

ISC Report on Growth of Science in United Arab Emirates' Universities

Islamic World Science Citation Center (ISC)



Islamic World Science Citation Center

Title: ISC Report on Growth of Science in United Arab Emirates' Universities

Composition and Edition: Islamic World Science Citation Center (ISC)

Publisher: Office of Publications of Regional Information Center for Science and

Technology (RICeST)

All rights reserved. Published May 2017 by RICeST.

Printed in RICeST, Shiraz, Iran

Tel: + 98 (0)7116468421

Fax: + 98 (0)7116468352

Email: info@isc.gov .ir

Contents

Introduction	. 2
The State- of - the-Art of scientific production in the World and OIC and United Arab Emirates	. 3
Islamic Countries in Universal Ranking Systems	. 5
➤ Top Islamic Countries in Clarivate Analytics	. 5
➤ Top Islamic Countries in Scopus	. 5
> Top Islamic Countries in ISC	6
➤ Citations Rank	. 7
> Top Papers Rank	8
Top United Arab Emirates diciplines in Essential Science Indicators (ESI)	.9
Top United Arab Emirates universities and institutions in Essential Science Indicators 1	1
ISC Ranking of Islamic Countries' Universities 2013/2014	2
Ranking United Arab Emirates' Universities by Field	13

Introduction

Citation Analysis is a powerful and widely accepted tool designed to evaluate the research activities of scientists, universities, institutions and scientific journals over the world. It is applied to make essential decisions about various types of stakeholders (i.e., students, faculty, researchers, analysts, and program managers) worldwide.



Islamic World Science Citation Center (ISC) has been approved by the Islamic Conference of the Ministers of Higher Education and Scientific Research (ICMHESR) in a meeting held by ISESCO in 2008 in Baku, capital of Azerbaijan.

ISC as the Islamic World's leading source of scholarly research data, compiles, analyzes, and shares high-quality, multidisciplinary scientific information. ISC's major commission is to assess the research performance of scientists, universities, institutions and scientific journals of the Islamic countries and to provide necessary grounds for enhancing the quality of research and establishing an efficient scientific network in the Islamic World. Some recent activities of ISC are:

- ► ISC evaluates and ranks the researchers, universities, countries, journals, research domains etc. in OIC countries based on their scientific impact.
- ▶ ISC provides various service for scientific promotion in OIC countries including training workshops in Scientometrics.
- ▶ ISC helps OIC countries to know about the state of the art of the science in his country through mapping the scientific plus points and weakness.
- ▶ ISC maps the science in the OIC countries to help them for making scientific improvement plans.

Dr. Mohammad Javad Dehghani, ISC President

The State- of - the-Art of scientific production in the World and OIC and United Arab Emirates

Since one of the important purposes of ISC is mapping fields of science and technology and qualitative and quantitative assessment of scientific publications' in Islamic countries, cooperation of OIC with ISC is definitely necessary. The 16-year (2000-2016) growth of scientific outputs of the world according to the data retrieved from Clarivate Analytics reveals that, Islamic countries' share of world's total number of scientific publications has increased remarkably.

The world's growth in scientific publication over the last 16 years was 77%, OIC's progress was 666%, which is 8 times more than the world's average. United Arab Emirates' growth in scientific publication in the same period is 882%, which is 12 times more than the world's average.

It is noteworthy that in 2000 OIC's share of world's total number of scientific publications was 1.8%, while in 2016 it has reached 7.9%, which is a remarkable growth.

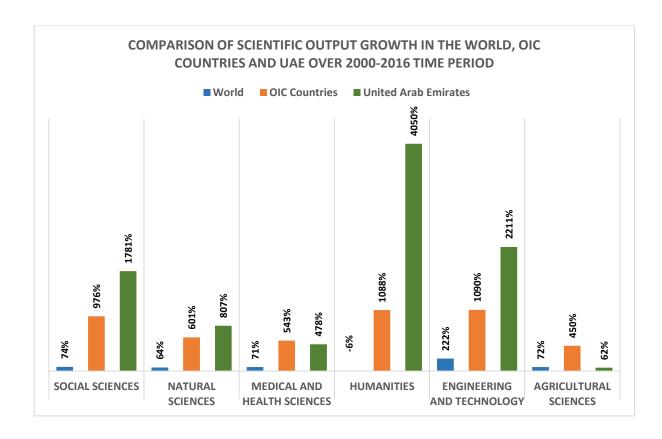
Since 2000-2016, world's growth in agricultural sciences was 72%, while OIC's and UAE's growth rate were respectively 450% and 62%. In engineering and technology, world's progress was 222%, while OIC's growth in this field was 1090%. With regard to humanities, world's publications progress rate was - 6% but OIC improvement was 1088%. Similarly, world's growth in medical and health sciences was 71%, while OIC's development was 543%. In natural sciences, world's growth was 64%, while OIC's progress in this field was 601%. Finally, in social sciences, world's growth was 74% and in OIC's, this growth was 976%.

