

VC COLUMN

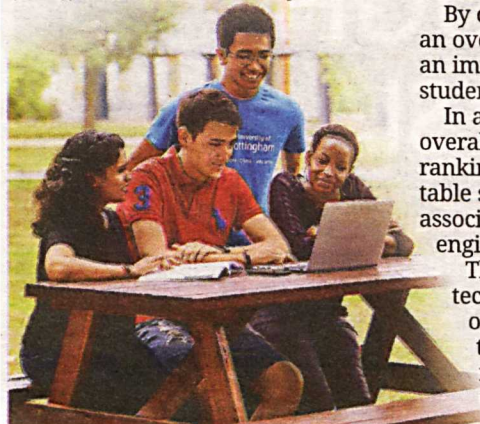
THERE has been a lot of press coverage recently about the significant advances that research universities (RUs) in Malaysia have made in the latest QS World University Rankings.

The table shows that four of the RUs improved their overall position, with Universiti Malaya (UM) moving up from the 146th university in the world to the 133rd ranking.

In 2012, UM was ranked 156th in the world, rising 23 places in the past four years. In the same period, Universiti Putra Malaysia (UPM) has risen from 360th to 270th.

There is still some progress to make before a Malaysian university breaks into the top 100, but the general movement is in the right direction, even if some of the RUs experience a drop in their rankings as has been the case with Universiti Sains Malaysia (USM) this year.

The rankings are determined based on five criteria – academic reputation (40%), employer reputation (10%), student-to-faculty ratio (20%), citations per faculty (20%), international faculty ratio



Stay on top of the game

By PROF GRAHAM KENDALL



(5%) and international student ratio (5%). The marks for the first criterion come from a global survey that asks academicians to identify the best institutions.

Employer reputation is based on a global survey that asks employers which universities produce the best graduates.

The other measures are metric-based, using either data returned from the university or available from an independent third party.

The top-ranked university in the world, Massachusetts Institute of Technology, received an overall score of 100%.

By comparison, UM received an overall score of 57.1%, with an impressive 92.2% in the student-to-faculty ratio section.

In addition to looking at the overall rankings, specific subject rankings are also accessible. The table shows the rankings associated with some of the engineering disciplines.

The engineering and technology column shows the overall faculty ranking. All of the RUs are ranked higher for engineering and technology than their overall

University	World ranking in 2015	World ranking in 2016	Engineering and technology	Chemical engineering	Civil and structural engineering	Electrical engineering
Universiti Malaya	146	133	54	51-100	101-150	37
Universiti Putra Malaysia	331	270	133	101-150	151-200	101-150
Universiti Teknologi Malaysia	303	288	100	51-100	101-150	51-100
Universiti Kebangsaan Malaysia	312	302	149	51-100	151-200	101-150
Universiti Sains Malaysia	289	330	85	46	101-150	51-100

The overall university rankings and subject rankings (2016) of research universities in Malaysia according to QS World University Rankings.

world ranking.

This suggests that engineering is one of the strongest disciplines in Malaysia. In particular, UM and USM are ranked in the world's top 100 universities for engineering.

Malaysia is well known for its chemical engineering industries, with Petronas being an obvious example. Since it was formed in 1974, the company has grown to be a global player in oil and gas.

Therefore, you might expect universities in Malaysia to also be world leaders in engineering, which is supported by the rankings in the table.

All the RUs are ranked higher in chemical engineering than in world ranking. Indeed, USM is one of the world's top 50 universities in

this discipline.

Similarly for civil and structural engineering, all the RUs are more highly ranked in this subject than they are in their overall world ranking.

This is also the case for electrical engineering, with UM being ranked 37th in the world in this discipline, a rise from 51st last year.

Of course, the fact that the RUs are more highly rated in engineering than in world rankings means that they do not do as well in some other disciplines.

For example, UM, UPM and Universiti Kebangsaan Malaysia are not so highly rated in life sciences and medicine as their world ranking would suggest.

Universiti Teknologi Malaysia

and USM are generally above their world ranking in all the disciplines in which they appear but unranked in a number of other disciplines.

Given that engineering is important to Malaysia, it is gratifying to see that five of Malaysia's leading public universities perform so well in this discipline.

The need for highly qualified engineers has never been greater and Malaysia is certainly rising to the challenge to supply them.

■ Prof Graham Kendall is the chief executive officer and provost at The University of Nottingham Malaysia Campus and pro-vice-chancellor at The University of Nottingham.