



**Goldsmiths**  
UNIVERSITY OF LONDON

# BSc and Diploma in Computing and related subjects

Extended booklist  
**2009**

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## Notes

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# Introduction

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## Who should use this extended booklist?

This extended booklist is a new publication for 2009/10. It is intended for the use of:

- students registered for the BSc Computing and Information Systems or for the BSc Creative Computing, whether studying at an institution or independently (the booklists for *Study skills in English* and *001 Mathematics for business* do not apply)
- students registered for the Diploma in Computing and Information Systems or for the Diploma in Creative Computing studying at Diploma teaching institutions (the Levels 2 and 3 booklists on pages 13 to 28 do not apply)
- institutions that have Diploma teaching/degree Specified status
- other institutions teaching informally for the BSc.

## Note for institutions

At certain points throughout the booklists, we give advice to institutions that are using the lists to buy the appropriate books for their teachers and also to stock up their libraries. Institutions that have Diploma teaching/BSc Specified status, however, also need to consult the new *Application Guide: Diploma Teaching and Specified Status* for details of the library and book provision requirements that they must satisfy.

Copies of the *Application Guide* for institutions may be obtained from:

Ms Margaret Stern  
Quality and Standards Office  
Goldsmiths, University of London  
New Cross  
London  
SE14 6NW  
United Kingdom

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## How should the booklists be used?

In this extended booklist, there are separate booklists for the different units at each Level of the degrees. The booklists for the Diploma units for Computing and Information Systems and Creative Computing are the same as for Level 1 of each BSc, plus there are booklists for *Study skills in English* and *001 Mathematics for business* that are relevant only to the Diplomas.

On pages 3 to 4 there is a list of books and useful journals of a more general nature, not directly related to any particular units. These, therefore, will be of use for all Levels of each degree and Diploma.

**For all books, an earlier edition is acceptable unless otherwise stated.**

Some of the books are shown as 'Out of print'. They are included as they are still considered useful. They are likely to be found in some libraries and may be available second hand.

## Extended booklist

The booklists for the individual units do not replace the recommended reading given in the respective subject guides; they should be read together and books listed in the subject guide but not in this extended booklist should not be ignored.

For most units, the booklist is divided into List A and List B books:

### List A

- These are essential books that students are expected to buy, even if they are studying at an institution. They are essential for effective study of a unit.
- Diploma teaching/Specified listed institutions must provide copies of these books in their libraries.
- This List updates the required reading given in the subject guides.

### List B

- These are supplementary books which will give a wider and deeper understanding of the subject.
- The list consists of books that the authors of the subject guides know cover at least some of the necessary material in sufficient detail and at an appropriate level. It is not intended to be an exhaustive list.
- Students may want to buy some of these books, but are at least advised to seek out some of them in libraries, in particular those that are starred (\*) as they are the most useful for further reading.
- Diploma teaching/Specified listed institutions should hold a selection of List B books in their libraries, including those that are starred.
- This List updates some of the recommended further reading given in the subject guides, but in some subject guides there are additional books listed which may prove useful.

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# General books and other useful publications

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## General books

The following list contains details of general books. While they are not related directly to any particular course, reading any of them will give a broader knowledge and understanding of computing.

The books starred (\*) are particularly useful.

- Bishop, C.M. *Neural Networks for Pattern Recognition*. (Oxford University Press, 1995) [ISBN 0198538642 (pbk)].
- Blissmer, Robert H. *Introducing Computers: Concepts, Systems and Applications*. (Wiley, 1996) [ISBN 0471113603 (pbk)] Updated every year.
- \*Dewdney, A.K. *New Turing Omnibus: 66 Excursions in Computer Science*. (Palgrave Macmillan, 2003) [ISBN 0805071660 (pbk)].
- or \*Dewdney, A.K. *The (New) Turing Omnibus: 66 Excursions in Computer Science*. (Computer Science Press, 1993) [ISBN 0716782715 (pbk): Out of print].
- \*Dromey, R.G. *How to Solve it by Computer*. (Prentice-Hall International, 1982) [ISBN 0134340019 (pbk): Out of print].
- \*Dunleavy, P. *Studying for a Degree: In the Humanities and Social Sciences*. (Palgrave, 1986) [ISBN 0333418425 (pbk)] This book is included in students' study packs. Despite the fact that it is aimed at degrees in Humanities and Social Sciences, it is very broadly based and a great deal of the advice is appropriate to other degrees.
- Hagan, M.T. *Neural Network Design*. (University Press of Colorado, 1996) [ISBN 0971732108 (spiral)].
- Ham, F.M. and I. Kostanic *Principles of Neurocomputing for Science and Engineering*. (McGraw-Hill, 1996) [ISBN 007118161X (pbk): Out of print].
- \*Harel, David and Yishai A Feldman *Algorithmics: The Spirit of Computing*. (Addison Wesley, 2004) third edition [ISBN 0321117840 (pbk)].
- Hodges, Andrew *Alan Turing: The Enigma*. (Walker, 2000) [ISBN 0802775802 (pbk)].
- Long, Larry and Nancy Long *Introduction to Computers and Information Systems*. (Prentice Hall, 1997) fifth internet edition [ISBN 0132732289 (pbk): Out of print].
- Nikolaev, N. and H. Iba *Adaptive Learning of Polynomial Networks: Genetic Programming, Backpropagation and Bayesian Methods*. (Springer, 2006) [ISBN 0387312390 (hbk)].
- Penrose, Roger *The Emperor's New Mind: Concerning Computers, Minds and the Laws of Physics*. (Oxford University Press, 1999) [ISBN 0192861980 (pbk)].
- or Penrose, Roger and Michael Jackson *The Emperor's New Mind: Concerning Computers, Minds and the Laws of Physics*. (Redback Audiobooks, 1995) [ISBN 1857220803 (audio cassette): Out of print].
- Pratt, Vernon *Thinking Machines*. (Blackwell NCC, 1987) [ISBN 0631149538 (hbk)]: Out of print].
- Principe, J.C., N.R. Euliano and W.C. Lefebvre *Neural and Adaptive Systems: Fundamentals Through Simulations*. (Wiley, 2000) [ISBN 0471351679 (hbk & CDROM)].
- Reed, R.D., and R.J. Marks, *Neural Smithing: Supervised Learning in Feedforward Artificial Neural Networks*. (MIT Press, 1999) [ISBN 0262181908 (hbk)].

## Extended booklist

Stein, Dorothy *Ada: A Life and a Legacy*. (MIT Press, 1987) new edition [ISBN 0262691167 (hbk)].

\*Turk, Christopher and John Kirkman *Effective Writing: Improving Scientific, Technical and Business Communication*. (Spon Press, 1988) second edition [ISBN 0419146601 (pbk)].

Zurada, J.M. *Introduction to Artificial Neural Systems*. (Jaico, 2006) [ISBN 9788172246501 (pbk)].

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## Other useful publications

The following suggested journals are a good introduction to the world of computing and also cover developments in the field. Students will find it useful, therefore, to refer to these journals, or others like them, wherever possible.

### Note for institutions that are Diploma teaching/Specified listed:

Your library should hold a selection of computing publications such as these in order to help students.

- *Communications of the ACM*
- *ACM Computing Surveys*
- *SIGCSE Bulletin* (not for students; for staff at institutions)

All of the above can be obtained from: Association for Communication Machinery, 1515 Broadway, New York, NY10036, USA Tel: (212) 869 7440 <http://www.acm.org/>

- *Byte*

From: Subscriptions Department, PO Box 555, Hightstown, NJ 08520, USA  
Tel: 609 426 7070  
[www.ddj.com](http://www.ddj.com)

Any easily available general interest weekly or monthly computing magazines would also be useful. Examples of the type of magazine (these are not the only suitable ones) are:

- *Personal Computer World*

From: VNU House, 32–34 Broadwick Street, London W1A 2HG, UK  
<http://www.pcw.co.uk/>

- *Asia Computer Weekly* (of use in Asia)

<http://www.mondotimes.com/1/world/sg/221/all/12007>

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## Diploma/Level 1 booklists

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### Study skills in English (Diploma only)

#### List A

Cottrell, Stella *The Study Skills Handbook*. (Palgrave, 2003) third edition [ISBN 0230573053 (pbk)].

Fowler, H. Ramsey and Jane E. Aaron *The Little, Brown Handbook*. (Longman, 2006) tenth edition [ISBN 0321389514 (hbk)].

#### List B

##### Study skills:

\*Northedge, Andrew *The Good Study Guide*. (Open University, 2005) second edition [ISBN 0749259744 (pbk)].