Т	The growth rate of the number of publications from 2000 to 2016 (percent%)										
Topic	Agricultural sciences	Engineering and technology	Humanities	Medical and health sciences	Natural sciences	Social sciences	Total				
world	72%	222%	-6%	71%	64%	74%	77%				
OIC Countries	450%	1090%	1088%	543%	601%	976%	666%				
United Arab Emirates	62%	2211%	4050%	478%	807%	1781%	882%				

The number of scientific publications is the quantitative indicator of research, which is not enough to guarantee scientific development of a country. Factors such as scientific impact, citations,

ISC Report on Growth of Science in United Arab Emirates' Universities

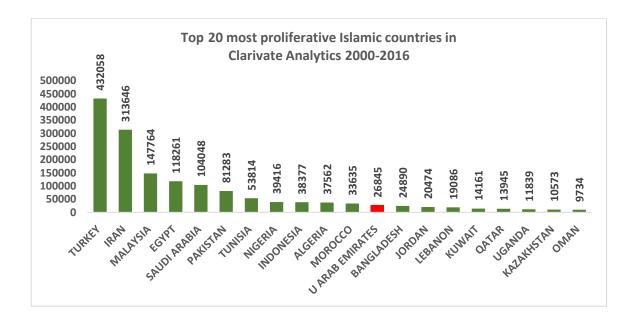
scientific diplomacy, economic impact, innovation and technological impacts must also be taken into account. ISC by adopting advanced scientometric strategies to improve OIC's scientific impact, citations, scientific diplomacy, economic impact, innovation and technological impacts, is proceeding towards preparing the necessary grounds for enhancing the quality of research and establishing an efficient scientific network within OIC countries.



Islamic Countries in Universal Ranking Systems

➤ Top Islamic Countries in Clarivate Analytics

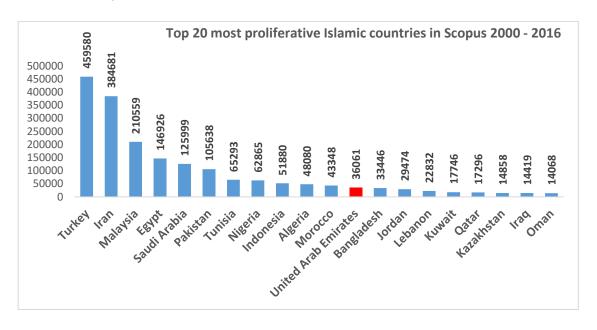
According to the data extracted from Clarivate Analytics Web of Science over 2000-2016 period, Turkey, Iran and Malaysia are ranked as the 1st, 2nd and 3rd most proliferative countries with respectively 4320583, 313646, and 147764 publications.



> Top Islamic Countries in Scopus

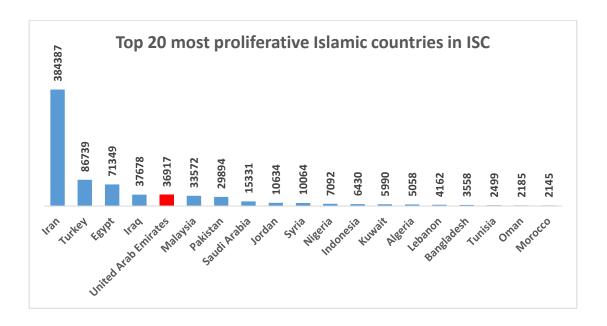
According to the data extracted from Scopus Web of Science over 2000-2016 period, Turkey, Iran and Malaysia are ranked as the 1st, 2nd and 3rd most proliferative countries with respectively 459580, 384681, and 210559 publications.

