirank.org/cms/wp-content/uploads/2017/06/U-Multiranks-2017-Subject-Rankings_Teaching-and-Learning_Mechanical-Engineering_Description.pdf acedido 30 de junho de 2017

Instituições portuguesas no U-Multirank Readymade Teaching & Learning Rankings: Mechanical Engineering Programmes

				Teaching & Learning			Teaching & Learning (Students' views)			International Orientation		
# World		# PT		IES	Student-staff ratio	Academic staff with doctorates	Contact with work environment (masters)	Overall learning experience	Quality of courses & teaching	Laboratory facilities	International orientation of master programmes	Opportunities to study abroad
2017	2016	2017	2016									
8	95	1	3	U Lisbon	D	-	D	C	D	D	A	-
51	217	1	11	# IES								

A (Very good) ; B (Good); C (Average); D (Below average); E (Weak); - Data unavailable; x - Not applicable

A última atualização dos dados, por parte das IES, foi em 2017.

2.12 Medicine Programmes

“ 1. The aims of this readymade ranking

This readymade ranking aims to show how selected U-Multirank institutions are performing in terms of eight performance indicators on teaching and learning. While it is not possible to produce a definitive list of the world's “top performing” universities in terms of teaching, U-Multirank shows top performances in different aspects of teaching and learning, including the assessment of their learning experience by the students of the institutions.

2. The selection of institutions to compare

In this comparison of the teaching and learning dimension the U-Multirank team has opted to compare institutions which are offering Master degrees in the field (the principle of comparing “like with like”).

Applying this criterion gives us a group of 62 medical schools/departments to compare.

3. The selection of indicators

In U-Multirank we have a number of indicators referring to teaching and learning. For this comparison we have selected eight indicators: student-staff-ratio, the percentage of academic staff with a completed doctorate (as an indicator of the academic qualification of the staff), the overall learning experience and the quality of courses from the student perspective, the international orientation of master programmes and the students' views on opportunities to include a stay abroad are applied in all fields. In addition we use indicators which are specific for one field; for medicine they are the linking of pre-clinical and clinical teaching from the students' perspective and innovative forms of assessment.

4. An example of an interesting result

In medicine three out of the 62 medical schools and departments achieve an “A” (very good) score on three out of the eight selected indicators. This demonstrates a good all-round performance in teaching. At the same time it indicates that there is no “best” university in teaching and learning in medicine. Sorting by the indicator “linking of pre-clinical and clinical teaching” shows that only two out those three is ranked highest on this indicator, while two other universities achieve an “A” score here as well. This shows that the performance depends on the indicators – users should reflect which indicators are most relevant to them.

Many of the institutions which perform well in these readymade subject rankings do not feature in any of the other three major global rankings (ARWU, QS & THE) which have a strong focus on research performance. This further illustrates the U-Multirank conclusion that there are many dimensions of university performance and that many high-performing institutions are not captured by the other global university rankings.”¹⁴

¹⁴ http://www.umultirank.org/cms/wp-content/uploads/2017/06/U-Multiranks-2017-Subject-Rankings_Teaching-and-Learning_Medicine_Description.pdf acessido 30 de junho de 2017

Instituições portuguesas no U-Multirank Readymade Teaching & Learning Rankings: Medicine Programmes

					Teaching & Learning			Teaching & Learning (Students' views)			International Orientation	
# World		# PT		IES	Student-staff ratio	Academic staff with doctorates	Innovative forms of assessment	Overall learning experience	Quality of courses & teaching	Linking clinical/preclinical teaching	International orientation of master programmes	Opportunities to study abroad
2017	2016	2017	2016									
5	14	1	1	U Algarve	A	D	A	C	-	B	C	-
62	167	1	8	# IES								

A (Very good) ; B (Good); C (Average); D (Below average); E (Weak); - Data unavailable; x - Not applicable

A última atualização dos dados, por parte das IES, foi em 2015.

2.13 Production/Industrial Engineering

“ 1. The aims of this readymade ranking

This readymade ranking aims to show how selected U-Multirank institutions are performing in terms of eight performance indicators on teaching and learning. While it is not possible to produce a definitive list of the world's “top performing” universities in terms of teaching, U-Multirank shows top performances in different aspects of teaching and learning, including the assessment of their learning experience by the students of the institutions.

