



## Comparability of International Data in Tertiary Education

Education systems differ widely across the world. To ensure that international statistics and indicators are comparable, most countries collect and report their education data under the United Nations Educational, Scientific and Cultural Organization (UNESCO) International Standard Classification of Education (ISCED), developed in collaboration with different countries and international organizations such as the Organisation for Economic Co-operation and Development (OECD) and Eurostat (OECD, European Union [EU], UNESCO Institute for Statistics [UIS] 2015). Mapping a country's educational programs into the ISCED structure helps ensure that the international comparisons are more transparent and consistent.

The first ISCED classification was developed by UNESCO in the mid-1970s and was first revised in 1997. The most recent revision, the ISCED 2011, incorporated the major changes in the structure of degree levels brought in by the Bologna Process in Europe in terms of degree levels. In the ISCED 1997, tertiary programs had been grouped into levels 5A (programs leading to entry to advanced research programs) and 5B (programs not leading to entry to advanced research programs (see Glossary) and doctoral level 6. The new ISCED 2011 allocates four different levels to tertiary education: levels 5–8. Level 5 includes short-cycle tertiary education, level 6 includes the bachelor's or equivalent level, level 7 includes the master's or equivalent level, and level 8 includes the doctoral or equivalent level.

In addition, a separate but related process redesigned the fields of study classifications in the ISCED Fields of Education and Training (ISCED-F); these new standards were adopted in 2013 (UNESCO Institute for Statistics 2014).

*Science and Engineering Indicators 2018* is the first edition to present statistics collected under the ISCED 2011 and the ISCED-F; previous editions had presented data collected under the ISCED 1997. As a result of these changes, there are several differences between the higher education international data reported in this volume and in past volumes.

At the undergraduate level, the international comparisons in this volume present first degree data corresponding to ISCED 2011 level 6 (first degrees) and level 7 (long first degrees). Some countries (e.g., Germany, Belgium, Switzerland) reclassified some vocationally oriented programs previously classified as ISCED level 5B. As a result, the total numbers of first university degrees for these countries are different under the new classification compared with the previous classification. At the doctoral level, the data corresponding to the ISCED 2011 level 8 are similar to the doctoral degrees reported in the past.

The changes in ISCED-F affect the following fields:

- The data for engineering in this volume correspond to the ISCED-F 2013 “engineering, manufacturing, and construction,” which includes engineering and engineering trades, manufacturing and processing, and architecture and construction. In addition, “environmental protection” was a newly added discipline to this broad field of engineering.
- The data for agriculture include “veterinary.”
- The data for social and behavioral sciences include “journalism and information.”

Because of these changes, the international higher education data have a higher degree of international comparability than in the past. This is because (1) the data for the majority of the countries were collected under the same OECD, EU, and UIS guidelines; and (2) the field groupings in the ISCED-F now have more in common with the aggregation of fields used in China, a major degree producer. For example, China statistics include “architecture” and “landscape architecture” under “engineering” and “veterinary” under “agricultural sciences” (China Ministry of Education 2011).



For comparability purposes, U.S. data in the international tables correspond to the ISCED-F classification of fields and, as a result, the numbers reported in each of the broad fields are different from those reported in tables and graphics that examine domestic trends in higher education.