ISC Report on Growth of Science in United Arab Emirates' Universities



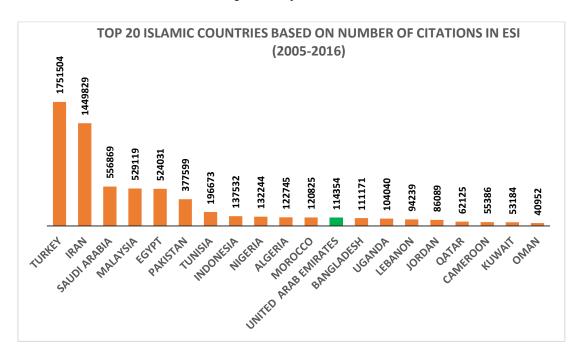
> Top Islamic Countries in ISC

According to the data extracted from ISC, Iran, Turkey and Egypt are ranked as the 1st, 2nd and 3rd most proliferative countries with respectively 384387, 86739, and 71349 publications.

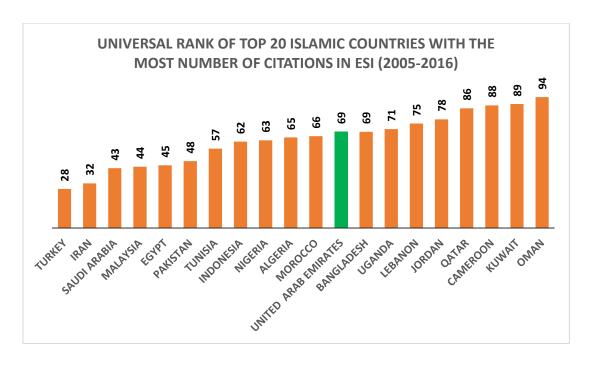


Citations Rank

According to the data extracted from Clarivate Analytics over 2005-2016 period, Turkey, Iran and Saudi Arabia are ranked as the 1st, 2nd and 3rd top Islamic countries based on number of citations in ESI with respectively 1751504, 1449829, and 556869 citations.

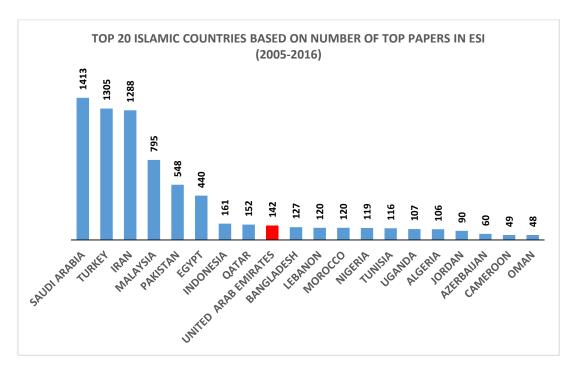


According to the data extracted from Clarivate Analytics over 2005-2016 period, Turkey, Iran and Saudi Arabia with respectively 1751504, 1449829, and 556869 citations are ranked as the **28**th, **32**nd and **43**rd top countries in the world based on the number of citations in ESI.

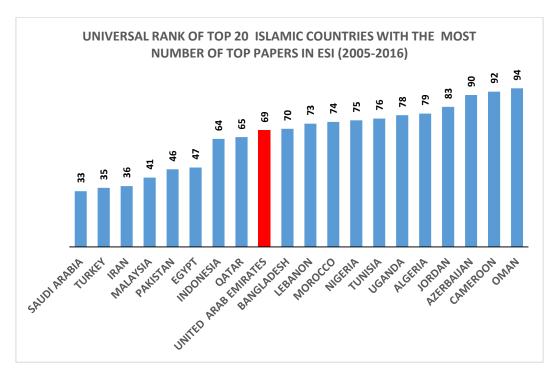


> Top Papers Rank

According to the data extracted from Clarivate Analytics over 2005-2016 period, Saudi Arabia, Turkey, and Iran and are ranked as the 1st, 2nd and 3rd top Islamic countries based on number of top papers with respectively 1413, 1305, 1288 top papers in ESI.



According to the data extracted from Clarivate Analytics over 2005-2016 period, Saudi Arabia, Turkey, and Iran with respectively 1413, 1305, 1288 top papers are ranked as the 33rd, 35th and 36th top countries in the world based on number of top papers in ESI.