\*Turner, Joan *How to Study: A Short Introduction*. (Sage, 2002) [ISBN 0761968083 (pbk); 0761968075 (hbk)].

Waters, Mary and Alan Waters *Study Tasks in English*. (Cambridge University Press, 1996) [ISBN 0521426146 (pbk)].

##### Writing:

Hamp-Lyons, Liz and Ben Heasley *Study Writing*. (Cambridge University Press, 2006) second edition [ISBN 0521534968 (pbk)]. Explanations and exercises on organisational strategies for writing.

Oshima, Alice and Ann Hogue *Writing Academic English*. (Longman, 2005) fourth edition [ISBN 0131523597 (pbk)]. Examples, explanations and exercises on all aspects of writing from sentence structure to paragraphs and essays.

##### Grammar:

\*Eastwood, John *Oxford Practice Grammar: With Answers*. (Oxford University Press, 2006) new title [ISBN 0194309142 (pbk with CDROM)]; replacement edition 9780194579780. Explanations and exercises for all levels of English grammar.

Swan, Michael *Practical English Usage*. (Oxford University Press, 2005) third edition [ISBN 0194420981 (pbk)]. Easy to use reference book on English grammar.

Vince, Michael and Peter Sunderland *Advanced Language Practice*. (Macmillan, 2004) revised edition [ISBN 1405007621 (pbk)]. Explanations and activities for advanced students of English grammar.

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### 001 Mathematics for business (Diploma only)

#### List A

Dowling, Edward T. *Schaum's Outline of Theory and Problems of Mathematical Methods for Business and Economics*. (McGraw Hill, 1992) [ISBN 0070176973 (pbk)]. The above book contains many examples and exercises similar to those in the subject guide which you can use for further practice if necessary.

## List B

If you have not studied mathematics recently you might find it helpful to get a school mathematics book. For example the following revision guide covers most of the material in Chapter 1 as well as linear equations and graphs, simultaneous equations and inequalities:

*GCSE Study Guide: Revise Maths.* (Letts Educational, 2006)  
[ISBN 1843156326].

For a clear explanation of basic techniques in arithmetic, algebra and graphs, the following two volumes are also recommended:

Graham, Lynne and David Sargent *Countdown to Mathematics Volumes I and II.* (Prentice Hall, 1981) [ISBN 0201137305 (pbk) Volume 1; 0201137313 (pbk) Volume 2].

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## 102 Mathematics for computing

### List A

The subject guide for this course gives a complete set of lecture notes, but you may want to supplement this by reading an alternative account of some topics, and by working through additional examples and exercises. References are given in the subject guide to the first two books in the following list, which are particularly suitable as regards coverage, level and clarity of presentation.

### List B

\*Epp, Susanna S. *Discrete Mathematics with Applications.* (Thomson-Brooks/Cole, 2003) third edition [ISBN 0534359450 (hbk)].

\*Molluzzo, John C. and Fred A. Buckley *First Course in Discrete Mathematics.* (Waveland, reprinted 2004) [ISBN 0881339407 (hbk)].

Albertson, M.O. and J.P. Hutchinson *Discrete Mathematics with Algorithms.* (Wiley, 1988) [ISBN 0471849022 (hbk): Out of print; ISBN 0471612782 (pbk): Out of print]. Good background book, showing how the subject links to Computer Science.

Barnett, Stephen *Discrete Mathematics: Numbers and Beyond.* (Addison Wesley Longman, 1998) [ISBN 0201342928 (pbk)]. Does not cover our entire syllabus, but useful for some sections, particularly number bases, counting methods, applications of graphs.

Eccles, Peter J. *An Introduction to Mathematical Reasoning: Numbers, Sets and Functions.* (Cambridge University Press, 1997) [ISBN: 0521597188 (pbk); 0521592690 (hbk)]. A good introduction to the basics of the course.

Garnier, Rowan and John Taylor *Discrete Mathematics for New Technology.* (Hilger, 1992) [ISBN 075030135X (pbk); 0750301368 (hbk): Out of print]. Good coverage and simply explained.

Grimaldi, Ralph P. *Discrete and Combinatorial Mathematics: An Applied Introduction.* (AddisonWesley Longman 1998) fourth edition [ISBN 0201199122 (hbk)]. A comprehensive coverage of the subject area, but rather more demanding.

Goodaire, Edgar G. and Michael M. Parmenter *Discrete Mathematics with Graph Theory.* (Pearson Prentice Hall, 2005) third edition [ISBN 0131679953 (hbk)].

Hein, J.L. *Discrete Mathematics.* (Jones and Bartlett Publishers, 2002) second edition [ISBN 0763722103 (hbk) Out of print].

Johnsonbaugh, Richard *Discrete Mathematics.* (Prentice Hall, 2004) sixth edition [ISBN 0131277677 (pbk)].

Mattson H.F. *Discrete Mathematics with Applications.* (Wiley, 1994) [ISBN: 0471606731 (hbk)] A more demanding treatment, but good for links with Computer Science.

- Mizrahi, Abe and Michael Sullivan *Finite Mathematics: An Applied Approach*. (John Wiley and Sons Inc, 2004) ninth edition (but earlier editions are fine) [ISBN 047169827X (hbk); 0471333514 (pbk) Out of print]. Covers part of the course with an emphasis on business applications. Particularly useful for the sections of the syllabus taught in the second semester.
- Rosen, Kenneth H. *Discrete Mathematics and Its Applications*. (Higher Education, 2006) sixth edition [ISBN 0072880082 (hbk)].
- or Rosen, Kenneth H. *Discrete Mathematics and Its Applications*. (McGraw-Hill Education (ISE Editions), 2006) sixth edition [ISBN 0071244743 (pbk)].
- or Rosen, Kenneth H. *Discrete Mathematics and Its Applications*. (Higher Education, 2003) fifth edition [ISBN 0072930330 (hbk)].
- Ross, Kenneth A. and Charles R.B. Wright *Discrete Mathematics*. (Pearson Education, 2002) fifth edition [ISBN 0130652474 (hbk); 013178448X (pbk): Out of print]. An excellent book, covering the whole course and more besides, with a good selection of exercises.
- Simpson, Andrew *Discrete Mathematics by Example*. (McGraw-Hill, 2001) [ISBN 0077098404 (pbk)].

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## 108 Information systems: foundations of ebusiness

### List A

- Laudon, Jane P. and Kenneth C. Laudon *Management Information Systems: Managing the Digital Firm*. (Pearson Education, 2009) eleventh international edition [ISBN 013609368X (pbk)].

The above book is essential reading for the course.

Website: [www.pearsoned.co.uk/](http://www.pearsoned.co.uk/)

Email: [heenquiriesuk@pearson.com](mailto:heenquiriesuk@pearson.com)

### List B

- Alter, Steven *Information Systems: Foundations of E-Business*. (Prentice Hall, 2002) fourth edition [ISBN 0130617733 (hbk): out of print]. Although this book is out of print, it may still be useful.
- \*Frenzel, Carroll W. *Management of Information Technology*. (Course Technology, 2003) fourth edition [ISBN 0619034173 (pbk)].
- \*Laudon, Kenneth C. and Jane Price Laudon *Essentials of Management Information Systems: Managing the Digital Firm*. (Pearson Education (US), 2008) eighth revised edition US [ISBN 013602579X (pbk)]; (Pearson Prentice Hall, 2008) [ISBN 0135013534 (pbk)].
- \*Oz, Effy *Management Information Systems*. (Course Technology, 2004) fourth edition [ISBN 0619215380 (hbk with CDROM): Out of print].

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## 109 Introduction to Java and object-oriented programming

### List A

The subject guide gives a complete account of the course.

Danicic, S. *CIS109 Subject Guide Volume 1*. (University of London, 2007).

Danicic, S. *CIS109 Subject Guide Volume 2*. (University of London, 2007).

Web address for installing Java system <http://java.sun.com/>

### List B

- Arnou, David M., Gerald Weiss and Scott Dexter *Introduction to Programming using Java: An Object Oriented Approach*. (Pearson Addison Wesley, 2003) second edition [ISBN 0321200063 (pbk)].
- Bishop, Judy *Java Gently*. (AddisonWesley, 2000) third edition [ISBN 0201710501 (pbk)].