2. The selection of institutions to compare

In this comparison of the teaching and learning dimension the U-Multirank team has opted to compare institutions which are offering Master degrees in the field (the principle of comparing “like with like”). Applying this criterion gives us a group of 26 institutions to compare.

3. The selection of indicators

In U-Multirank we have a number of indicators referring to teaching and learning. For this comparison we have selected eight indicators: graduating on time, the percentage of academic staff with a completed doctorate (as an indicator of the academic qualification of the staff), contacts to work environment, the overall learning experience, the quality of courses and the contacts to teachers from the student perspective as well as the international orientation of master programmes and the students' views on opportunities to include a stay abroad.

4. An example of an interesting result

In production/ industrial engineering two out of the 26 departments achieve an “A” (very good) score on two out of the eight selected indicators; another four institutions had five “B” scores. This demonstrates a good all-round performance in teaching. At the same time it indicates that there is no “the best” university in teaching and learning. Sorting by the indicator “contacts to work environment” which looks on the inclusion of work experience into the programmes (by internships and teaching by people from business) one institution is ranked top (with an “A” score). At the same time this one has an “A” score on the international orientation of master programmes.

Many of the institutions which perform well in these readymade subject rankings do not feature in any of the other three major global rankings (ARWU, QS & THE) which have a strong focus on research performance. This further illustrates the U-Multirank conclusion that there are many dimensions of university performance and that many high-performing institutions are not captured by the other global university rankings.”¹⁵

Neste novo ranking, entre as 26 instituições listadas não está nenhuma portuguesa.

¹⁵ http://www.umultirank.org/cms/wp-content/uploads/2017/06/U-Multiranks-2017-Subject-Rankings_Teaching-and-Learning_Production_Industrial-Engineering_Description.pdf acedido 30 de junho de 2017

2.14 Psychology Programmes

“ 1. The aims of this readymade ranking

This readymade ranking aims to show how selected U-Multirank institutions are performing in terms of seven performance indicators on teaching and learning. While it is not possible to produce a definitive list of the world's “top performing” universities in terms of teaching, U-Multirank shows top performances in different aspects of teaching and learning, including the assessment of their learning experience by the students of the institutions.

2. The selection of institutions to compare

In this comparison of the teaching and learning dimension the U-Multirank team has opted to compare institutions which are offering Master degrees in the field (the principle of comparing “like with like”).

Applying this criterion gives us a group of 75 institutions to compare.

3. The selection of indicators

In U-Multirank we have a number of indicators referring to teaching and learning. For this comparison we have selected seven indicators which cover different aspects of teaching, incl. aspects of international orientation: the student-staff-ratio, the percentage of academic staff with a completed doctorate (as an indicator of the academic qualification of the staff), contacts to work environment, the overall learning experience and the quality of courses from the student perspective, the international orientation of master programmes and the students' views on opportunities to include a stay abroad .

4. An example of an interesting result

In psychology two out of the 75 departments achieve an “A” (very good) score on three out of the seven selected indicators. This demonstrates a good all-round performance in teaching. At the same time it indicates that there is no “best” university in teaching and learning in psychology. Sorting by the indicator “international orientation of master programmes”, which looks on the existence of joint degree programmes, student exchange and the international experience of academic staff, 6 institutions have an “A” score. Yet only one out of the two good all-around performers is among them. Looking on the students' assessment of the quality of courses, the second and another university score highest.

Many of the institutions which perform well in these readymade subject rankings do not feature in any of the other three major global rankings (ARWU, QS & THE) which have a strong focus on research performance. This further illustrates the U-Multirank conclusion that there are many dimensions of university performance and that many high-performing institutions are not captured by the other global university rankings.”¹⁶

¹⁶ http://www.umultirank.org/cms/wp-content/uploads/2017/06/U-Multiranks-2017-Subject-Rankings_Teaching-and-Learning_Psychology_Description.pdf acedido 30 de junho de 2017

Instituições portuguesas no U-Multirank Readymade Teaching & Learning Rankings: Psychology Programmes

				Teaching & Learning			Teaching & Learning (Students' views)		International Orientation		
# World		# PT		IES	Student-staff ratio	Academic staff with doctorates	Contact with work environment (masters)	Overall learning experience	Quality of courses & teaching	International orientation of master programmes	Opportunities to study abroad
2017	2016	2017	2016								
5	6	1	2	Catholic U Portugal	A	A	B	B	B	D	B
18	21	2	5	U Coimbra	-	B	B	B	B	A	B
75	199	2	10	# IES							

A (Very good) ; B (Good); C (Average); D (Below average); E (Weak); - Data unavailable; x - Not applicable

A última atualização dos dados, por parte das IES, foi em 2015.