Top United Arab Emirates' Fields in Essential Science Indicators (ESI)

Essential Science Indicators is a unique compilation of performance statistics and trends extrapolated from counts of articles published in scholarly journals and the citations to those articles. It ranks authors, institutions, countries, and journals across 22 broad disciplines. It's used to conduct analyses of scientific literature to identify significant trends in the sciences and social sciences:

- Web of Science Documents is the total number of documents in the current 10-year period.
- Cites is the total number of citations received by Web of Science documents. Cites/Paper is the quotient obtained by dividing Cites by Web of Science documents.
- **Top Papers** is the sum of hot papers and highly cited papers. More specifically, it is the number of papers in the top 1% of papers for the past ten years, plus the number of papers in the past two years that received a very high number of citations in the current two-month period. This total discounts duplicates, so that a paper that is both hot and highly cited is counted only once.

Among all OIC countries only 39 Islamic countries including UAE are present in Essential Science Indicators (ESI). Scientometric information of UAE is presented across 22 ESI broad fields.

ISC Report on Growth of Science in United Arab Emirates' Universities

	UNITED ARAB EMIRATES		The Nur	nbers		Ra	nk in	the wo	orld	Ra		ong (tries	OIC
	Field	Documents	Citations	Cites/Paper	Top Papers	Documents	Citations	Cites/Paper	Top Papers	Documents	Citations	Cites/Paper	Top Papers
	*ALL FIELDS	14251	114354	8.02	142	64	69	120	69	11	12	17	9
1	AGRICULTURAL SCIENCES	241	2053	8.52	4	88	86	46	77	23	22	5	14
2	BIOLOGY & BIOCHEMISTRY	471	6110	12.97	3	65	63	48	66	9	8	1	12
3	CHEMISTRY	1266	13306	10.51	16	65	62	41	48	11	10	1	7
4	CLINICAL MEDICINE	2135	23774	11.14	33	60	67	82	72	11	12	13	12
5	COMPUTER SCIENCE	800	3091	3.86	4	51	51	66	54	8	7	8	9
6	ECONOMICS & BUSINESS	585	2653	4.54	4	48	46	61	43	3	3	9	6
7	ENGINEERING	2925	16496	5.64	27	56	52	65	48	9	9	16	8
8	ENVIRONMENT/ECOLOGY	462	5023	10.87	7	78	77	70	78	15	12	6	12
9	GEOSCIENCES	515	3596	6.98	6	64	75	96	59	12	11	15	6
10	IMMUNOLOGY	196	3428	17.49	2	90	88	47	89	22	22	7	23
11	MATERIALS SCIENCE	734	4418	6.02	2	61	64	68	65	10	11	13	12
12	MATHEMATICS	520	1901	3.66	9	64	61	50	49	12	11	8	9
13	MICROBIOLOGY	100	1070	10.7	2	90	97	71	62	24	25	13	13
14	MOLECULAR BIOLOGY & GENETICS	354	6653	18.79	4	59	63	69	73	8	8	12	12
15	MULTIDISCIPLINARY	27	391	14.48	1	56	58	55	43	9	8	10	7
16	NEUROSCIENCE & BEHAVIOR	273	4004	14.67	4	63	58	44	54	10	6	1	5
17	PHARMACOLOGY & TOXICOLOGY	430	3980	9.26	1	63	59	58	81	13	9	7	15
18	PHYSICS	614	4017	6.54	3	77	80	81	79	17	16	11	13
19	PLANT & ANIMAL SCIENCE	469	3028	6.46	5	84	86	75	75	16	17	12	12
20	PSYCHIATRY/PSYCHOLOGY	247	977	3.96	1	59	73	95	79	8	10	17	13
21	SOCIAL SCIENCES, GENERAL	766	3515	4.59	3	68	75	90	91	11	13	19	16
22	SPACE SCIENCE	121	870	7.19	1	64	67	71	58	10	9	10	6

Top United Arab Emirates' Universities and Institutions in Essential Science Indicators (ESI)

Essential Science Indicators ranks authors, institutions, countries, and journals across 22 broad disciplines. It's used to conduct analyses of scientific literature to identify significant trends in the sciences and social sciences in order to identify research strengths and weaknesses in universities and research institutions.

