# University of Leeds Classification of Books

## Computer Studies

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## A  General

<table>
<thead>
<tr>
<th>Code</th>
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<tr>
<td>A-0.01</td>
<td>Periodicals</td>
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<tr>
<td>A-0.02</td>
<td>Series</td>
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<td>A-0.03</td>
<td>Collected essays, Festschriften etc.</td>
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<td>A-0.04</td>
<td>Bibliographies</td>
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<td>A-0.08</td>
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<td>A-0.09</td>
<td>Handbooks, databooks</td>
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<td>A-0.19</td>
<td>Dictionaries, encyclopaedias</td>
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<tr>
<td>A-10</td>
<td>General texts</td>
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<tr>
<td>A-99</td>
<td>General miscellaneous</td>
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*Computer electronics*: see Electrical Engineering R

## G  Hardware

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<th>Code</th>
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<td>G-1</td>
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<td>G-2</td>
<td>Arithmetic and logic structures</td>
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<td>G-3</td>
<td>Memory structures</td>
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<td>G-4</td>
<td>Input/output and data communications</td>
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<td>G-5</td>
<td>Register-transfer-level implementation</td>
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<td>G-6</td>
<td>Logic design [See also Electrical Engineering R-5]</td>
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<td>G-7</td>
<td>Integrated circuits [See also Electrical Engineering L-8]</td>
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<tr>
<td>G-8</td>
<td>Performance and reliability</td>
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<td>G-9</td>
<td>Miscellaneous</td>
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## H  Computer Systems Organisation

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<td>H-0</td>
<td>General, computer architecture, systems architecture</td>
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<tr>
<td>H-1</td>
<td>Processor architectures</td>
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<tr>
<td>H-2</td>
<td>Computer-communication networks</td>
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<tr>
<td>H-2.1</td>
<td>Network architecture and design (including wireless)</td>
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<td>H-2.2</td>
<td>Network protocols</td>
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<td>H-2.3</td>
<td>Network operations</td>
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<td>H-2.4</td>
<td>Distributed systems; Cloud computing</td>
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<tr>
<td>H-2.5</td>
<td>Local area networks, Wide area networks and Internet</td>
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<td>H-2.6</td>
<td>Internetworking</td>
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<tr>
<td>H-2.9</td>
<td>Miscellaneous</td>
</tr>
</tbody>
</table>
H-3 Special-purpose and application-based systems
Including: smartcards, embedded, ubiquitous

H-4 Performance of systems

H-5 Computer system implementation
H-5.1 Supercomputers and mainframe computers
H-5.2 Minicomputers
H-5.3 Microcomputers
H-5.35 Portable computers (laptops, notebooks etc.)
H-5.4 VLSI (Very large scale integration) systems
H-5.5 Servers
H-5.9 Miscellaneous

H-9 Miscellaneous

J Software
Practical aspects: see V-8

J-0 General

J-1 Programming techniques
J-1.1 Applicative (functional) programming
J-1.2 Automatic programming
J-1.3 Concurrent, distributed, parallel programming
J-1.4 Sequential programming
J-1.5 Object-oriented programming
J-1.6 Logic programming
J-1.7 Visual programming
J-1.9 Miscellaneous

J-2 Software engineering
J-2.01 Requirements/specifications, Z
J-2.02 Design tools and techniques – CASE (Computer-aided software engineering), flow charts, petri nets, structural, top-down, UML (Unified modelling language)
J-2.03 Coding tools and techniques
J-2.04 Software/program verification
J-2.05 Testing and debugging
J-2.06 Programming environments
J-2.07 Distribution, maintenance and enhancement
J-2.08 Metrics
J-2.09 Management – quality
J-2.10 Design
J-2.11 Software architectures
J-2.12 Interoperability – CORBA (Common object request broker architecture)
J-2.13 Reusable software
J-2.99 Miscellaneous
J-3  Programming languages
    J-3.01  Specific programming languages: number corresponds to first
          letter of language name
          e.g.  J-3.01  Ada  (A = 1\textsuperscript{st} letter of alphabet)
           J-3.03  C, C++, Cobol  (C = 3\textsuperscript{rd} letter)
           J-3.06  Fortran
           J-3.08  HTML, Web authoring
           J-3.10  Java, JavaScript
    J-3.3  Formal definitions and theory
    J-3.4  Language classifications
    J-3.5  Language constructs and features
    J-3.6  Processors (compilers, interpreters, etc.)
    J-3.9  Miscellaneous

J-4  Operating systems
    J-4.01  Particular operating systems, as in J-3.01 to J-3.26
          e.g.  J-4.04  DOS
           J-4.21  UNIX
           J-4.22  VMS
           J-4.23  Windows
           J-4.24  X Window
    J-4.31  Process management
    J-4.33  Storage management
    J-4.35  File Systems management
    J-4.37  Communications management
    J-4.4  Reliability
    J-4.5  Security and protection; Encryption
    J-4.6  Organisation and design
    J-4.7  Performance
    J-4.8  Systems programs and utilities
    J-4.9  Miscellaneous