2.15 Social Work

“ 1. The aims of this readymade ranking

This readymade ranking aims to show how selected U-Multirank institutions are performing in terms of eight performance indicators on teaching and learning. While it is not possible to produce a definitive list of the world's “top performing” universities in terms of teaching, U-Multirank shows top performances in different aspects of teaching and learning, including the assessment of their learning experience by the students of the institutions.

2. The selection of institutions to compare

In this comparison of the teaching and learning dimension the U-Multirank team has opted to compare institutions which are offering Master degrees in the field (the principle of comparing “like with like”). Applying this criterion gives us a group of 17 institutions to compare.

3. The selection of indicators

In U-Multirank we have a number of indicators referring to teaching and learning. For this comparison we have selected nine indicators: graduation on time, the percentage of academic staff with a completed doctorate (as an indicator of the academic qualification of the staff), contacts to work environment, the overall learning experience and the quality of courses from the student perspective, the international orientation of master programmes and the students' views on opportunities to include a stay abroad are applied in all fields. In addition we use indicators which are specific for the field; for social work we selected the assessment of library facilities by students.

4. An example of an interesting result

In social work no institution scored “A” on all or most nine indicators. Eight institutions out of the 17 departments achieves an “A” (very good) score on two out of the nine selected indicators. This indicates that there is no “best” university in teaching and learning. Sorting by the indicator “international orientation of master programmes”, which looks on the existence of joint degree programmes, student exchange and the international experience of academic staff, no institution has an “A” score. On the indicator “contacts to work environment”, which looks on the inclusion of work practice into the degree programmes, only one institution has an “A” score, but also an “E” on international orientation.

Many of the institutions which perform well in these readymade subject rankings do not feature in any of the other three major global rankings (ARWU, QS & THE) which have a strong focus on research performance. This further illustrates the U-Multirank conclusion that there are many dimensions of university performance and that many high-performing institutions are not captured by the other global university rankings.”¹⁷

¹⁷ http://www.umultirank.org/cms/wp-content/uploads/2017/06/U-Multiranks-2017-Subject-Rankings_Teaching-and-Learning_Social-Work_Description.pdf acedido 30 de junho de 2017.

Instituições portuguesas no U-Multirank Readymade Teaching & Learning Rankings: Social Work

				Teaching & Learning				Teaching & Learning (Students' views)			International Orientation		
# World		# PT		IES	Graduating on time (masters)	Academic staff with doctorates	Contact with work environment (masters)	Community service learning	Overall learning experience	Quality of courses & teaching	Library facilities	International orientation of master programmes	Opportunities to study abroad
2017	2016	2017	2016										
12	29	1	2	U Trás-os-Montes & Alto Douro	B	-	D	A	C	C	C	C	C
17	128	1	7	# IES									

A (Very good) ; B (Good); C (Average); D (Below average); E (Weak); - Data unavailable; x - Not applicable

A última atualização dos dados, por parte das IES, foi em 2016.

2.16 Sociology

“ 1. The aims of this readymade ranking

This readymade ranking aims to show how selected U-Multirank institutions are performing in terms of eight performance indicators on teaching and learning. While it is not possible to produce a definitive list of the world's “top performing” universities in terms of teaching, U-Multirank shows top performances in different aspects of teaching and learning, including the assessment of their learning experience by the students of the institutions.

2. The selection of institutions to compare

In this comparison of the teaching and learning dimension the U-Multirank team has opted to compare institutions which are offering Master degrees in the field (the principle of comparing “like with like”). Applying this criterion gives us a group of 23 institutions to compare.

3. The selection of indicators

In U-Multirank we have a number of indicators referring to teaching and learning. For this comparison we have selected eight indicators: graduation on time, the percentage of academic staff with a completed doctorate (as an indicator of the academic qualification of the staff), contacts to work environment, the overall learning experience and the quality of courses from the student perspective, the international orientation of master programmes and the students' views on opportunities to include a stay abroad are applied in all fields. In addition we use indicators which are specific for the field; for sociology we selected the assessment of library facilities by students.

