

A closer look at the subjects covered by China's World Class Disciplines project

Summary:

Earlier this month, the Chinese Ministry of Education published a list of universities covered under China's World Class Universities and Disciplines project as described in [a previous SIEM News report](#). In addition to the 42 institutions classed as having the potential to become world-class universities, a total of 465 disciplines across 137 different institutions will receive support to reach world-class status.

One conclusion that UK institutions can draw from this list is that the supported institutions are likely to make attractive partners for research and teaching cooperation, due to both their strength in the relevant fields and the support they will receive to develop their capacity in these areas. However, the list of subjects chosen for support also helps to illustrate government priorities more broadly, which is relevant to UK cooperation across a wider range of Chinese institutions.

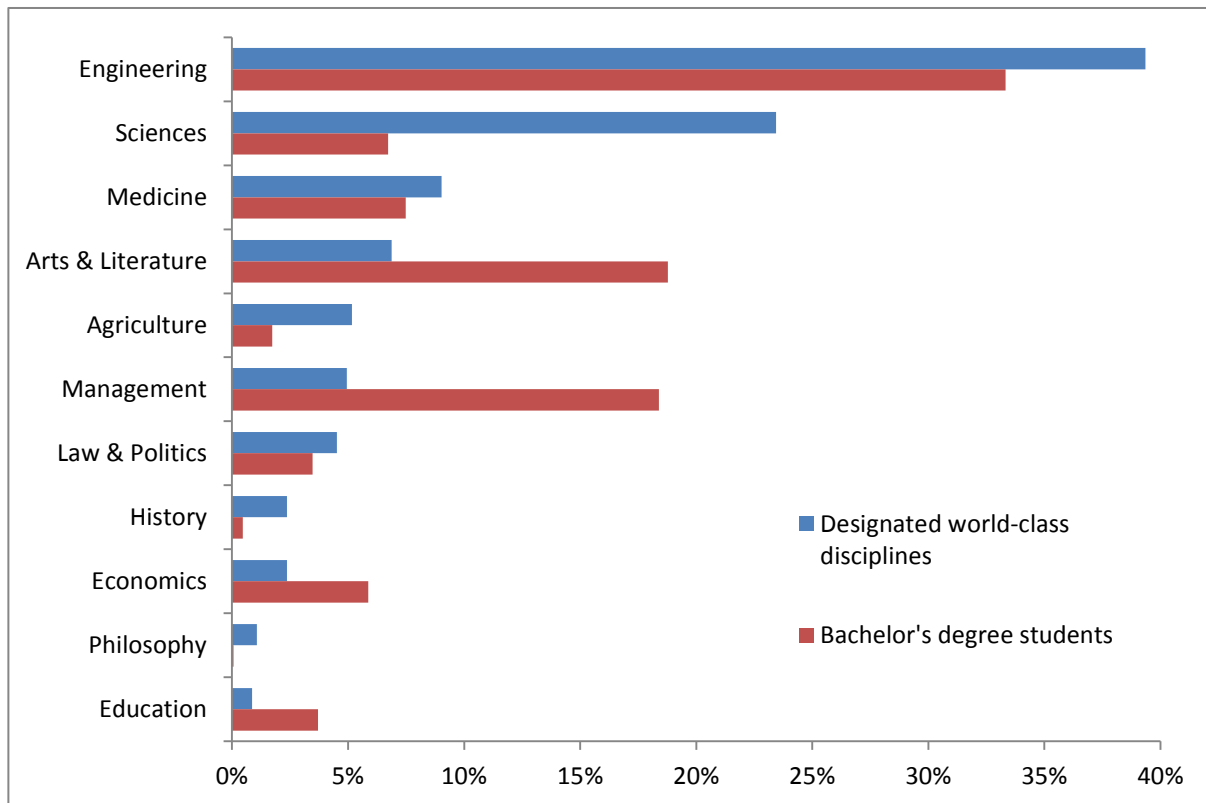
Broad fields of study

The most obvious conclusion from the list of world-class university designations is that there is a very strong focus on science and engineering. Based on China's subject hierarchy, almost four in ten of the disciplines designated for support fall within the broad field of engineering, while a further 23 per cent are in the science area. The third largest broad field, accounting for nine per cent of the total, is medicine.