K  Data
    K-0  General
    K-1  Data structures
    K-2  Data storage representations
    [K-3  Data encryption]  \textit{No longer used: see J-4.5}
    K-4  Coding and information theory
    K-5  Files
    K-9  Miscellaneous
L  Theory of Computation
L-0  General
L-1  Computation by abstract devices; Quantum computing
L-2  Analysis of algorithms and problem complexity
L-3  Logics and meanings of programs
L-4  Mathematical logic and formal languages
L-9  Miscellaneous

M  Mathematics of Computing
M-0  General
M-1  Numerical analysis
M-1.1  Interpolation
M-1.2  Approximation
M-1.3  Numerical linear algebra
M-1.4  Quadrature and numerical differentiation
M-1.5  Roots of nonlinear equations
M-1.6  Optimization – linear programming
M-1.7  Ordinary differential equations (or DEs in general)
M-1.8  Partial differential equations, finite element methods
M-1.9  Applications – operations research, scheduling
M-2  Discrete Mathematics – combinatorics, graph theory
See also Mathematics A-4
M-3  Probability and statistics  See also Mathematics K-11
M-4  Mathematical software
M-9  Miscellaneous

P  Information Systems
P-0  General
P-1  Models and principles
P-2  Database management
P-2.1  Logical design
P-2.2  Physical design
P-2.3  Languages
P-2.4  Systems - object-oriented, distributed, relational,…
P-2.5  Heterogeneous databases
P-2.6  Database machines
P-2.7  Database administration, data warehousing
P-2.8  Database applications, data mining
P-2.9  Miscellaneous
P-3  Information storage and retrieval
Librarianship aspects : see Bibliography H-4
P-3.1  Content analysis and indexing
P-3.2  Information storage
P-3.3  Information search and retrieval
P-3.4  Systems and software
Online information services

Information systems applications - office automation, management information systems, decision support systems

Human-computer interaction

Multimedia information systems; Virtual reality

User interfaces, ergonomics

Group and organisation interfaces – CSCW (computer-supported cooperative work)

Practical applications: see V-4.3

Hypertext/hypermedia

Sound and music computing] No longer used: see Music A-1.6

World Wide Web; Internet Social aspects: see Communications Studies D-5.5

User interfaces: browsers, etc.

Searching

Web mining

Applications

Communications: Email, blogs, etc.

Social networks

Miscellaneous

Computing methodologies

General – philosophical foundations

Symbolic and algebraic manipulation

Artificial intelligence

Applications and expert systems

Automatic programming

Deduction and theorem proving

Knowledge representation formalisms and methods

Programming languages and software

Learning, neural networks, genetic programming

Natural language processing and speech processing

Problem solving, control methods, and search

Robotics See also Electrical Engineering Z-30

Mobile robots: see Mechanical Engineering K-13

Vision and scene understanding

Distributed artificial intelligence, intelligent agents

Miscellaneous

Computer graphics

Image processing and computer vision

See also Electrical Engineering N-20

Pattern recognition

Simulation and modelling

Document and text processing

Miscellaneous
Computer applications No longer used
For applications in specific subject areas, see the relevant subject schedule, e.g.
Civil Engineering A-3.3, Engineering B-3, Food A-1.7, General Literature A-0.06; Linguistics M-1; Music A-1.6, etc.
T-0 General
T-1 Administrative data processing
T-2 Applications in science
T-3 Applications in healthcare]

Practical computing
The computer industry: see Economics J-81.3
History of computing: see History of Science
Computers and education: see Education
Computer and information science education: see A-0.08
V-0 General
V-4 Computers and society
V-4.1 Computer ethics
V-4.3 Organizational impacts, CSCW General works: see P-5.3
V-4.4 Electronic commerce See also Management E-1.5
[V-5 Legal aspects of computing use Law]
V-6 Management of computing and information systems
[see also Management]
V-6.1 Project and people management, systems analysis and design
V-6.2 Installation management, implementation
V-6.3 Software management
V-6.4 System management, quality assurance
V-6.5 Security and protection; Viruses, malware
V-6.9 Miscellaneous
V-8 Personal computing
V-8.1 Applications packages
V-8.11 Word processors
V-8.12 Spreadsheets
V-8.13 Databases
V-8.14 Graphics
V-8.15 Data communications
V-8.16 Project management
V-8.17 Games, game design Social aspects: see Sociology H-7.5
V-8.2 Hardware
V-8.3 Management/maintenance
V-8.9 Miscellaneous
V-9 Miscellaneous