4. An example of an interesting result

In sociology no institution scored “A” on all or most eight indicators. Two institutions out of the 23 departments achieve an “A” (very good) score on two out of the eight selected indicators. This indicates that there is no “best” university in teaching and learning. Sorting by the indicator “international orientation of master programmes”, which looks on the existence of joint degree programmes, student exchange and the international experience of academic staff, two institutions have an “A” score. On the indicator “contacts to work environment”, which looks on the inclusion of work practice into the degree programmes, only three institutions have a “B” score, but one of them has an “A” on international orientation.

Many of the institutions which perform well in these readymade subject rankings do not feature in any of the other three major global rankings (ARWU, QS & THE) which have a strong focus on research performance. This further illustrates the U-Multirank conclusion that there are many dimensions of university performance and that many high-performing institutions are not captured by the other global university rankings.”¹⁸

¹⁸ http://www.umultirank.org/cms/wp-content/uploads/2017/06/U-Multiranks-2017-Subject-Rankings_Teaching-and-Learning_Sociology_Description.pdf acedido 30 de junho de 2017

Instituições portuguesas no U-Multirank Readymade Teaching & Learning Rankings: Sociology

				Teaching & Learning			Teaching & Learning (Students' views)			International Orientation		
# World		# PT		IES	Graduating on time (masters)	Academic staff with doctorates	Contact with work environment (masters)	Overall learning experience	Quality of courses & teaching	Library facilities	International orientation of master programmes	Opportunities to study abroad
2017	2016	2017	2016									
6	16	1	2	U Beira Interior	B	A	D	B	B	B	C	-
23	246	1	8	# IES								

A (Very good) ; B (Good); C (Average); D (Below average); E (Weak); - Data unavailable; x - Not applicable

A última atualização dos dados, por parte das IES, foi em 2016.

3. Readymade Applied Knowledge Partnerships Ranking (RAKPR)

“ 1. The aims of this readymade ranking

This readymade ranking aims to show how selected U-Multirank institutions are performing in terms of seven different performance indicators in the areas of applied research and research partnerships. While it is not possible to produce a definitive list of the world's “top performing” universities overall in these types of activity, U-Multirank shows top performances in different aspects of these activities.

2. The selection of institutions to compare

It does not make sense to include institutions that are not active in the realm of applied research or research partnerships or that did not provide data on this. In this comparison the U-Multirank team has opted to compare only institutions that have scores on at least five of the seven selected indicators. Applying this criterion gives us a group of 423 institutions to compare.

3. The selection of indicators

For this comparison we have selected three research indicators (art related output, strategic research partnerships, professional publications), three knowledge transfer indicators (co-publications with industry, income from continuing professional development (CPD) and the number of graduate companies) and one indicator on regional engagement (research income from regional sources). Further information on these indicators can be found by clicking on the indicator titles in the ranking. Our intention was to select indicators that measure engagement in applied research and involvement in research partnerships in different ways.

Please note that the ranking is now sorted by the relative number of A-scores but that you can change this by selecting a different indicator or sorting method.

4. Examples of interesting results

Only two universities from the 423 compared achieved “A” scores on five indicators: one from France (Audencia Business School) and one from Spain (University of Deusto) while two have “A” scores on four indicators: another from France (ICN Business School, Nancy-Metz) and one from Germany (Nuremberg Institute of Technology). The top scores on the seven different indicators were achieved by two comprehensive universities, two technical universities, one Agricultural University and two Universities of Applied Sciences.”¹⁹

¹⁹ <http://www.umultirank.org/cms/wp-content/uploads/2017/03/Applied-Knowledge-Partnerships-RMR-background-2017.pdf> acedido 31 de março de 2017.