Accordingly, top universities and research institutions of UAE are presented across 22 ESI broad fields:

UNITED ARA	UNITED ARAB EMIRATES		The Numbers			Rank in the world				Rank among OIC countries			
Institutions	Field	Documents	Citations	Cites/Paper	Top Papers	Documents	Citations	Cites/Paper	Top Papers	Documents	Citations	Cites/Paper	Top Papers
MASDAR INST SCI & TECHNOL	*ALL FIELDS	1087	8059	7.41	12	2129	2693	2947	2311	159	163	80	119
MASDAR INST SCI & TECHNOL	ENGINEERING	431	2960	6.87	6	748	767	704	613	72	73	58	58
UNITED ARAB EMIRATES UNIV	*ALL FIELDS	3914	41698	10.65	35	1124	1224	2289	1363	68	50	28	58
UNITED ARAB EMIRATES UNIV	CLINICAL MEDICINE	610	7546	12.37	10	1111	1243	1658	1205	81	40	18	25
UNITED ARAB EMIRATES UNIV	ENGINEERING	456	4041	8.86	7	711	617	342	560	67	49	29	50
UNITED ARAB EMIRATES UNIV	SOCIAL SCIENCES, GENERAL	215	1314	6.11	0	794	928	749	995	19	18	7	20

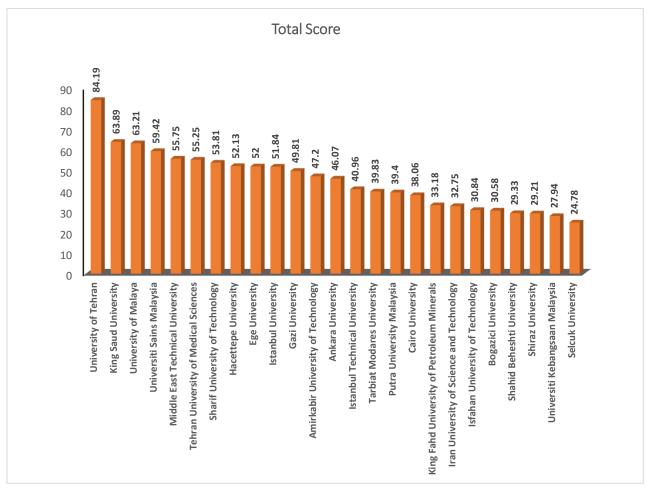
ISC Ranking of Islamic Countries' Universities 2013/2014

ISC Ranking of Islamic Countries Universities & Research Institutes 2013-14 is a project which has ranked about 600 of top Islamic countries' universities and research institutions with highest number of publications in the most prestigious international scientific journals during 2008-2012.

Countries with the most Number of top universities in ISC Ranking of Islamic Countries Universities & Research Institutes 2013/2014

Country	No. of Top 25 Universities in countries	No. of Top 50 universities in countries	No. of Top 100 universities in countries	No. of Top 200 universities in countries	No. of Top 300 universities in countries	No. of Top 400 universities in countries	No. of Top 500 universities in countries	No. of Top 600 universities in countries
Iran	9	13	23	52	72	90	103	107
Turkey	9	22	44	69	78	86	87	87
Malaysia	4	5	5	12	19	20	20	20
Arabia Saudi	2	3	3	5	11	17	19	20
Egypt	1	4	9	17	21	24	25	25
Pakistan	-	1	5	8	14	21	24	24
Lebanon	-	1	1	1	4	6	8	15
Kuwait	-	1	1	1	2	3	9	15
Morocco	-	-	3	6	8	15	17	17
Nigeria	-	-	1	6	14	21	23	24
Tunisia	-	-	1	4	9	15	15	15
UAE	-	-	1	3	4	5	16	20
Uganda	-	-	1	1	1	3	7	8
Jordan	-	-	1	3	5	8	15	18
Oman	-	-	1	1	1	2	3	8
Algeria	-	-	-	4	8	13	16	16
Bangladesh	-	-	-	2	6	10	17	19
Kameron	-	-	-	1	1	4	7	9
Azerbaijan	-	-	-	1	2	2	4	8
Uzbekistan	-	-	-	1	1	1	3	4
Qatar	-	-	-	1	4	4	6	10
Sudan	-	-	-	1	1	1	3	8
Indonesia	-	-	-	-	5	7	16	19