- Charatan, Quentin and Aaron Kans *Java: In Two Semesters*. (McGraw-Hill, 2005) second edition [ISBN 0077108892 (pbk)].
- Deitel, Harvey and Paul Deitel *Java – How to Program*. (Prentice Hall International, 2007) seventh edition [ISBN 0132222205 (pbk)].
- Deitel, Harvey M. and Paul J. Deitel *Java: How to Program*. (Prentice Hall, 2004) sixth edition with CDROM [ISBN 0131483986 (hbk)].
- Downey, Allen B. *How to Think Like a Computer Scientist – Java Version*. (Green Tea Press, 2003). Available at <http://greenteapress.com/thinkajava/>
- Flanagan, David *Java in a Nutshell: A Desktop Quick Reference*. (O'Reilly, 2005) fifth edition [ISBN 0596007736 (pbk)].
- Hubbard, John R. *Schaum's Outline of Theory and Problems of Programming with Java*. (McGraw-Hill, 2004) second edition [ISBN 0071420401 (pbk)].
- or Hubbard, John R. and Anthony Q. Baxter *Programming with Java: Based on Schaum's Outline of Programming with Java*. by John R. Hubbard (McGraw-Hill, 2001) [ISBN 0071369775 (pbk)].
- Lambert, Kenneth Alfred and Martin Osborne *Java: A Framework for Programming and Problem Solving*. (Brooks/Cole, 2001) second edition [ISBN 0534382770 (hbk)].
- Wu, Thomas C. *An Introduction to Object-Oriented Programming with Java with Olc Bi-Card*. (McGraw-Hill, 2006) fourth edition [ISBN 0073107972 (hbk)].
- Felleisen M. and D.P. Freidman *A Little Java, A Few Patterns*. (The MIT Press, 1998) [ISBN 0262561158 (pbk)].
- Niemeyer P. and J. Knudsen *Learning Java*. (O'Reilly, 2005) third edition [ISBN 0596008732 (pbk & CD Rom)].
- Sun Microsystems Inc. <http://java.sun.com/javase/reference/api.jsp>. This is where you can look up information about Java classes and methods.

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## 110 Introduction to computing and the internet

### Part A

#### List A

- Stallings Williams *Computer Organization and Architecture: Designing for Performance*. (Pearson Prentice Hall, 2005) seventh edition [ISBN 0131856448 (hbk)].
- or Stallings Williams *Computer Organization and Architecture: Designing for Performance*. (Prentice Hall Pearson Education, 2002) sixth edition [ISBN 0130493074 (pbk): Out of print].

#### List B

- \*Brookshear, J. Glenn *Computer Science: An Overview*. (AddisonWesley, 2008) tenth international edition [ISBN 0321544285 (pbk)].
- or Brookshear, J. Glenn *Computer Science: An Overview*. (AddisonWesley, 2008) eighth edition [ISBN 0321247264 (hbk)].
- Burrell, Mark *Fundamentals of Computer Architecture*. (Palgrave Macmillan, 2003) [ISBN 0333998669 (pbk with CDROM)].
- Davis, W. *Operating Systems*. (Addison-Wesley, 2004) sixth edition [ISBN 0321269810 (pbk)].
- Flynn, I. and A. McIver McHoes *Understanding Operating Systems*. (Brooks/Cole Thomson Learning, 2000) third edition [ISBN 0534376665 (hbk): Out of print].
- Nutt, G.J. *Operating Systems: AND Advanced Programming UNIX Environment*. (Pearson Education Limited, 2005) international edition [ISBN 0582894573 (pbk/hbk) Out of print].
- Nutt, G.J. *Operating Systems: a modern perspective*. (Addison-Wesley, 2001) [ISBN 0201741962 (hbk): Out of print].

- \*Schneider, G. Michael and Judith L. Gersting *An Invitation to Computer Science: Java Version*. (Brooks/Cole, 2000) [ISBN 0534390978 (pbk)].
- Silberschatz, Abraham and Peter B. Galvin *Operating System Concepts with Java*. (Wiley, 2005) sixth edition [ISBN 0471759945 (hbk)].
- Tanenbaum, Andrew S. *Structured Computer Organization*. (Pearson Prentice Hall, 2005) fifth edition [ISBN 0131485210 (hbk with assembly language CDROM)].
- White, R. *How Computers Work*. (QUE, 2007) ninth edition [ISBN 0789736136 (pbk)].
- Wilkinson, B. *Computer architecture – design and performance*. (Prentice Hall, 1996) second edition [ISBN 013518200X (pbk)].

## Part B

### List A

- Buchanan, William *Mastering the Internet*. (Macmillan, 1997) [ISBN 0333692616 (pbk)]. This book describes, at an introductory level, the communication protocols used by the Internet as well as the basics of Java programming and Javascript.
- Casad, J. Sams *Teach Yourself TCP/IP in 24 Hours*. (QUE, 2004) third edition [ISBN 0672325659 (pbk) Out of print]. This covers most of the subject matter of the second part of the course at an appropriate level of detail and is not difficult to read, being designed as a self-study text.
- Castro, E. *HTML, XHTML and CSS*. (Peachpit Press, 2006) sixth edition [ISBN 0321430840 (pbk)].

### Useful web addresses

For information about the 1998 UK Data Protection Act which was based on a 1995 EU directive you should refer to documents available at the website of the UK Information Commissioner ([www.ico.gov.uk/tools\\_and\\_resources/document\\_library.aspx](http://www.ico.gov.uk/tools_and_resources/document_library.aspx)). The web page is entitled 'Document Library – A comprehensive resource for individuals and organisations'. There is also a useful leaflet entitled 'Data Protection in the European Union' which is freely available from the European Commission ([www.ec.europa.eu/youreurope/nav/en/citizens/services/eu-guide/index.html](http://www.ec.europa.eu/youreurope/nav/en/citizens/services/eu-guide/index.html)). The web page is entitled 'European Commission – Your Europe – Citizens – Services for Citizens: European General Guides'.

PC Support Advisor ([www.pcsupportadvisor.com/index.htm](http://www.pcsupportadvisor.com/index.htm)) has freely available tutorial articles on networking topics.

Specialist magazines such as .net have regular tutorial features on all aspects of web design and authoring ([www.netmag.co.uk](http://www.netmag.co.uk)).

[www.webmonkey.com](http://www.webmonkey.com) has many useful tutorials on web authoring as does [www.w3schools.com](http://www.w3schools.com)

The world wide web consortium [www.w3.org/](http://www.w3.org/) is an authoritative source of reference on protocols and standards.

The British Computer Society [www.bcs.org/](http://www.bcs.org/) is also a useful source of information on data protection and professional issues in general and related issues.

There are also web resources for information about security issues and viruses. A couple of important sites are:

CERT centre at Carnegie-Mellon University, which is highly informative on network security [www.cert.org/](http://www.cert.org/)

**List B**

- Agre, Philip and Marc Rotenberg (eds) *Technology and Privacy: The New Landscape*. (MIT Press, 1998) [ISBN 0262511010 (pbk)].
- Angel, John and Chris Reed (eds) *Computer Law*. (Oxford University Press, 2003) sixth edition [ISBN 0199205965 (pbk)].
- Brenan, Paul *Law for IT Professionals*. (XPL Publishing, 2003) [ISBN 1858113229 (pbk)].
- Comer, Douglas *Computer Networks and Internets: With Internet Applications*. (Pearson/Prentice Hall, 2003) fourth edition [ISBN 0131433512 (hbk): Out of print; 013123627X (pbk) Out of print].  
<http://netbook.cs.purdue.edu/> More detail than is needed at this stage but useful for those who are particularly enthusiastic about computer networking.
- Comer, Douglas *The Internet Book*. (Pearson Prentice Hall, 2006) fourth edition [ISBN 0132335530 (pbk)].
- Grimes, Roger A *Malicious Mobile Code: Virus Protection for Windows*. (O'Reilly, 2001) [ISBN 156592682X (pbk)].
- Musciano, Chuck and Bill Kennedy *HTML and XHTML: The Definitive Guide*. (O'Reilly, 2002) fifth edition [ISBN 059600382X (pbk)] This book is a comprehensive textbook and reference resource on web authoring.
- Shelly, John *XHTML and CSS Explained*. (Bernard Babani, 2001) [ISBN 0859345017 (pbk): Out of print].
- Shelly, John *Fun Web Pages with Javascript*. (Bernard Babani, 2002) second edition [ISBN 0859345203 (pbk)].
- Tanenbaum, Andrew S. *Computer Networks*. (Prentice Hall PTR, 2002) fourth edition [ISBN 0130384887 (pbk); 0130661023 (hbk)].  
<http://authors.phptr.com/tanenbaumcn4/>
- Wild, Charles and Stuart Weinstein *Internet Law*. (Old Bailey Press, 2005) [ISBN 1858365732 (pbk): Out of print].

Legal and professional issues are not particularly well covered in introductory computing textbooks, and when computer science texts do address these issues they tend to do so from a US perspective, which is not appropriate for this course. On the other hand, legal textbooks covering computer law have tended to be rather expensive and difficult for the non-specialist to follow. This book is a notable exception. Despite being aimed at law students this book is quite accessible to the non-lawyer and seems fairly sound on the technicalities of “e-Crime”.