3.1 Instituições portuguesas no U-Multirank Readymade Applied Knowledge Partnerships Ranking 2017

			Research			Knowledge Transfer			Regional Engagement
# World	# PT	IES	Art related output	Strategic research partnerships	Professional publications	Co-publications with industrial partners	Income from continuous professional development	Graduate companies	Income from regional sources
19	1	Higher Sch. Education Porto	A	B	B	-	A	A	C
30	2	U Lusófona	A	A	C	D	-	A	E
52	3	Polytech. Inst. Viana do Castelo	A	A	B	E	-	-	C
54	4	Polytech. Inst. Leiria	A	B	-	D	D	-	A
95	5	Polytech. Inst. Portalegre	A	B	C	-	D	D	A
101	6	U Fernando Pessoa	B	A	D	D	E	-	A
126	7	U Coimbra	A	C	B	C	A	D	E
127	8	U Trás-os-Montes & Alto Douro	B	D	C	C	A	A	E
132	9	U Beira Interior	A	C	C	C	D	D	A
139	10	Polytech. Inst. Lisbon	A	A	D	C	D	E	D
242	11	U Aveiro	A	C	B	C	D	-	D
244	12	U Lisbon	C	A	B	C	D	-	D
260	13	Polytech. Inst. Coimbra	C	A	B	D	E	-	E
270	14	U Institute Lisbon	A	C	C	D	-	C	E
277	15	Polytech. Inst. Braganca	A	B	B	D	C	C	B
287	16	U Evora	A	B	B	D	D	D	D
355	17	U Minho	B	C	B	C	E	D	E
377	18	Polytech. Inst. Setúbal	E	-	B	E	D	-	E
393	19	U Algarve	D	B	D	C	D	C	C
422	19	# IES							

A (Very good) ; B (Good); C (Average); D (Below average); E (Weak); - Data unavailable; x - Not applicable

4. Readymade Universities of Science and Technology Rankings (RUSTR)

“This readymade ranking compares universities of science and technology on a number of indicators selected by the Conference of European Schools for Advanced Engineering Education and Research (CESAER) as being most relevant for this type of institutions.

1. The aims of this readymade ranking

This readymade ranking aims to show how universities of science and technology perform on a number of indicators particularly important for this institutional profile. The selection of indicators applied in the readymade ranking was selected by CESAER, a leading group of European universities of science and technology. They cover the dimensions teaching and learning, research, knowledge transfer and international orientation.

2. The selection of institutions to compare

As there is no formal definition of “Universities of Science and Technology”, we combined two criteria to identify the institution to be included: First, we included all institutions at which more than 40% of all graduates are coming from science and technology fields. Second, institutions with “tech” in their (English) name have been added to our selection, since a number of universities that are widely regarded as being “technical universities” have a high percentage of students in other fields (e.g. business studies) so that they did not pass our threshold of 40%. In order to compare institutions with a comparable profile and mission, we included only PhD awarding institutions.

Please note that the readymade ranking shows only institutions with valid scores on at least half of the indicators included.

3. The selection of indicators

This readymade ranking is looking on the full performance of universities of science and technology, it does not focus on one particular dimension only. Universities of science and technology are doing both teaching and research. In addition the transfer of technology and knowledge into society is a core part of their mission. Furthermore, in a global knowledge economy their international involvement and cooperation is highly relevant for their profile and performance. Out of those four dimensions, a CESAER working group, which is involved in U-Multirank from its beginning, selected the indicators regarded as most relevant for science and technology, 24 on the institutional level and 20 on the subject level. The readymade ranking is produced for nine science and technology subjects included in U-Multirank: mathematics, biology, chemistry, computer science, mechanical engineering, electrical engineering, chemical engineering, industrial engineering/production and civil engineering.

Please note that the ranking is sorted by the relative number (percentage) of top scores (“A”), followed by the relative number of “B” scores etc. in relation to all indicators available for an institution.

4. Examples of interesting results

None of the 231 universities of science and technology achieved “A” scores across all fourteen indicators selected for the readymade ranking on the institutional level. Caltech received an “A” score on seven out of eight available indicators, and the Technical University Denmark on 11 out of 13 indicators. The top 25 universities represent 12 different countries; among them six from France and five from the US. The ranking shows different profiles of universities of science and technology: While a number of institutions are placed

in the top group for either all research indicators (measuring research output and impact), or for all indicators on knowledge transfer (focusing on transfer and industry relations), only one university (Georgia Tech) has an “A” score on all indicators in both dimensions. Some of the European universities in the top range of the ranking show a very strong international orientation: Technical University Denmark, Telecom Paris, INP Grenoble and Chalmers University reached a top group position in all four indicators of international orientation.

