

History Informatics

This new term was adopted across Western Europe, and, except in English, developed a meaning roughly translated by the English 'computer science', or 'computing science'. [Mikhailov](#) et al. advocated the Russian term *informatika* (1966), and the English *informatics* (1967), as names for the *theory of scientific information*, and argued for a broader meaning, including study of the use of information technology in various communities (for example, scientific) and of the interaction of technology and human organizational structures.

Informatics is the discipline of science which investigates the structure and properties (not specific content) of scientific information, as well as the regularities of scientific information activity, its theory, history, methodology and organization. [\[4\]](#)

Usage has since modified this definition in three ways. First, the restriction to scientific information is removed, as in business informatics or legal informatics. Second, since most information is now digitally stored, computation is now central to informatics. Third, the representation, processing and communication of information are added as objects of investigation, since they have been recognized as fundamental to any scientific account of information. Taking *information* as the central focus of study, then, distinguishes *informatics*, which includes study of biological and social mechanisms of information processing, from [computer science](#), where digital computation plays a distinguished central role. Similarly, in the study of representation and communication, informatics is indifferent to the substrate that carries information. For example, it encompasses the study of communication using gesture, speech and language, as well as digital communications and networking.

The first example of a degree level qualification in Informatics occurred in 1982 when Plymouth Polytechnic (now the [University of Plymouth](#)) offered a four year BSc(Honours) degree in Computing and Informatics – with an initial intake of only 35 students. The course still runs today [\[5\]](#) making it the longest available qualification in the subject.

A broad interpretation of *informatics*, as "the study of the structure, algorithms, behaviour, and interactions of natural and artificial computational systems," was introduced by the [University of Edinburgh](#) in 1994 when it formed the grouping that is now its [School of Informatics](#). This meaning is now (2006) increasingly used in the [United Kingdom](#). [\[6\]](#)

Informatics encompasses the study of systems that [represent](#), [process](#), and [communicate](#) information. However, the [theory of computation](#) in the specific discipline of [theoretical computer science](#) which evolved from [Alan Turing](#) studies the notion of a [complex system](#) regardless if [information](#) actually exists. Since both fields process information, there is some disagreement among scientists as to field hierarchy; for example [Arizona State University](#) attempted to adopt a broader definition of informatics to even encompass [cognitive science](#) at the launch of its [School of Computing and Informatics](#) in September 2006. The confusion arises since [information](#) can be easily stored on a computer and hence informatics could be considered the parent of [computer science](#). However, the original notion of a [computer](#) was the name given to the action of [computation](#) regardless of the existence of [information](#) or the existence of a [von neumann architecture](#). Humans are examples of computational systems and not information systems. Many fields such as [quantum computing theory](#) are studied in [theoretical computer science](#) but not related to informatics.

The 2008 [Research Assessment Exercise](#), of the UK Funding Councils, includes a new, *Computer Science and Informatics*, unit of assessment (UoA), [\[7\]](#) whose scope is described as follows:

The UoA includes the study of methods for acquiring, storing, processing, communicating and reasoning about information, and the role of interactivity in natural and artificial systems, through the implementation, organisation and use of computer hardware, software and other

resources. The subjects are characterised by the rigorous application of analysis, experimentation and design.

At the [Indiana University](#) School of Informatics ([Bloomington](#), [Indianapolis](#) and [Southeast](#)), informatics is defined as "the art, science and human dimensions of information technology" and "the study, application, and social consequences of technology." It is also defined in Informatics I101, Introduction to Informatics as "the application of information technology to the arts, sciences, and professions." These definitions are widely accepted in the [United States](#), and differ from British usage in omitting the study of natural computation.

At the [University of California, Irvine Department of Informatics](#), informatics is defined as "the interdisciplinary study of the design, application, use and impact of information technology. The discipline of informatics is based on the recognition that the design of this technology is not solely a technical matter, but must focus on the relationship between the technology and its use in real-world settings. That is, informatics designs solutions in context, and takes into account the social, cultural and organizational settings in which computing and information technology will be used."

At the [University of Michigan, Ann Arbor Informatics interdisciplinary major](#), informatics is defined as "the study of information and the ways information is used by and affects human beings and social systems. Key to this growing field is that it applies both technological and social perspectives to the study of information. Michigan's interdisciplinary approach to teaching Informatics gives you a solid grounding in contemporary computer programming, mathematics, and statistics, combined with study of the ethical and social science aspects of complex information systems. Experts in the field help design new information technology tools for specific scientific, business, and cultural needs."

In the English-speaking world the term *informatics* was first widely used in the compound, 'medical informatics', taken to include "the cognitive, information processing, and communication tasks of medical practice, education, and research, including information science and the technology to support these tasks".^[8] Many such compounds are now in use; they can be viewed as different areas of applied informatics.

One of the most significant areas of applied informatics is that of [organisational informatics](#). Organisational informatics is fundamentally interested in the application of information, information systems and ICT within organisations of various forms including private sector, public sector and voluntary sector organisations ^{[9][10]}. As such, organisational informatics can be seen to be sub-category of [social informatics](#) and a super-category of [business informatics](#).

A practitioner of informatics may be called an *informatician* or an *informaticist*.

In 1989, the first [International Olympiad in Informatics](#) (IOI) was held in Bulgaria. The olympiad involves two days of intense competition for five hours each day. Four students are selected from each participating country to attend and compete for Gold, Silver and Bronze medals. The 2008 IOI was held in [Cairo, Egypt](#).