## 112 Creative computing: image, sound, motion

### List A

- Reas, Casey and Ben Fry *Processing: A Programming Handbook for Visual Designers and Artists*. (MIT Press, October 2007) [ISBN 0262182629 (hbk)].
- Reas, Casey and Ben Fry *On-line processing reference manual*. at [www.processing.org/reference](http://www.processing.org/reference) Essential information about the Bauhaus, the most important school of architecture, design, and art of the twentieth century is available at: [www.bauhaus.de/english/index.htm](http://www.bauhaus.de/english/index.htm)

### List B

- Berger, John *Ways of Seeing*. (Penguin, 1990) Reissue [ISBN 0140135154 (pbk)].
- Foley, James D., Andries van Dam, Steven K. Feiner and John F. Hughes *Computer Graphics: Principles and Practice*. (Addison-Wesley, 1995) second edition [ISBN 0321210565 (pbk)].
- Maeda, John *Creative Code*. (Thames and Hudson, 2004) [ISBN 0500285179 (pbk) Out of print].
- Moggridge, Bill *Designing Interactions*. (MIT Press, 2006) [ISBN 0262134748 (hbk)].
- Packer, Randall and Ken Jordan (eds) *Multimedia: From Wagner to Virtual Reality*. (W. W.Norton and Company, expanded edition 2002) [ISBN 0393323757 (pbk)].
- Rand, Paul A *Designer's Art*. (Yale University Press, new edition 2001) [ISBN 0300082827 (pbk)] Out of print.
- Wong, Wucious *Principles of Form and Design*. (Wiley, 1993) [ISBN 0471285528 (pbk)].
- Zakia, Richard D. *Perception and Imaging*. (Elsevier Focal Press, 2007) third edition [ISBN 0240809300 (pbk)].

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## Notes

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## Level 2

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### 209 Database systems

#### List A

Connolly, T. and C. Begg *Database Systems: A Practical Approach to Design Implementation and Management*. (Addison-Wesley, 2004) fourth edition [ISBN 0321210255 (pbk) Out of print] More extensive and more application/methodology based.

or

\*Date, C.J. *An Introduction to Database Systems*. (AddisonWesley, 2003) eighth edition [ISBN 0321189566 (pbk); 0321197844 (hbk)] more concise and theoretically rigorous.

#### List B

Abiteboul, Serge; Richard Hull and Victor Vianu *Foundations of Databases: The Logical Level*. (AddisonWesley, 1995) [ISBN 0201537710 (hbk): Out of print].

Anahory, Sam and Dennis Murray *Data Warehousing in the Real World: A Practical Guide for Building Decision Support Systems*. (AddisonWesley, 1997) [ISBN 0201175193 (hbk)].

Bertino, Elisa; Barbara Catania and Gian Piero Zarri *Intelligent Database Systems*. (AddisonWesley, 2000) [ISBN 0201877368 (pbk)].

Cattell, R.G.G., Douglas K. Barry, R.G.C. Cattle (eds) et al., *The Object Data Standard: ODMG 30*. (Morgan Kaufman, 2000) [ISBN 1558606475 (pbk)].

Chakravarthy, S. *Fundamentals of Active Database Systems*. (Morgan Kaufman, 2003) reissue [ISBN 1558603786 (hbk)].

Connolly, Thomas M. and Carolyn E. Begg *Database Solutions: a Step-by-Step Guide to Building Databases*. (AddisonWesley, 2003) second edition [ISBN 0321173503 (pbk)] This book is a more concise version of the main text.

Eaglestone, Barry and Mick Ridley *Web Database Systems*. (McGraw-Hill, 2001) [ISBN 0077096002 (Spiral Binding): Out of print].

Elmasri, Ramez and Shamkant B. Navathe *Fundamentals of Database Systems*. (AddisonWesley, 2003) fifth international edition [ISBN 032141506X (pbk)].

GarciaMolina, Hector *Database Systems: A Complete Book*. (Pearson Prentice Hall, 2008) second edition [ISBN 0131354280 (pbk)].

Han, Jiawei and Micheline Kamber *Data Mining: Concepts and Techniques*. (Morgan Kaufman, 2000) [ISBN 1558604898 (hbk) Out of print].

Melton, Jim; Andrew Eisenberg and Rick Cattell *Understanding SQL and Java Together: A Guide to SQLJ, JDBC, and Related Technologies*. (Morgan Kaufman, 2000) [ISBN 1558605622 (pbk with CDROM): Out of print].

Özsu, M. Tamer and Patrick Valduriez *Principles of Distributed Database Systems*. (Prentice Hall, 1997) second edition [ISBN 0136597076 (pbk)].

Post, Gerald V. *Database Management Systems: Designing and Building Business Applications*. (McGraw-Hill/Irwin, 2004) third edition [ISBN 0072973129 (hbk with CD Rom): Out of print].

or Post, Gerald V. *Database Management Systems: Designing and Building Business Applications*. (McGraw-Hill/Irwin, 2003) third edition [ISBN 0071111808 alternative edition (hbk)].

or Post, Gerald V. *Database Management Systems: Designing and Building Business Applications*. (McGraw-Hill, 2004) third edition [ISBN 0071111816 (pbk with CDROM)].

- Ramakrishnan, Raghu and Johannes Gehrke *Database Management Systems*. (McGraw-Hill, 2002) third edition [ISBN 0072465638 (pbk)].
- Subrahmanian, V. S. *Principles of Multimedia Database Systems*. (Morgan Kaufman Publishers, 1998) [ISBN 1558604669 (hbk): Out of print].
- Zaniolo, Carlo, Stefano Ceri, Christos Faloutsos et al. *Advanced Database Systems*. (Morgan Kaufman, 1997) [ISBN 155860443X (hbk)].

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## 212 Programming: advanced topics and techniques

### Part A (Java)

#### List A

Laszlo, Michael *Object-Oriented Programming featuring Graphical Applications in Java*. (Addison Wesley 2001) [ISBN: 0201726270 (pbk)].

This book is out of print but much of the relevant information can be accessed at:

[www.scis.nova.edu/~mjl/oopinjava/index.html](http://www.scis.nova.edu/~mjl/oopinjava/index.html)

Web address for downloading BlueJ

[www.bluej.org/download/download.html](http://www.bluej.org/download/download.html)

Web address for downloading Java system

[java.sun.com/](http://java.sun.com/)

#### List B

\*Budd, Timothy *Understanding Object-Oriented Programming with Java*.

Updated Edition with new Java 2 Coverage (Addison Wesley, 1999) second edition [ISBN: 0201612739 (pbk): Out of print].

or Budd, Timothy *Understanding Object-Oriented Programming with Java*.

(Addison Wesley, 1999) second international edition, updated edition (new Java 2 coverage) [ISBN 032121174X (pbk) Out of print].

Barnes, D. and Michael Kölling *Objects First with Java: A Practical Introduction using BlueJ*. (Pearson-Prentice Hall, 2006) third edition [ISBN 013197629X (pbk)]. An introduction to 'BlueJ', the Java development environment that runs on top of the Sun Microsystems Java Development Kit making use of the standard compiler and virtual machine. It has been specifically designed for the introductory teaching of object oriented programming.

Eckel, Bruce *Thinking in Java*. (Prentice Hall PTR, 2005) fourth edition [ISBN 0131872486 (pbk)]. This book has the added benefit of being freely downloadable from the internet. One site for downloading the book is: [www.mindview.net/Books/TIJ/](http://www.mindview.net/Books/TIJ/).

\*Gries, D. and P. Gries *The ProgramLive Companion*. (John Wiley and Sons (WIE), 2001) Version 2 [ISBN 0471441589: (pbk with interactive CD)].

'ProgramLive' is a multimedia, Java based livetext on programming. It is a mixture of narration, animation, hypertext links and interactive tools. This volume uses ProgramLive to teach Java programming.

\*Knudsen, Jonathan *Java 2D Graphics*. (O'Reilly UK, 1999) first edition [ISBN 1565924843 (pbk)].

## Part B (PROLOG and ML)

### List A

- Bratko, I. *PROLOG Programming for Artificial Intelligence*. (AddisonWesley, 2000) third edition [ISBN 0201403757 (pbk)].
- Hansen, Michael R. and Hans Rischel *Introduction to Programming using SML*. (AddisonWesley, 1999) [ISBN 0201398206 (pbk)].