The ranking is also presented for nine subject areas from the field of science and technology. On the subject level, some universities score “A” on all indicators on which data are available for them: For example, TU Delft and MIT in mechanical engineering, EPF Lausanne, ET Zürich, and Telecom Paris in Computer Science, and, Chalmers University, as well as TU Delft and KTH Royal Institute of Technology in electrical engineering.”²⁰

A Universidade do Porto consta em cinco dos Readymade Universities of Science and Technology Rankings.

²⁰http://www.umultirank.org/cms/wp-content/uploads/2017/10/Readymade-Ranking-Description_Universities-of-Science-and-Technology.pdf acedido a 11 de outubro de 2017.

4.1 Institutional

# World	# PT	IES	Teaching & Learning		Research				Knowledge Transfer				International Orientation			
			Bachelor graduation rate	Masters graduation rate	Citation rate	Research publications (size-normalised)	Art related output	Top cited publications	Co-publications with industrial partners	Patents awarded (size-normalised)	Spin-offs	Publications cited in patents	Student mobility	International academic staff	International joint publications	International doctorate degrees
2017	2017															
67	1	U Aveiro	B	B	B	A	A	B	C	D	A	D	B	A	A	B
102	2	U Minho	B	D	B	A	B	B	C	C	D	C	B	A	A	B
106	3	U Lisbon	B	C	B	A	C	B	C	D	D	C	A	D	A	C
133	4	U Porto	-	-	B	A	-	C	C	C	-	D	-	-	B	-
141	5	U Lusófona	C	D	B	D	A	C	D	E	A	D	B	D	B	B
231	5	# IES														

A (Very good); B (Good); C (Average); D (Below average); E (Weak); - Data unavailable; x - Not applicable

4.2 Biology

			Teaching & Learning		Research			Knowledge Transfer		International Orientation	
# World	# PT	IES	Student-staff ratio	Academic staff with doctorates	Doctorate productivity	Citation rate	Top cited publications	Co-publications with industrial partners	Publications cited in patents	International doctorate degrees	International joint publications
2017	2017										
25	1	U Lisbon Instituto Superior Técnico	D	A	A	C	C	D	D	C	B
28	2	U Porto	-	A	-	C	C	D	D	-	B
35	3	U Lisbon Instituto Superior de Agronomia	B	A	D	C	C	D	D	-	B
42	4	U Aveiro	D	C	A	C	C	D	D	B	B
43	5	U Lisbon Faculdade de Ciências	C	A	B	C	C	D	D	D	B
46	6	U Minho	C	C	D	B	B	D	C	D	B
48	6	# IES									

A (Very good); B (Good); C (Average); D (Below average); E (Weak); - Data unavailable; x - Not applicable

A U.Lisboa é listada três vezes.

4.3 Chemical Engineering

			Teaching & Learning		Research			Knowledge Transfer		International Orientation	
# World	# PT	IES	Student-staff ratio	Academic staff with doctorates	Doctorate productivity	Citation rate	Top cited publications	Co-publications with industrial partners	Publications cited in patents	International doctorate degrees	International joint publications
2017	2017										
26	1	U Porto	-	-	-	B	B	D	A	-	A
34	2	U Aveiro	C	B	D	A	A	D	D	C	A
62	3	U Lisbon	B	B	-	C	B	D	B	E	B
77	3	# IES									

A (Very good); B (Good); C (Average); D (Below average); E (Weak); - Data unavailable; x - Not applicable

4.4 Chemistry

# World	# PT	IES	Teaching & Learning		Research			Knowledge Transfer		International Orientation	
			Student-staff ratio	Academic staff with doctorates	Doctorate productivity	Citation rate	Top cited publications	Co-publications with industrial partners	Publications cited in patents	International doctorate degrees	International joint publications
2017	2017										
48	1	U Aveiro	D	B	A	B	A	D	D	C	B
49	2	U Porto	B	A	A	C	C	D	D	C	B
64	3	U Lisbon Faculdade de Ciências	-	A	D	C	C	D	C	E	B
70	4	U Lisbon Instituto Superior Técnico	B	A	C	C	C	D	C	E	B
83	5	U Minho	-	C	-	B	C	D	C	C	B
91	5	# IES									

A (Very good); B (Good); C (Average); D (Below average); E (Weak); - Data unavailable; x - Not applicable

A U.Lisboa é listada duas vezes.

