

# Benchmark Standards for Computing in the UK

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**Abstract:** In the UK the Government is concerned that standards should exist to ensure that all degrees awarded in institutions of higher education meet certain minimal criteria and therefore are of at least of a certain standard. To this end they have created a set of committees composed of subject experts whose task is to define the required standards for their discipline. The purpose of this paper is to outline the approach taken to address these benchmarking standards for Computing.

**Key words:** computing education, curriculum standards

## 1. BACKGROUND

Document [1] laid the foundations for the discussion and debate on benchmarking standards. This led to the formulation by the UK Quality Assurance Agency (QAA) of a requirement for experts to produce benchmarking standards for their discipline, i.e.

*to produce broad statements which represent general expectations about standards for the award of honours degrees in a particular subject area. Benchmarking is not about listing specific knowledge, that is a matter for institutions in designing individual programmes. It*

*is about the conceptual framework that gives a discipline its coherence and identity; about the intellectual capability and understanding that should be developed through a the study of that discipline to honours degree level; the techniques and skills which are associated with developing an understanding in that discipline; and the level of intellectual demand and challenge which is appropriate to honours degree study in that discipline.*

This report describes particular aspects of the benchmarking standards for the discipline of Computing. It was produced by a Committee selected jointly by the Conference of Professors and Heads of Computing (CPHC) and the British Computer Society (BCS) as being representative of a broad range of discipline expertise from within the UK. See [2].

## 2. THE TASK

Within the academic community a wide range of terms are used to describe degrees in the subject area. Computer science, computing science, computing, software engineering, software technology, information systems, artificial intelligence, computer systems engineering and information engineering are among the more common. Indeed the Committee had to provide benchmarking standards that would accommodate in excess of 2,400 different courses. The Committee took the view that the naming of degrees would be the responsibility of individual institutions and accordingly the standards should relate to the discipline and not just degrees with specific titles.

In producing the document, the Committee was conscious of the need to involve the academic community but also to take advice from the professional bodies (including the British Computer Society, the Institution of Electrical Engineers, the Software Engineering Association, the Academy of Information Systems and the AISB) and generally from industry and commerce as well as the public. Accordingly, a wide-ranging consultation process was used to confirm that the balance and the thrust of the document reflected agreed-upon views. Moreover, throughout the development of the standards it was deemed important to keep the academic community informed of developments as they unfolded. A web site was set up to inform interested parties.

### **3. AUDIENCE**

The final Benchmarking Standards document had to meet the needs of four particular groups at least. These were the academic reviewers who would carry out reviews of departments, the general public who wish to be informed about the discipline, course developers, and finally external examiners. The manner in which the Committee set out to address these needs is given below.

#### **3.1 Academic Review**

Ultimately this process of academic review would involve an assessment of each Computing department in the UK; academic reviewers would have to make judgements about whether degree courses met the standards and had to be given guidance on how to address these benchmarking standards

#### **3.2 The Public**

To be accessible to a wide audience the standards had to be couched in language that was non-technical and non-threatening; yet, it was important to convey the sense of a new and exciting discipline that had the potential to open up a wide range of possibilities for study and future career opportunities

#### **3.3 Course Developers**

To stimulate the design and development of new and imaginative courses the Committee included a section on diversity of course provision; in addition, the standards were phrased in a manner intended to encourage novelty and not to constrain unduly

#### **3.4 External Examiners**

For this group (who as visitors to departments would have to agree to and preside over the awards of degrees) it was decided that guidance would be provided in terms of what should be sought, for example, in reviewing examination papers, in looking at final year projects, in guidelines that might apply for examination boards and so on. It was specifically not the intention that the benchmarking standards would be used when considering, for example, the award to each individual student

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