### List B

- \*Clocksin, W.F. and C.S. Mellish *Programming in Prolog*. (SpringerVerlag, 2003) fifth edition [ISBN 3540006788 (pbk)].
- or Clocksin, W.F. and C.S. Mellish *Programming in Prolog*. (Springer, 1994) fourth edition [ISBN 3540583505 (pbk); 0387583505 (pbk)].
- Clocksin, William F. *Clause and Effect: Prolog Programming for the Working Programmer*. (Springer, 1997) [ISBN 3540629718 (pbk)].
- Paulson, Lawrence C. *ML for the Working Programmer*. (Cambridge University Press, 1996) second edition [ISBN 052156543X (pbk)].
- Reade, Chris *Elements of Functional Programming*. (AddisonWesley, 1989) [ISBN 0201129159 (hbk)]. Note that this book is aimed at professionals and researchers.

### Other useful web addresses

The Java Tutorial

<http://java.sun.com/docs/books/tutorial/>

<http://www.smlnj.org/> contains useful information about Standard ML. In particular, there is a link to a number of tutorial resources that are extremely helpful.

<http://www.lix.polytechnique.fr/~liberti/public/computing/prog/prolog/prolog-tutorial.html> has a Prolog tutorial that can be worked through to improve understanding of the concepts.

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## 220 Graphical object-oriented and internet programming in Java

### List A

- Sierra, K. and B. Bates *Head First Java*. (O'Reilly, 2005) second edition [ISBN 0596009208 (pbk)].

### List B

- Flanagan, D. *Java in a Nutshell*. (O'Reilly, 2005) fifth edition [ISBN 0596007736 (pbk)].
- Niemeyer, P. and J. Knudsen *Learning Java*. (O'Reilly, 2002) [ISBN 0596002858 (pbk/CD-ROM) Out of print].
- Bloch, J. *Effective Java*. (Addison Wesley, 2001) [ISBN 0201310058 (pbk)].
- Harold, E.R. *Java Network Programming*. (O'Reilly, 2000) [ISBN 1565928709 (hbk) Out of print].
- Darwin, I. *Java Cookbook*. (O'Reilly, 2004) [ISBN 0596007019 (pbk)].

## 222 Data communications and enterprise networks

### List A

The subject guide gives a complete account of the course.

### List B

- Canavan, John E. *Fundamentals of Network Security*. (Artech House, 2001) [ISBN 1580531768 (hbk)].
- Carr, Houston H. and Charles A. Snyder *The Management of Telecommunications: Business Solutions to Business Problems Enabled by Voice and Data Communications*. (McGrawHill, 2002) second edition [ISBN 0071199284 (pbk) Out of print; 0072489316 (hbk)].
- FitzGerald, Jerry and Alan Dennis *Business Data Communications and Networking*. (Wiley, 2009) tenth edition [ISBN 0470055758 (hbk)].
- \*Forouzan, Behrouz A. *Data Communications and Networking*. (McGraw Hill Higher Education, 2006) fourth edition [ISBN 0071254420 (pbk); 0073250325 (hbk)].
- \*Kurose, James F. and Keith W. Ross *Computer Networking: A TopDown Approach featuring the Internet*. (Addison Wesley, 2009) fifth edition [ISBN 0136079679 (hbk)].
- Porter, Michael E. *Competitive Strategy: Techniques for Analyzing Industries and Competitors*. (Free Press, 2004) [ISBN 0743260880 (pbk)].
- \*Stallings, William *Data and Computer Communications*. (Pearson/Prentice Hall, 2006) eighth edition [ISBN 0132433109 (hbk)].
- \*Tanenbaum, Andrew S. *Computer Networks*. (Prentice Hall PTR, 2002) fourth edition [ISBN 0130384887 (pbk); 0130661023 (hbk)].

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## 226 Software engineering, algorithm design and analysis

### Part A

#### List A

- Fowler, Martin *UML Distilled. A Brief Guide to Standard Object Modelling Language*. (Addison-Wesley, 2003) third edition [ISBN 0321193687 (pbk)].
- Stevens, Perdita with Rob Pooley *Using UML. Software Engineering with Objects and Components*. (Addison-Wesley, 2001) second edition, updated [ISBN 0321269675 (pbk)].

#### List B

- Bloch, Joshua *Effective Java*. (Addison Wesley 2001) first edition [ISBN 0201310058 (pbk)].
- Brooks, Frederick *The Mythical Man-Month*. (Addison Wesley, 1995) anniversary edition [ISBN 0201835959 (pbk)].
- \*Pressman, Roger *Software Engineering. A Practitioner's Approach*. (McGraw- Hill, 2000) fifth edition [ISBN 0071181822 (pbk)].
- Stiller, Evelyn and Cathie Leblanc *Project-based Software Engineering. An Object-Oriented Approach*. (Addison Wesley, 2001) [ISBN 020174225X (hbk)].

## Part B

### List A

- Bailey, Duane A. *Java Structures: Data Structures in Java for the principled programmer*. (McGraw-Hill, 1999) international edition [ISBN 0071160914 (pbk)].
- Goodrich, Michael T. and Roberto Tamassia *Data Structures and Algorithms in Java*. (John Wiley & Sons, Inc., 2005), fourth edition [ISBN10 0471738840 (hbk)].
- Levintin, Anany *Introduction to the design and analysis of algorithm*. (Addison-Wesley Professional, 2006) [ISBN 0321358287 (pbk)].

### List B

- \*Cormen, Thomas H., Clifford Stein, Charles E. Leiserson and Ronald L. Rivest *Introduction to Algorithms*. (McGraw-Hill, 2001) second edition [ISBN 0262032937 (hbk)].
- or Cormen, Thomas H., Clifford Stein, Charles E. Leiserson and Ronald L. Rivest *Introduction to Algorithms*. (MIT Press, 1990) [ISBN 0070131430].
- Johnsonbaugh, Richard and Marcus Schaefer *Algorithms*. (Pearson Education International, 2004) international edition [ISBN 0131228536 (pbk)].
- Kingston, Jeffrey *Algorithms & Data Structures: Design, Correctness, Analysis*. (Addison-Wesley, 1997) second edition [ISBN 0201403749 (pbk)].
- Main, Michael *Data Structures and Other Projects Using Java*. (Pearson/Addison Wesley, 2005) third edition [ISBN 0321375254 (hbk)].
- or Main, Michael *Data Structures and Other Projects Using Java*. (Pearson/ Addison Wesley, 2005) third international edition [ISBN 0321364120 (pbk)].
- Rawlins, Gregory J.E. *Compared to What? – An Introduction to the Analysis of Algorithms*. (Computer Science Press, 1992) [ISBN 071678243X (hbk)].
- Shackelford, Russell L. *Introduction to Computing Algorithms*. (Prentice Hall College Division, 1999) custom edition [ISBN 0201636131 (pbk)].
- Weiss, Mark Allen *Data Structures and Problem Solving Using Java*. (Pearson/Addison Wesley, 2005) third edition [ISBN 0321322134 (hbk)].

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## 227 Creative computing: interactive multimedia

### List A

The subject guide gives a complete account of the course.

### List B

- Reas, Casey and Ben Fry *Processing: A Programming Handbook for Visual Designers and Artists*. (MIT Press, October 2007) [ISBN 0262182629 (hbk)].
- Eaton, John W., *GNU Octave*. (Network Theory, 2002) [ISBN 0954161726 (pbk) Out of print]. Also available online in HTML form at [www.gnu.org/software/octave/doc/interpreter](http://www.gnu.org/software/octave/doc/interpreter) and in texinfo source format in the Octave source code distribution.
- Howard, David M. *Acoustics and Psychoacoustics*. (Focal Press, 2006) third edition [ISBN 0240519957 (pbk/CD-ROM; 0240516095 (pbk) Out of print].
- Oppenheim, Alan V. *Signals and Systems*. (Prentice Hall, 1996) second edition [ISBN 0138147574 (hbk)].
- or Oppenheim, Alan V. *Signals and Systems*. (Prentice Hall, 2004) second edition [ISBN 1405811099 (pbk)].

## Extended booklist

- Foley, James D. *Introduction to Computer Graphics*. (Addison Wesley, 1993) revised edition [ISBN 0201609215 (hbk)].
- Van Rijsbergen, C. J., *Information Retrieval*. Available at [www.dcs.gla.ac.uk/Keith/Preface.html](http://www.dcs.gla.ac.uk/Keith/Preface.html).
- Witten, I. H., A. Moffat and T.C. Bell *Managing Gigabytes: Compressing and Indexing Documents and Images*. (Morgan Kaufmann Publishing, 1999) Second edition [ISBN 1558605703 (hbk)].