ISC Report on Growth of Science in United Arab Emirates' Universities



Top 25 Universities in ISC Ranking of Islamic Countries Universities & Research Institutes 2013/2014

Ranking United Arab Emirates' Universities by Field

ISC ranked universities and research institutions at the level of science as a whole and also at the level of five broad fields including natural sciences, engineering and technology, medical and health sciences, agricultural sciences, social sciences, where each field consists of the most related journals in that area. These broad fields of science have been defined at the journal level and each of these broad fields involves several subfields, so research performance in subordinate fields forms the performance in a superordinate field. The Revised Field of Science and Technology (FOS) Classification introduced by the organization for economic co-operation and development (OECD) was applied in the ISC ranking.

United Arab Emirates



✓ Petroleum Institute United Arab Emirates



The ISC Ranking Of Islamic Countries Universities & Research Institutions

Rank By All

	Total Score	Scientific Impact	Scientific Diplomacy	Scientific Productivity	Economic Impact
UAE	3	3	3	3	2
Middle East	126-150	126-150	201-250	126-150	51-75
Islamic Countries	151-200	151-200	251-300	151-200	76-100

Rank By Engineering & Technology

	Total Score	Scientific Impact	Scientific Diplomacy	Scientific Productivity	Economic Impact
UAE	2	2	1	3	1
Middle East	51-75	76-100	51-75	76-100	18
Islamic Countries	76-100	76-100	76-100	76-100	24

Rank By Natural Sciences

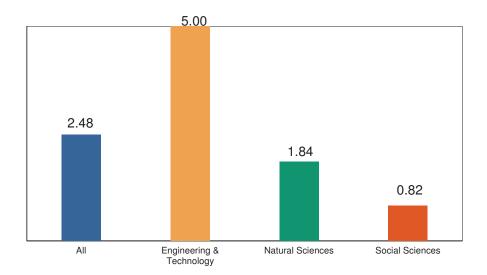
	Total Score	Scientific Impact	Scientific Diplomacy	Scientific Productivity	Economic Impact
UAE	3	3	2	3	2
Middle East	151-200	126-150	151-200	151-200	76-100
Islamic Countries	201-250	151-200	201-250	201-250	126-150

Rank By Social Sciences

_	Total Score	Scientific Impact	Scientific Diplomacy	Scientific Productivity	Economic Impact
UAE	6	7	6	6	3
Middle East	101-125	101-125	101-125	101-125	51-75
Islamic Countries	151-200	151-200	151-200	126-150	76-100

The Charts of Indicators Score in Different Subject Areas

The Score of Total Indicators







The ISC Ranking Of Islamic Countries Universities & Research Institutions

Rank By All

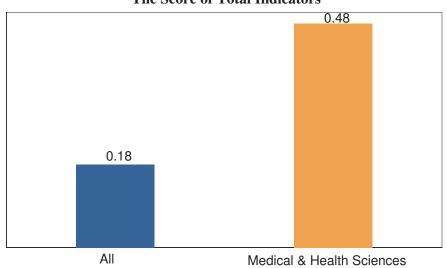
-	Total Score	Scientific Impact	Scientific Diplomacy	Scientific Productivity	Economic Impact
UAE	17	16	7	17	15
Middle East	301-350	301-350	251-300	301-350	251-300
Islamic Countries	501-550	451-500	401-450	501-550	351-400

Rank By Medical & Health Sciences

	Total Score	Scientific Impact	Scientific Diplomacy	Scientific Productivity	Economic Impact
UAE	8	10	6	9	9
Middle East	151-200	151-200	126-150	151-200	151-200
Islamic Countries	251-300	201-250	201-250	251-300	251-300

The Charts of Indicators Score in Different Subject Areas

The Score of Total Indicators





Shaikh Khalifa Medical City



The ISC Ranking Of Islamic Countries Universities & Research Institutions

Rank By All

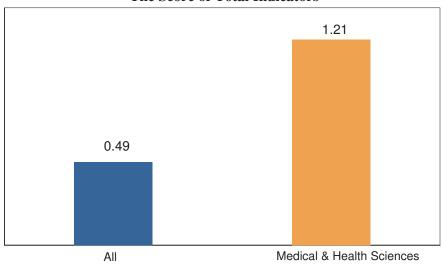
_	Total Score	Scientific Impact	Scientific Diplomacy	Scientific Productivity	Economic Impact
UAE	7	6	4	15	7
Middle East	251-300	201-250	201-250	301-350	151-200
Islamic Countries	401-450	301-350	251-300	501-550	251-300

