Review of Mathematics and Computing codes

Purpose

Group G (Mathematical and Computer Sciences) has been identified as an area requiring review because the group is running out of space; Mathematics and Computer sciences are large academic areas and, as Computer sciences in particular are continually evolving, there is little room to expand.

The objectives were:

- To split the distinct subjects of Mathematics and Computer sciences and identify a suitable group for each.

- To determine whether Health informatics fits into the area of Computer sciences and if so, allocate a suitable code or set of codes.

- To suggest further classification options where high-level codes are used excessively.

Experts consulted

- RCUK Secretariat, Research Councils UK (includes EPSRC & STFC)

- Planning Team, University of Nottingham

- Head of Academic Services, Engineering & Physical Sciences, University of Manchester

- Acting Head, Student Systems Support & Development, Registry, Kingston University

- Corporate Information Manager, University of Teesside

- Information Manager, Open University (no response)

- Head of School of Computing and Mathematics/ Director HE Academy Information and Computer Sciences Subject Centre, Ulster University

- Lecturer in E-Business and Operations Management department and Head of the Operations and e-Business Group, University of Liverpool (consulted for E-business)

Changes to be implemented

Computer sciences to be moved from group 'G' into their own separate subject group.

- Group 'I' has never been used, and this move would leave Mathematics in Group 'G'. It was agreed within a JACS 3.0 working group meeting that 'I' would be the best position for Computer science as the first part of the JACS groupings is science-related

- Code 'G' groupings have been analysed to ensure there remains enough coding space for Mathematics as existing or previously allocated codes may not be reused or renamed. Mathematics has not evolved in such a diverse and fast manner as Computer sciences and are therefore content that Group 'G' provides enough space for Mathematics.

Impact on coding:

Delete the codes involved in the Mathematical and Computer sciences hierarchy: G000, G010 and G020.

Delete all Computer Science codes from Group 'G': G400 - G900 and G920.

Place Computer sciences codes in Group 'I' and recode (e.g. I100 Computer science was formerly G400).

New code and definition:

G170	**Computational Mathematics**	The study of advanced mathematical topics used in computational processes across a range of applications.

Health informatics (with a suggested definition of 'the study of information capture, processing and use in healthcare') to be placed in the Computer sciences area, more specifically Group 'I' with code I500. Several new lower level codes and definitions have also been requested.

New codes and definitions:

I500 Health informatics	The study and design of systems for information capture, processing and use in healthcare.
I510 Health technologies	The study of health technology methods used to promote health, prevent and treat disease and improve rehabilitation or long-term care.
I520 Bioinformatics	The study of the application of computer-based technologies and services to biological, biomedical, and biotechnology research.
I530 Tele healthcare	The study of tele healthcare technology to enable a flexible, integrated approach to health and social care services.
I590 Health informatics not elsewhere classified	Miscellaneous grouping for related subjects which do not fit into the other Health informatics categories. To be used sparingly.

Computer science is an evolving area and Group G400 Computer science: 'The study of the design and application of electronic computer systems, including computer architectures, software and systems design' is the most crowded. This may be due to an institution's inability to classify programmes more accurately and therefore several new codes and definition are proposed

New codes and definitions:

I113 Displays & imaging	The study of the software, hardware, and mathematical tools used to represent, display, and manipulate computer graphics.
I114 High end computing	The study of high-performance computing using supercomputers and clusters to solve advanced computational problems.
I115 Parallel Computing	The study of simultaneous calculations for complex computations.
I160 Internet	The study of internet-related computing including Cloud Computing.
I161 e-business	The study of the nature of e-business, its system components and

applications.

I270	**Intelligent & expert systems**	The study of digitally based products and systems within manufactured goods, including telematic devices, human interfaces, and reasoning for computing systems.
I600	**Games**	The study of computer science games.
I610	**Computer games programming**	The study of games programming, methods of interaction and console architectures.
I620	**Computer games design**	The study of the use of artistic and visual communication techniques in the design and production of computer games.
I630	**Computer games graphics**	The study of the use of visual communications and graphics technologies in the design and production of computer games.
I700	**Computer generated visual & audio effects**	The study of the production of computer generated special visual and/or audio effects for use in static or moving image sequences.
I710	**Computer generated imagery**	The study of the particular techniques associated with the creation of illusion of movement in static or moving image sequences by the use of computer generated imagery