A comparison of these fields with current student enrolment shows science and engineering are both substantially over-represented in comparison with the number of students studying in their respective subject areas. Science is particularly over-represented, with its share of world-class disciplines being more than three times its share of undergraduate students. Subjects in the field of agriculture are also receiving support out of proportion to their student numbers,

making up more than five per cent of designated world-class disciplines compared to less than two per cent of undergraduates.

In comparison, both the management and art & literature fields have a significant shortage of world-class disciplines relative to their share of student numbers. Other fields with fewer world-class disciplines than their share of students would suggest include economics and education.



This focus is in line with the priority the Chinese government places on science and engineering subjects that can support local development. This is reflected, for example, in government priorities when assessing proposals for transnational education programmes. Proposed programmes in priority fields are more likely to be approved.

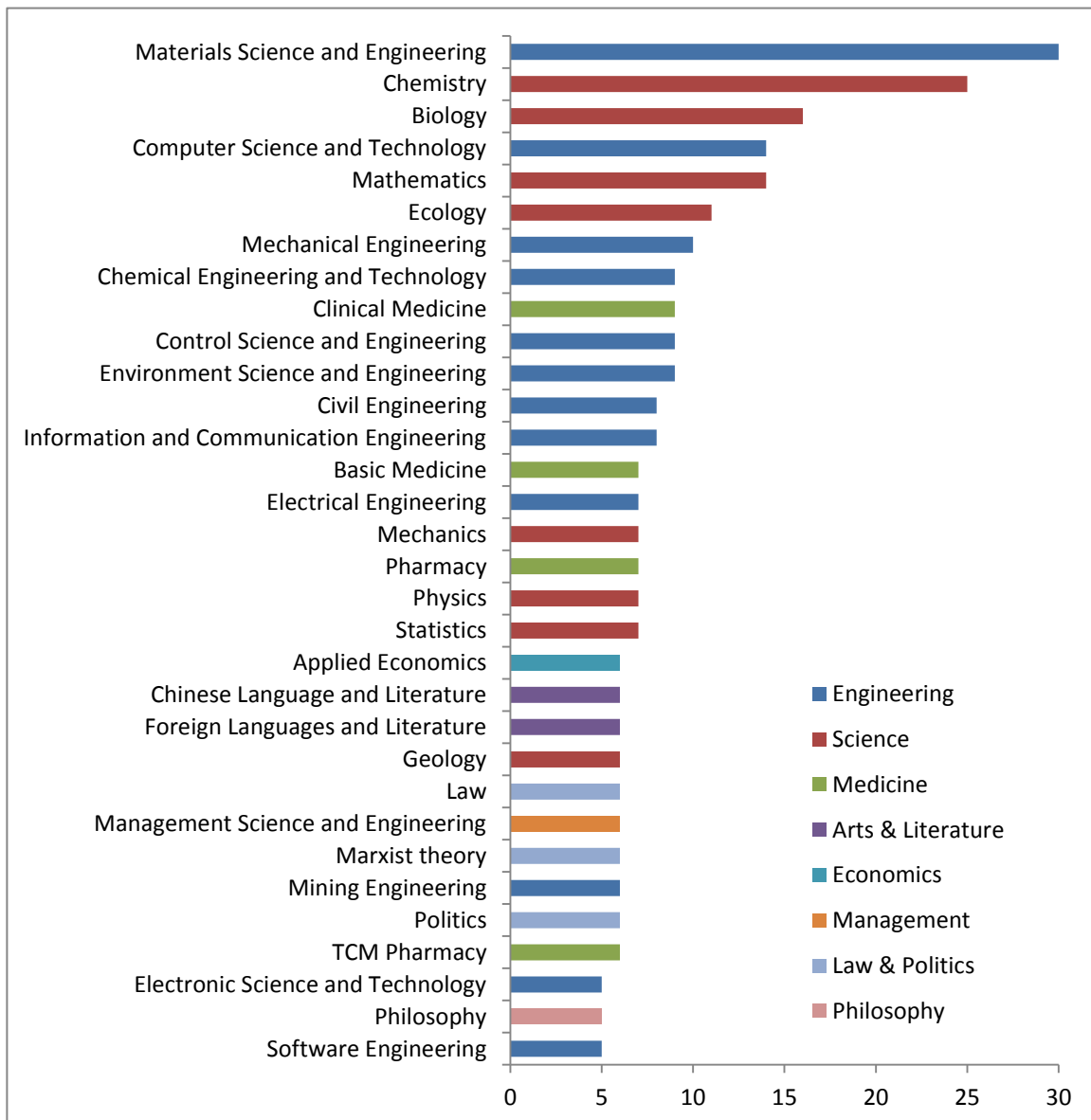
However, government priorities are not the only important factor. Although the Ministry of Education feels that there is an over-supply of management and economics programmes, this does not necessarily mean that Chinese students feel the same way. The relative lack of attention towards these subjects domestically may lead to stronger demand for overseas study in these areas.