## Further reading

- Feynman, Richard P *Lectures on Physics Mainly Mechanics, Radiation and Heat*. (Volume 1, Chapters 35 and 36) (Pearson, 1989) [0201510030 (hbk)].
- Handel, Stephen *Listening*. (Chapters 1 to 3) (MIT, 1993) [ISBN 0262581272 (pbk)].

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## Level 3

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### 310 Artificial intelligence

**List A**

Russell, Stuart J. and Peter Norvig *Artificial Intelligence: A Modern Approach*. (Prentice Hall, 2003) second edition [ISBN 0137903952 (pbk)].

**List B**

Bertsekas, D.P and J.N. Tsitsikilis *Introduction to Probability*. (Athena Scientific, 2002) [ISBN 188652940X (hbk)].

Bishop, CM. *Pattern Recognition and Machine Learning*. (Springer, 2006) [ISBN 0387310738 (hbk)].

Clocksin, W.F and C.S. Mellish *Programming in Prolog*. (SpringerVerlag, 2003) fifth edition [ISBN 3540006788 (pbk)].

Haugeland, J. (editor). *Mind Design II: Philosophy, Psychology, and Artificial Intelligence*. Revised Edition (MIT Press, 1997) [ISBN 0262581531 (pbk)].

Lycan, W. (editor) *Mind and Cognition: An Anthology*. second edition (Wiley-Blackwell, 1999) [ISBN 0631205454 (hbk) Out of print].

Sutton, R.S. and A.G. Barto *Reinforcement Learning: An Introduction*. (MIT Press, 1998) [ISBN 0262193981 (hbk)].

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### 311 Neural Networks

**List A**

Rojas, R. *Neural Networks: a Systematic Introduction*. (1999) Available online at <http://page.mi.fu-berlin.de/rojas/neural/>

Although not available in print this book is available for free download from the author's website.

Krose, B. and P. van der Smagt (1996) *An introduction to neural networks*. Available at <http://en.scientificcommons.org/40788137>

Another essential read is [www.statsoft.nl/uk/textbook/stathome.html](http://www.statsoft.nl/uk/textbook/stathome.html) which gives a good introduction to our subject.

**List B**

Bishop, Christopher M. and Geoffrey Hinton *Neural Networks for Pattern Recognition*. (Clarendon Press, 1995) [ISBN 0198538642 (pbk)]. Note that this book is aimed at professionals, postgraduates and researchers.

Hagan, Martin T., Howard B. Demuth and M.H. Beale *Neural Network Design*. (University Press of Colorado, 2006) [ISBN 0971732108 (spl)].

Haykin, Simon *Neural Networks: A Comprehensive Foundation*. (Prentice Hall, 2006) third edition [ISBN 0131471392 (hbk)].

Principe, J.C. and Neil R. Euliano *Neural and Adaptive Systems: Fundamentals through Simulations*. (Wiley, 2000) [ISBN 0471351679 (hbk with CDROM)].

Reed, R.D., and R.J. Marks II *Neural Smithing: Supervised Learning in Feedforward Artificial Neural Networks*. (MIT Press, 1999) [ISBN 0262181908].

Ripley, Brian D. *Pattern Recognition and Neural Networks*. (Cambridge University Press, 2008) [ISBN 0521717701 (pbk)].

Rumelhart, D.E., J.L. McClelland and the PDP Research Group *Parallel Distributed Processing: Explorations in the Microstructure of Cognition*. (MIT Press, 1987). A two volume set. [Volume 1 ISBN 026268053X (pbk): Out of print. Volume 2 ISBN 0262631105 (pbk)].

Zurada, Jacek M. *Introduction to Artificial Neural Systems*. (Jaico, 2006) new edition [ISBN 8172246501 (pbk)]. An excellent book, with examples and applications. Some of the mathematics is too technical for this course but can be omitted without degrading the readability.

### Useful web addresses

If you want to simulate more realistic neurons take a look at this website:  
<http://snnap.uth.tmc.edu/>

Another useful site is <http://nips.cc/> which is the Neural Information Processing Systems (NIPS) Foundation. Conference proceedings from 1987 to 2008 are available for download.

University of Pittsburgh and Carnegie Mellon have set up the 'Center for the Neural Basis of Cognition: Integrating the sciences of mind and brain. They also have a useful website at: <http://www.cnbc.cmu.edu>.

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## 314 Software engineering management

### List A

Although neither of these List A books are essential, at least one of them should be acquired. They contain rather more material than will be covered in this unit, but will be relevant to other units.

Pressman, Roger S. Edited by Ince, Darrel *Software Engineering: A Practitioner's Approach: European Adaptation*. (McGraw-Hill, 2000) fifth edition [ISBN 0077096770 (pbk)].

Sommerville, Ian *Software Engineering*. (Addison Wesley, 2006) eighth edition [ISBN 0321313798 (hbk)].

### List B

\*Brooks, F.P. *The Mythical ManMonth: Essays on Software Engineering*. (Addison Wesley Longman, 1995) Anniversary edition [ISBN 0201835959 (pbk)] A first-hand account of the development of a large computer system, containing a wealth of wit and wisdom about the management of software projects, and how the highly interactive nature of such projects means that simple methods of calculating the effort required can be grossly misleading.

Hodges, Andrew *Alan Turing: The Enigma*. (Walker, 2000) [ISBN 0802775802 (pbk)].

or Hodges, Andrew *Alan Turing: The Enigma*. (Vintage, 1992) reissue [ISBN 0099116413 (pbk)] A biography of one of the greatest geniuses in the history of computing. Describes in simple terms some of the mathematical ideas that made the development of the modern computer possible, and gives an excellent account of the early history of computing.

Ince, D. *Software Development: Fashioning the Baroque*. (Oxford University Press, 1988) [ISBN 0198537573: Out of print; 0198537581 (pbk): Out of print] A collection of essays on various aspects of software engineering. Good at describing the problems with some of the proposed solutions to the 'software crisis'.

Kidder, Tracy *The Soul of a New Machine*. (Little Brown and Co, 2000) [ISBN 0316491977 (pbk)].

or Kidder, Tracy *The Soul of a New Machine*. (Modern Library, 1997) [ISBN 0679602615 (pbk)].

or Kidder, Tracy *The Soul of a New Machine*. (Avon USA, 1995) [ISBN 038071115X (pbk)]. An account of the design and development of a new computer, and some of the human drama it occasions.

- \*Pressman, Roger S. and S. Russell Herron *Software Shock: The Danger and the Opportunity*. (Dorset House Publishing Company, 1991)  
[ISBN 093263320X (pbk): Out of print] A straightforward account of the software crisis, its effect on society and what we can do about it.
- Weizenbaum, Joseph *Computer Power and Human Reason: From Judgement to Calculation*. (WH Freeman, 1976) first edition [ISBN 0716704641 (pbk)]  
A rather philosophical work on the problem of 'Can a machine think?' On the way, it explains very clearly for the lay reader exactly what software is, and introduces many of the fundamental concepts of computing.

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## 315 Human computer interaction

### List A

- Dix, Alan et al. *Human-Computer Interaction*. (Prentice Hall, 2005) And User Interface Design, a Software Engineering edition [ISBN 140583871X (hbk)].
- or Dix, Alan et al. *Human-Computer Interaction*. (Pearson, 2003) third edition [ISBN 0130461091 (hbk)] This general textbook approaches HCI from a largely software engineering perspective, taking good account of human factors.

### List B

- Booth, Paul A. *An Introduction to Human Computer Interaction*. (Psychology Press, 1989) [ISBN 086377122X (hbk); 0863771238 (pbk): Out of print]
- Faulkner, Christine *The Essence of Human Computer Interaction*. (Prentice Hall, 1997) [ISBN 0137519753 (pbk)].
- Johnson, Peter *Human Computer Interaction: Psychology, Task Analysis and Software Engineering*. (McGrawHill,1991) [ISBN 0077072359 (pbk): Out of print].
- Norman, Donald A. *The Psychology of Everyday Things*. (USA: Basic Books 1989) reissue [ISBN 0465067093 (hbk)].
- Preece, Jenny *Human Computer Interaction*. (Addison Wesley, 1994) [ISBN 0201627698 (hbk)].
- Shneiderman, Ben and Catherine Plaisant *Designing the User Interface: Strategies for Effective Human Computer Interaction*. (Pearson/Addison Wesley, 2004) fourth edition [ISBN 0321197860 (hbk)].
- Sutcliffe, A.G. *Human-Computer Interface Design*. (Palgrave formerly Macmillan Press, 1995) second edition [ISBN 0333594991 (pbk): Out of print].