Rank By Medical & Health Sciences

_	Total Score	Scientific Impact	Scientific Diplomacy	Scientific Productivity	Economic Impact	
UAE	4	4	4	5	4	
Middle East	101-125	76-100	101-125	151-200	76-100	
Islamic Countries	151-200	101-125	126-150	251-300	126-150	

The Charts of Indicators Score in Different Subject Areas

The Score of Total Indicators





Tawam Hospital



The ISC Ranking Of Islamic Countries Universities & Research Institutions

Rank By All

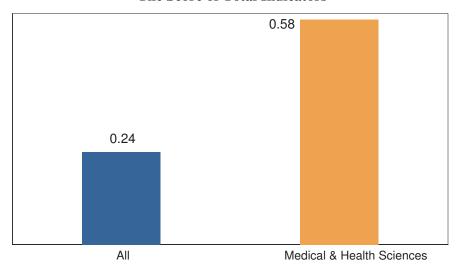
	Total Score	Scientific Impact	Scientific Diplomacy	Scientific Productivity	Economic Impact
UAE	15	12	12	13	6
Middle East	301-350	251-300	251-300	251-300	151-200
Islamic Countries	451-500	451-500	451-500	451-500	251-300

Rank By Medical & Health Sciences

_	Total Score	Scientific Impact	Scientific Diplomacy	Scientific Productivity	Economic Impact
UAE	7	6	7	4	6
Middle East	151-200	126-150	151-200	126-150	101-125
Islamic Countries	201-250	201-250	201-250	201-250	151-200

The Charts of Indicators Score in Different Subject Areas

The Score of Total Indicators





✓ United Arab Emirates University



The ISC Ranking Of Islamic Countries Universities & Research Institutions

Rank By All

_	Total Score	Scientific Impact	Scientific Diplomacy	Scientific Productivity	Economic Impact
UAE	1	1	1	1	1
Middle East	51-75	51-75	126-150	51-75	51-75
Islamic Countries	51-75	51-75	126-150	51-75	51-75

Rank By Medical & Health Sciences

	Total Score	Scientific Impact	Scientific Diplomacy	Scientific Productivity	Economic Impact
UAE	1	2	1	1	1
Middle East	51-75	51-75	76-100	51-75	22
Islamic Countries	51-75	76-100	76-100	51-75	26-50

Rank By Agricultural Sciences

	Total Score	Scientific Impact	Scientific Diplomacy	Scientific Productivity	Economic Impact
UAE	1	1	1	1	1
Middle East	51-75	26-50	76-100	51-75	51-75
Islamic Countries	51-75	51-75	101-125	76-100	76-100

Rank By Engineering & Technology

_	Total Score	Scientific Impact	Scientific Diplomacy	Scientific Productivity	Economic Impact
UAE	1	1	2	1	2
Middle East	26-50	26-50	51-75	26-50	51-75
Islamic Countries	51-75	26-50	76-100	26-50	51-75

Rank By Social Sciences

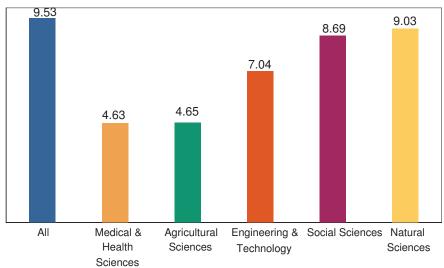
	Total Score	Scientific Impact	Scientific Diplomacy	Scientific Productivity	Economic Impact
UAE	1	2	1	2	1
Middle East	26-50	26-50	26-50	26-50	11
Islamic Countries	26-50	26-50	51-75	26-50	15

Rank By Natural Sciences

	Total Score	Scientific Impact	Scientific Diplomacy	Scientific Productivity	Economic Impact
UAE	1	1	1	1	1
Middle East	51-75	26-50	76-100	51-75	26-50
Islamic Countries	51-75	51-75	76-100	51-75	51-75