Specific subject areas

The individual subject given world-class discipline funding at the largest number of institutions is materials science and engineering. This field was designated for support at 30 different

universities, a little over one in five of all institutions receiving support under the world-class universities and disciplines project.

Overall, there were seven different subjects that were given world-class discipline status at 10 or more universities, accounting for a little over a quarter of total world-class discipline classifications. These included both pure sciences and more applied engineering disciplines, but all were classed as either science or engineering. The list of subjects designated as world-class disciplines at five or more universities was somewhat broader but still dominated by engineering, followed by science and medicine.

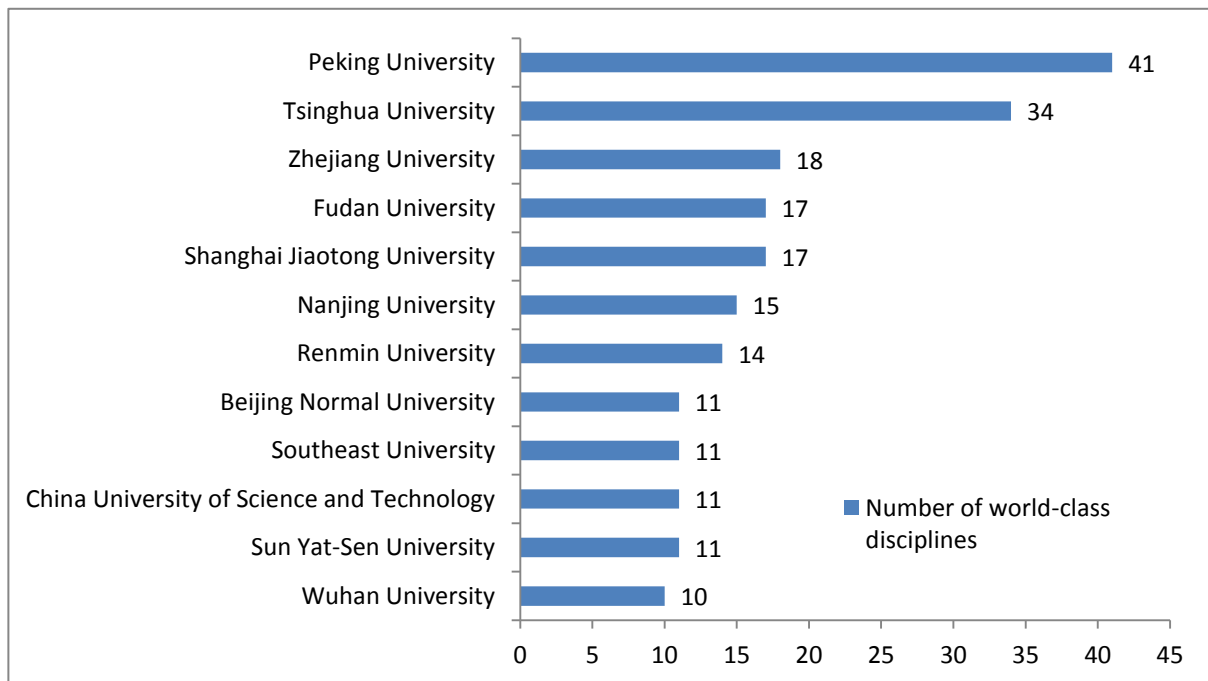


Again, this gives a strong insight into the areas where China’s Ministry of Education wants to improve research and teaching provision and develop a worldwide reputation. Materials science is has received a particular focus in recent government economic plans, with “new

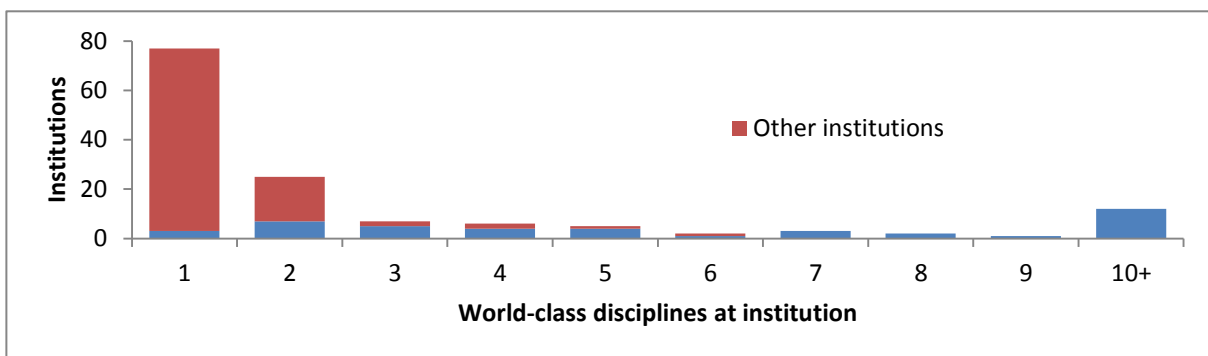
materials” being categorised as a national-level strategic industry. There is strong potential for overseas universities to work together with Chinese institutions in many of these fields.

Distribution of world-class disciplines by university

A small number of top Chinese universities have had a large number of subjects classed as world class disciplines. The top two are China’s leading two universities, Peking University and Tsinghua University, with 41 and 34 world-class disciplines respectively. A further ten institutions have each been chosen as the host of 10+ world-class disciplines.



All of the institutions in the chart above were also selected as world-class universities at the institution level. However, only a little over half of institutions chosen as world-class universities had five or more world-class disciplines, and three of these institutions had only one such discipline. Among the 95 universities not receiving support at the institutional level under this scheme, a large majority had only one world-class discipline and only six had three or more.



This reflects the Chinese government's aim for institutions to develop their own characteristic strengths and build more variety in their higher education sector. This policy also applies at lower levels, with provincial universities also encouraged to focus on key specialisms. UK universities looking to build relationships with Chinese institutions should therefore pay attention to their potential partners' strengths and the areas where they are concentrating their attention and resources.

Lessons for UK educational institutions

In summary, the disciplines and institutions selected by the Chinese Ministry of Education for support under the World Class Disciplines project show that China still places a strong focus on developing science and engineering subjects, in order to support the country's development. The scheme provides much more limited support for subjects in the arts, management and economics fields. Subjects receiving more support are likely to be strong prospects for international cooperation and partnerships.

Meanwhile, only a few universities will receive support across a broad range of disciplines, with most project participants specialising on only one or two subject areas. It is important to be aware of a potential partner's strengths and development focus, both among universities involved in the World Class Universities and Disciplines project and more broadly.