

2021 Round University Ranking (RUR)
SUMMARY

- In 2021, McMaster University ranked 141st globally.
- McMaster University was the sixth highest ranked university in Canada, behind McGill University (37), University of Toronto (63), University of British Columbia (UBC) (82), Montreal (100), and Calgary (123).

BACKGROUND

The Round University Ranking (RUR) Agency is based in Moscow, Russia and provides consulting services to universities to strengthen their competitiveness in the higher education sector. Since 2010, RUR has released an annual ranking of the world's top universities. Institutions do not directly submit data to RUR. RUR uses Clarivate's institutional profiles database for an institution's data points, citation and reputation metrics. RUR collects 20 metrics and places them into four main categories. Within each category, metrics are given identical weights to avoid largely influential individual metrics.

- 1) Teaching (40%)
 - i) Academic Staff per Students (8%)
 - ii) Bachelor Degrees per Staff (8%)
 - iii) Doctoral Degrees per Staff (8%)
 - iv) Doctoral to Bachelor Degrees (8%)
 - v) Teaching Reputation (8%)
- 2) Research (40%)
 - i) Citations per Staff (8%)
 - ii) Doctoral Degrees per PhD admitted (8%)
 - iii) Normalized Citation Impact (8%)
 - iv) Papers per Staff (8%)
 - v) Research Reputation (8%)
- 3) International Diversity (10%)
 - i) International Staff (2%)
 - ii) International Students (2%)
 - iii) International Co-Authorship (2%)
 - iv) Reputation Outside Region (2%)
 - v) International Level (2%)
- 4) Financial Sustainability (10%)
 - i) Income per Staff (2%)
 - ii) Income per Student (2%)
 - iii) Papers per Research Income (2%)
 - iv) Research Income per Staff (2%)
 - v) Research Income per Institutional Income (2%)

CURRENT STATUS

On April 27th, 2021, RUR released its 2021 ranking of the world's top universities. McMaster ranked 141st globally, a drop of 19 positions from 2020. In Canada, McMaster ranks 6th behind McGill (37), University of Toronto (63), UBC (82), Montreal (100) and the University of Calgary (123). Table 1 shows McMaster's performance in the RUR over the past three iterations.

Table 1: Top 150 Ranked Canadian Universities, 2019 to 2021

	Δ 2020 to 2021		2021 Rank		2020 Rank		2019 Rank	
	World	Canada	World	Canada	World	Canada	World	Canada
McGill	+5	N/C	37	1	42	1	39	1
Toronto	-3	N/C	63	2	60	2	59	2
UBC	-11	N/C	82	3	71	3	63	3
Montreal	+29	+2	100	4	129	6	113	4
Calgary	-6	-1	123	5	117	4	127	6
McMaster	-19	-1	141	6	122	5	126	5

N/C = No Change

Tables 2 and 3 show McMaster's ranks and scores by Metric Category (Table 2) and by individual metric (Table 3) for 2021 and 2020. Note that scores for the individual Financial Sustainability metrics are not released and only a rank is given.

Table 2: McMaster Ranks and Overall Score by Metric Category, 2020-2021

Metric Category	Δ 2020 to 2021		2021		2020	
	Rank	Score	Rank	Score	Rank	Score
1. Teaching (40%)	-29	-0.647	419	53.224	390	53.871
2. Research (40%)	+1	-1.759	33	91.406	34	93.165
3. International Diversity (10%)	+6	+0.45	84	83.253	90	82.803
4. Financial Sustainability (10%)	-8	-1.572	28	91.405	20	92.977
Overall	-19	-0.858	141	76.861	122	77.719

Table 3: McMaster Ranks and Overall Score by Metric, 2020-2021

Metric Category	Metric Name	Δ 2020 to 2021		2021		2020	
		Rank	Score	Rank	Score	Rank	Score
Teaching	Academic Staff per Students	-49	-1.777	793	8.556	744	10.333
	Bachelor Degrees per Staff	-38	0.431	794	8.444	756	8.875
	Doctoral Degrees per Staff	-5	0.264	69	92.111	64	92.375
	Doctoral to Bachelor Degrees	-11	-0.361	319	63.250	308	62.889
	Teaching Reputation	1	-0.798	130	85.111	131	84.313
Research	Citations per Staff	-2	0.208	12	98.667	10	98.875
	Doctoral Degrees to PhD Admit.	-47	4.167	284	67.333	237	71.500
	Normalized Citation Impact	N/C	-0.632	123	85.945	123	85.313
	Papers Per Staff	N/C	-0.014	10	98.889	10	98.875
International Diversity	Research Reputation	N/C	-0.798	130	85.111	130	84.313
	International Staff	-2	-0.042	47	94.667	45	94.625
	International Students	14	-2.958	232	73.333	246	70.375
	International Co-Authorship	-26	1.556	284	67.333	258	68.889
	Reputation Outside Region	-1	-0.375	96	89.000	95	88.625
Financial Sustainability	International Level	6	-0.454	84	81.083	90	80.629
	Income per Staff	8	N/A	64	N/A	72	N/A
	Income per Student	-12	N/A	217	N/A	205	N/A
	Papers per Research Income	-16	N/A	465	N/A	449	N/A
	Research Income per Staff	-6	N/A	43	N/A	37	N/A
	Research per Inst'l. Income	-21	N/A	193	N/A	172	N/A

N/A = Not Available

CONSIDERATIONS

1. In the RUR, McMaster holds a top 100 global rank in the Financial Sustainability, Research, and International Diversity categories. Conversely, McMaster's rank in the Teaching category severely lags the other three major categories and ranks 419th globally. Since the Teaching category accumulates 40% of the RUR, McMaster's poor performance in this category greatly impacts the overall ranking and places McMaster outside of the world's top 100 institutions.
2. The process used by RUR to calculate the score by metric is listed below:
 - i) For a given metric, RUR ranks the array of values from largest to smallest.
 - ii) After the data is arranged from largest to smallest, the metric score is produced by giving the top performing institution a score of 100 and then each subsequent score is determined by the step length. The step length is determined by the number of institutions in the sample ($\text{Step Length} = 100/\text{sample size}$). For example, if there are 1,000 institutions then the step length is: $100/1000 = 0.1$. Therefore, the 2nd ranked institution would have a score of 99.9, the 100th ranked institution would have a score of 90.0 and so on.
 - iii) Once the metric scores are computed, they are multiplied by their metric weight and summed to an overall total by Category. The process in ii) is repeated by Category and then is summed to an Overall score.
 - iv) The Overall score is then arranged from highest to lowest, the top performing institution is scaled to 100 points and all others are scaled relative to the top performing institution.
3. The process used by RUR would allow for replication of the results if the sample sizes and values were released. However, the process fails to account for university size, reputation, and research prowess. For instance, the University of Toronto is usually among the world's top 25 institutions in most rankings. In the RUR, the University of Toronto ranks 63rd and is outranked by the Scuola Normale Superiore di Pisa in Italy which ranks 23rd in the RUR and it has only 560 total students and 80 staff. For reference, the Scuola Normale Superiore di Pisa ranks 181st in Times Higher Education's World University Ranking and it is unranked in QS's World University Ranking.