4.5 Civil Engineering

			Teaching & Learning		Research			Knowledge Transfer		International Orientation	
# World	# PT	IES	Student-staff ratio	Academic staff with doctorates	Doctorate productivity	Citation rate	Top cited publications	Co-publications with industrial partners	Publications cited in patents	International doctorate degrees	International joint publications
2017	2017										
7	1	U Porto	-	-	-	A	A	D	A	-	C
15	2	U Minho	-	-	-	A	A	D	B	-	B
23	3	U Aveiro	C	B	A	A	A	D	E	B	B
41	4	U Lisbon	B	-	-	B	A	D	D	B	C
80	4	# IES									

A (Very good); B (Good); C (Average); D (Below average); E (Weak); - Data unavailable; x - Not applicable

4.6 Computer Science

# World	# PT	IES	Teaching & Learning		Research			Knowledge Transfer		International Orientation	
			Student-staff ratio	Academic staff with doctorates	Doctorate productivity	Citation rate	Top cited publications	Co-publications with industrial partners	Publications cited in patents	International doctorate degrees	International joint publications
2017	2017										
76	1	U Lisbon Faculdade de Ciências	C	A	C	C	C	C	D	C	B
86	2	U Lisbon Instituto Superior Técnico	C	-	-	C	C	C	D	D	B
104	2	# IES									

A (Very good); B (Good); C (Average); D (Below average); E (Weak); - Data unavailable; x - Not applicable

A U.Lisboa é listada duas vezes.

4.7 Electrical Engineering

			Teaching & Learning		Research			Knowledge Transfer		International Orientation	
# World	# PT	IES	Student-staff ratio	Academic staff with doctorates	Doctorate productivity	Citation rate	Top cited publications	Co-publications with industrial partners	Publications cited in patents	International doctorate degrees	International joint publications
2017	2017										
47	1	U Lisbon	C	-	-	A	B	C	A	C	B
69	2	U Aveiro	C	A	B	D	D	B	D	B	C
113	2	# IES									

A (Very good); B (Good); C (Average); D (Below average); E (Weak); - Data unavailable; x - Not applicable

4.8 Mathematics

			Teaching & Learning		Research			Knowledge Transfer	International Orientation	
# World	# PT	IES	Student-staff ratio	Academic staff with doctorates	Doctorate productivity	Citation rate	Top cited publications	Co-publications with industrial partners	International doctorate degrees	International joint publications
2017	2017									
18	1	U Aveiro	-	A	B	B	A	D	B	A
19	2	U Lisbon Instituto Superior Técnico	-	A	C	C	D	D	A	A
25	3	U Porto	B	A	B	C	C	A	B	B
48	4	U Lisbon Instituto Superior de Economia e Gestão	B	C	D	C	D	D	C	A
49	5	U Lisbon Faculdade de Ciências	B	C	D	C	D	D	C	A
54	6	U Minho	B	B	D	C	D	D	C	B
67	6	# IES								

A (Very good); B (Good); C (Average); D (Below average); E (Weak); - Data unavailable; x - Not applicable

A U.Lisboa é listada três vezes.

4.9 Mechanical Engineering

			Teaching & Learning		Research			Knowledge Transfer		International Orientation	
# World	# PT	IES	Student-staff ratio	Academic staff with doctorates	Doctorate productivity	Citation rate	Top cited publications	Co-publications with industrial partners	Publications cited in patents	International doctorate degrees	International joint publications
2017	2017										
10	1	U Aveiro	C	B	B	A	A	D	A	C	A
43	2	U Lisbon Faculdade de Ciências	A	A	D	C	C	D	E	-	B
71	3	U Lisbon Instituto Superior Técnico	C	B	-	C	C	D	E	C	B
102	3	# IES									

A (Very good); B (Good); C (Average); D (Below average); E (Weak); - Data unavailable; x - Not applicable

A U.Lisboa é listada duas vezes.

4.10 Production / Industrial Engineering

			Teaching & Learning		Research			Knowledge Transfer		International Orientation	
# World	# PT	IES	Student-staff ratio	Academic staff with doctorates	Doctorate productivity	Citation rate	Top cited publications	Co-publications with industrial partners	Publications cited in patents	International doctorate degrees	International joint publications
2017	2017										
9	1	U Lisbon	C	B	-	D	D	C	-	C	A
16	1	# IES									