### Additional recommended reading

- Baddely, Alan D. *Your Memory: A User's Guide*. (Carlton, 2004) new illustrated edition [ISBN 1844427803 (pbk)].
- or Baddely, Alan D. *Your Memory: A User's Guide*. (Prion, 1996) new illustrated edition [ISBN 1853752134].
- Baddely, Alan D. *Human Memory: Theory and Practice*. (Psychology Press, 1997) revised edition [ISBN 0863774318 (pbk)].
- Baecker, Ronald M. (ed.) *Readings in Groupware and Computer Supported Cooperative Work: Assisting Human Human Collaboration*. (Morgan Kaufman Publishers, 1993) [ISBN 1558602410 (pbk)].
- Baecker, Ronald M., Jonathon Grudin, William Buxton and Saul Greenberg *Readings in Human Computer Interaction*. (Morgan Kaufman Publishers, 1987) [ISBN 0934613249 (pbk): Out of print].
- Baecker, Ronald M., Jonathon Grudin, William Buxton and Saul Greenberg *Readings in Human-Computer Interaction: Toward the Year 2000*. (Morgan Kaufman Publishers, 1995) second edition [ISBN 1558602461 (pbk)].

## Extended booklist

- Card, Stuart K., Thomas P. Moran and A. Newell *The Psychology of Human-Computer Interaction*. (Lawrence Erlbaum, 1986) [ISBN 0898598591 (pbk)].
- Crinnion, John *Evolutionary Systems Development: a Practical Guide to the Use of Prototyping within a Structured Systems Methodology*. (Plenum Press, 1992) [ISBN 030644139X (hbk)].
- or Crinnion, John *Evolutionary Systems Development: a Practical Guide to the Use of Prototyping within a Structured Systems Methodology*. (Pitman, 1991) [ISBN 0273032607 (pbk)].
- Earnshaw, R.A., J.A. Vince and H. Jones (eds) *Virtual Reality Applications*. (Academic Press, 1995) [ISBN 0122277554 (hbk): Out of print].
- Greenberg, Saul (ed.) *Computer Supported Cooperative Work and Groupware*. (Academic Press, 1991) [ISBN 0122992202 (hbk): Out of print].
- Hix, Deborah and H. Rex Hartson *Developing User Interfaces: Ensuring Usability Through Product and Process*. (John Wiley, 1993) [ISBN 0471578134 (hbk)] Note that this book is aimed at professional, postgraduate and research.
- Lindgaard, Gitte *Usability Testing and System Evaluation: A Guide for Designing Useful Computer Systems*. (Chapman and Hall, 1994) [ISBN 0412461005 (pbk): Out of print].
- Macauley, L. *Human Computer Interaction for Software Designers*. (International Thomson Computer Press, 1995) [ISBN 1850321779 (pbk): Out of print].
- Mack, Robert L. and J. Nielson *Usability Inspection Methods*. (Wiley, 1994) [ISBN 0471018775 (hbk): Out of print].
- Nardi, Bonnie A. *A Small Matter of Programming: Perspectives on End User Computing*. (MIT Press, 1993) [ISBN 0262140535 (hbk)].
- Newell, Allen and Herbert Alexander Simon *Human Problem Solving*. (Prentice Hall, 1972) [ISBN 0134454030 (hbk): Out of print].
- Newman, William M. and Michael G. Lamming *Interactive System Design*. (Addison Wesley, 1995) [ISBN 0201631628 (hbk): Out of print] Note that this book is aimed at professionals, postgraduates and researchers.

## Journal references/conference proceedings/articles

- Annett, J. and K.D. Duncan 'Task Analysis and Training Design', *Occupational Psychology* (1967) 41: 211-221.
- Barnard, P. 'Interacting cognitive subsystems', in Ellis *A Progress in the Psychology of Language* (New Jersey: Lawrence Erlbaum Associates, 1985) volume 2.
- Boehm, B. 'A Spiral Model for Software Development and Enhancement', *Computer* (1988) 21(5).
- Grudin, J. 'The computer reaches out: the historic continuity of interface design', *CHI U90 Proceedings* (New York: ACM Press, 1990) 261-268.
- Grudin, J. 'Interface', *CSCW Proceedings* (1990) (ACM Press, New York) 269-78.
- Hewett, T.T. 'The role of iterative evaluation in designing systems for usability', in Harrison, M.D. and Monk, A.F. (eds) *People and Computers: Designing for Usability* (UK: Cambridge University Press, 1986).
- Laird, J.E., A. Newell and P. Rosenbloom 'SOAR: An architecture for general intelligence', *Artificial Intelligence* (1987) 33: 164.
- Nielsen, J. and R. Molich 'Heuristic evaluation of user interfaces, Empowering People P' *CHI '90 Conference Proceedings* (ACM Press, New York, 1990).
- Polson, P., C. Lewis, J. Reiman and C. Wharton 'Cognitive Walkthroughs: A method for theory based evaluation of user interfaces' *International Journal of Man Machine Studies* (1992) 36: 741-773.

## 316 Mathematical techniques of operational research

### List A

The subject guide gives a complete account of the course. The list B textbooks are useful for further reading and as a source of extra worked examples and exercises. Either one of the two books by Hillier and Liebermann are particularly recommended, but purchase of a text book is not essential.

### List B

Anderson, David Ray and Dennis J. Sweeney *An Introduction to Management Science: Quantitative Approaches to Decision Making*. (Thomson/South-Western, 2004) eleventh edition [ISBN 0324202342] This book adopts a different approach to linear programming as the subject guide and only covers that section of the unit.

\*Hillier, Frederick S. and Gerald J. Liebermann *Introduction to Mathematical Programming*. (McGraw-Hill, 1995) second revised edition [ISBN 0079118305 (hbk): 0079118291 (hbk): Out of print] This covers the same ground as the next book in mathematical and linear programming, but omits the sections on probabilistic models which are not studied in this unit.

\*Hillier, Frederick S. and Gerald J. Lieberman *Introduction to Operations Research*. (McGraw-Hill, 2004) eighth edition [ISBN 007123828X (pbk)].

or Hillier, Frederick S. and Gerald J. Lieberman *Introduction to Operations Research*. (McGraw-Hill Higher Education, 2004) eighth edition [ISBN 0072527447 (hbk)].

or Hillier, Frederick S. and Gerald J. Lieberman *Introduction to Operations Research*. (McGraw-Hill Education, 2002) seventh edition [ISBN 0072535105 (hbk)]. This is a comprehensive book, covering all sections of the course. A CD-ROM is included.

Winston, Wayne L. *Introduction to Mathematical Programming: Operations Research*. (Thomson/Brooks/Cole, 2002) fourth edition [ISBN 0534359647 (hbk)].

Winston, Wayne L. and Jeffrey B. Goldberg *Operations Research: Applications and Algorithms*. (Brooks/Cole, 2003) fourth edition [ISBN 0534423620 (hbk with CDROM)].

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## 317 Accounting information systems

### List A

Bassett, Paul *Computerised Accounting*. (NCC Blackwell, 1996) fourth edition [ISBN 1855548267 (pbk)].

Robson, A.P. *Essential Accounting for Managers*. (Thomson Learning, 2000) [ISBN 0826454712 (pbk)].

### List B

Bhasker, K.N. and R.J.W. Housden *Accounting Systems and Data Processing*. (Heinemann, 1985) [ISBN 0434901385: Out of print].

Samuelson, Lars A. *Models of Accounting Information Systems: The Swedish Case*. (Chartwell-Bratt, 1990) [ISBN 0862382386].

Wilkinson, Joseph W., M.J. Cerullo, V. Raval and B. Wong-On-Wing *Accounting Information Systems: Essential Concepts and Applications*. (John Wiley, 1999) fourth edition [ISBN 0471253529 (hbk)].

## 318 Information systems management

### List A

- Turban E., D. Leidner, E. McLean and J. Wetherbe *Information Technology for Management: Transforming Organizations in the Digital Economy*. (Wiley 2009) seventh edition [ISBN 0470287489(hbk)].
- Laudon, Jane P and Laudon Kenneth C. *Management Information Systems: Managing the Digital Firm*. (Pearson Education, 2009) eleventh international edition [ISBN 013609368X (pbk)].

### List B

- Earl, M.J. *Management Strategies for Information Technology*. (Prentice Hall, 1989) [ISBN 0135516560 (pbk): Out of print].
- Evans, P and T.S. Wurster *Blown to Bits: How the New Economics of Information Transform Strategy*. (Harvard Business School Press, 1999) [ISBN 087584877X (hbk)].
- Lincoln, T. *Managing Information Systems for Profit*. (Wiley Series in Information Systems, 1990) [ISBN 0471925543 (hbk)].
- Robson, Wendy *Strategic Management and Information Systems: An Integrated Approach*. (Pitman, 1997) second edition [ISBN 0273615912 (pbk)].
- Ward, John and Joe Peppard *Strategic Planning for Information Systems*. (Wiley, 2002) third edition [ISBN 0470841478 (hbk)].
- Scott Morton, Michael S. *The Corporation of the 1990s: Information Technology and Organisational Transformation*. (Oxford University Press, 1991) [ISBN 0195063589 (hbk)].