The Charts of Indicators Score in Different Subject Areas







University of Sharjah



The ISC Ranking Of Islamic Countries Universities & Research Institutions

Ran	k l	Bv	All

_	Total Score	Scientific Impact	Scientific Diplomacy	Scientific Productivity	Economic Impact
UAE	4	7	2	4	4
Middle East	151-200	201-250	151-200	126-150	151-200
Islamic Countries	201-250	301-350	201-250	151-200	201-250

Rank By Medical & Health Sciences

	Total Score	Scientific Impact	Scientific Diplomacy	Scientific Productivity	Economic Impact
UAE	2	5	2	3	2
Middle East	101-125	126-150	76-100	126-150	26-50
Islamic Countries	151-200	201-250	101-125	151-200	51-75

Rank By Social Sciences

	Total Score	Scientific Impact	Scientific Diplomacy	Scientific Productivity	Economic Impact
UAE	3	4	3	4	2
Middle East	76-100	51-75	51-75	76-100	26-50
Islamic Countries	101-125	76-100	76-100	101-125	26-50

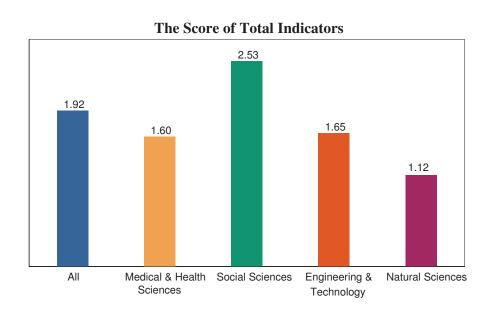
Rank By Engineering & Technology

	Total Score	Scientific Impact	Scientific Diplomacy	Scientific Productivity	Economic Impact
UAE	4	4	4	4	6
Middle East	126-150	126-150	151-200	126-150	126-150
Islamic Countries	151-200	201-250	201-250	151-200	201-250

Rank By Natural Sciences

	Total Score	Scientific Impact	Scientific Diplomacy	Scientific Productivity	Economic Impact
UAE	4	4	4	4	5
Middle East	151-200	151-200	201-250	151-200	201-250
Islamic Countries	301-350	201-250	301-350	251-300	301-350

The Charts of Indicators Score in Different Subject Areas





Zayed Mil Hospital



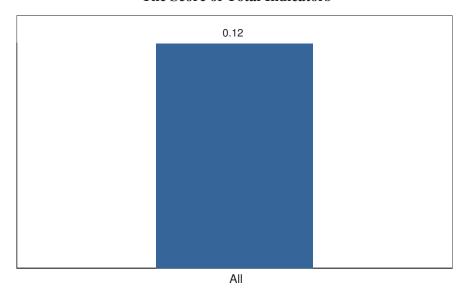
The ISC Ranking Of Islamic Countries Universities & Research Institutions

Rank By All

	Total Score	Scientific Impact	Scientific Diplomacy	Scientific Productivity	Economic Impact
UAE	18	17	9	19	17
Middle East	301-350	301-350	251-300	301-350	251-300
Islamic Countries	501-550	451-500	401-450	551+	401-450

The Charts of Indicators Score in Different Subject Areas

The Score of Total Indicators





Zayed University



The ISC Ranking Of Islamic Countries Universities & Research Institutions

Ran			
	1	1 = 4 V A	

	Total Score	Scientific Impact	Scientific Diplomacy	Scientific Productivity	Economic Impact
UAE	6	11	16	6	18
Middle East	251-300	251-300	301-350	201-250	251-300
Islamic Countries	401-450	401-450	451-500	301-350	451-500

Rank By Social Sciences

	Total Score	Scientific Impact	Scientific Diplomacy	Scientific Productivity	Economic Impact
UAE	4	3	5	3	7
Middle East	76-100	51-75	101-125	51-75	51-75
Islamic Countries	101-125	76-100	151-200	76-100	101-125

Rank By Natural Sciences

	Total Score	Scientific Impact	Scientific Diplomacy	Scientific Productivity	Economic Impact
UAE	6	6	7	5	8
Middle East	201-250	201-250	251-300	201-250	201-250
Islamic Countries	401-450	351-400	401-450	351-400	351-400

The Charts of Indicators Score in Different Subject Areas