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## 319 Decision support and executive information systems

### List A

- Sauter, Vicki Lynn *Decision Support Systems: An Applied Managerial Approach*. (Wiley, 1997) [ISBN 0471311340 (hbk)].
- Watson, Hugh J., George Houdeshell and R. Rainer Jr. *Kelly Building Executive Information Systems and other Decision Support Applications*. (John Wiley, 1997) [ISBN 0471068861 (pbk)].
- or Watson, Hugh J., George Houdeshell and R. Rainer Jr. *Kelly Building Executive Information Systems and other Decision Support Applications*. (Wiley, 1996) [ISBN 0471069302 (hbk)].

### List B

- Thesen, Arne and Laurel E. Travis *Simulation for Decision Making*. (West Publishing Company, 1992) [ISBN 0314835490 (hbk): Out of print].

The above book is about simulation and comes with a disk that has on it an educational version of GPSS-PC. This will give some experience in the use of a decision support system generator. Some topics are not adequately covered in any textbook and this is particularly true of model-based management systems. Thus, in a few instances, reference will be made to journal articles not in the above texts and to other text books.

There are many periodicals which are relevant to both DSS and EIS, one of the most important is:

- Decision Support Systems: The International Journal*. (North-Holland) (10 issues per year) [ISSN 01679236].

## General

It is always good practice to peruse academic journals and professional magazines for any appropriate articles. It is often monthly computer magazines which highlight the most recent developments in the field. These can be followed up by a more in-depth study later.

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## 320 Project

### List A

Dawson, Christian W. *Projects in Computing and Information Systems. A Student's Guide* (Addison-Wesley, 2005) [ISBN 0321263553 (pbk)].

This book tackles the four key areas of project work, planning, conducting, presenting, and taking the project further, and provides skills to excel in areas like writing proposals, surveying literature, and project management. As the title suggests the emphasis is rather more on computing than information systems, however the overall balance of ideas on projects is sound and the principles can be applied to any project.

### List B

Cornford, Tony and Steve Smithson *Project Research in Information Systems: A Student's Guide*. (Palgrave Macmillan, 2005) second edition [ISBN 1403934711 (pbk)].

Raimond, Paul *Management Projects: Design, Research and Presentation*. (Chapman and Hall, 1993) [ISBN 0412468107 (pbk): Out of print].

Rogerson, S. *Project Skills Handbook*. (Chartwell-Bratt, 1989) [ISBN 0862381460 (pbk): Out of print].

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## 323 Electronic commerce

### List A

Schneider, Gary P. *E-Business*. (Course Technology Cengage Learning, 2008) eighth edition [ISBN 032478807X (pbk)].

### List B

Barnett, Gary *Application Servers: Creating the Web-Enabled Enterprise*. (Ovum Ltd, 1999) [ISBN 1902566173 (pbk)].

Bauknecht, Kurt *Electronic Commerce and Web Technologies: 4th International Conference, EC-Web 2003, Prague, Czech Republic, September 25, 2003*. (Springer-Verlag, 2003) [ISBN 3540408088 (pbk)].

or Bauknecht, Kurt *Electronic Commerce and Web Technologies: Second International Conference, EC-Web 2001, Munich, Germany, September 46, 2001*. (Springer, 2001) [ISBN 3540425179 (pbk)].

or Bauknecht, K.; S.K. Madria and G. Pernul *Electronic Commerce and Web Technologies: First International Conference, EC-Web 2000, London, UK, September 46, 2000: Proceedings*. (Springer, 2000) [ISBN 3540679812 (pbk)].

Bidgoli, Hossein *Electronic Commerce: Principles and Practice*. (Academic Press, 2002) [ISBN 012095978X (Spiral Binding)].

or Bidgoli, Hossein *Electronic Commerce: Principles and Practice*. (Academic, 2001) [ISBN 0120959771 (hbk)].

Cooper, Elizabeth and Liam Davenport (eds) *Electronic Commerce*. (wmrc.com, 1999) [ISBN 1903150019 (pbk with CDROM)].

Greenstein, Marilyn and Miklos A. Vasarhelyi *Electronic Commerce: Security, Risk Management and Control*. (Mcgraw-Hill Irwin, 2001) second edition [ISBN 0071131124 (hbk): Out of print].

- Kou, Weidong; Yelena Yesha and C.J. Tan (eds) *Topics in Electronic Commerce: Second International Symposium, ISEC 2001 Hong Kong, China, April 26–28, 2001 Proceedings*. (Springer, 2001) [ISBN 3540419632 (pbk)].
- Magid, Jonathan, Paul Jones and R. Douglas Matthews *The Web Server Book: Tools and Techniques for Building your own Internet Information Site*. (Ventana Press, 1995) [ISBN 1566042348 (pbk with CDROM)].
- or Magid, Jonathan, Paul Jones and R. Douglas Matthews *The Web Server Book: Tools and Techniques for Building your own Internet Information Site*. (Ventana Communications Group Inc, 1995) [ISBN 1566043174 (pbk with CDROM)].
- Timmers, Paul *Electronic Commerce: Strategies and Models for Business-to-Business Trading*. (Wiley, 2000) [ISBN 0471498408 (pbk)].
- or Timmers, Paul *Electronic Commerce: Strategies and Models for Business-to-Business Trading*. (Wiley, 1999) [ISBN 0471720291 (hbk)].
- Turban, Efraim *Electronic Commerce: A Managerial Perspective*. (Pearson Prentice Hall, 2005) [ISBN 0132230151 (hbk) Out of print].
- Yeager, Nancy J. and Robert E. McGrath *Web Server Technology: The Advanced Guide for World Wide Web Information Providers*. (Morgan Kaufmann Publishers, 1996) [ISBN 155860376X (pbk)].

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## 325 Data compression

### List A

- Pu, Ida M. *Fundamental Data Compression*. (Butterworth-Heinemann, 2005) [ISBN 0750663103 (pbk)].

This book may be ordered directly from the publishers  
(<http://books.elsevier.com>) Contact details:

[directorders@elsevier.com](mailto:directorders@elsevier.com)

Tel: +44 1865 474010

Fax: +44 1865 474011

### List B

- Drozdek, Adam *Elements of Data Compression*. (Brooks/Cole-Thomson Learning, 2001) [ISBN 053438448X (pbk)].
- Gibson, Jerry D., Toby Berger, Tom Lookabaugh, Dave Lindbergh and Richard L. Baker *Digital Compression for Multimedia: Principles and Standards*. (Morgan Kaufmann, 1998) [ISBN 1558603697 (hbk)].
- Ross, Sheldon M. *A First Course in Probability*. (Prentice Hall, 2005) seventh international edition [ISBN 0132018179 (pbk) Out of print].
- Salomon, David *Concise introduction to data compression*. (Springer, 2008) [ISBN 1848000715 (pbk)].
- Sayood, Khalid *Introduction to Data Compression*. (Morgan Kaufmann, 2000) second edition [ISBN 1558605584 (hbk)].

### Useful web address

Debra A. Lelewer and Daniel S. Hirschbert Data Compression  
[www.ics.uci.edu/~dan/pubs/DataCompression.html](http://www.ics.uci.edu/~dan/pubs/DataCompression.html)

## 326 Computer security

### List A

The subject guide is a complete account of the subject. However, students should be aware that developments in the world of computer security mean that the subject guide can never be completely up-to-date. Students are therefore advised to access further reading wherever possible to keep abreast of the current state of technology in this field.

**Following is a list of books that are recommended. It is not necessary to have copies of all of these books but a selection would complement the material covered in the subject guide. Some of the books are available to download free of charge; where appropriate the website addresses are given.**

### List B

Anderson, R. *Security Engineering – The Book*. Six sample chapters of this book are available to download free of charge from the website [www.cl.cam.ac.uk/~rja14/book.html](http://www.cl.cam.ac.uk/~rja14/book.html). The first five chapters deal with protocols, passwords, access control and cryptography and are particularly relevant to the subject.

Ferguson, N., D. Schneier *Practical Cryptography*. (Wiley, 2003) [ISBN 0471223573 (pbk)] As the title suggests this book is a practical guide to choosing and using cryptographic tools. Some students may prefer this practical approach over the more academic approach of traditional text books.

\*Gollmann, D. *Computer Security*. (John Wiley and Sons Ltd, 2005) second edition [ISBN 0470862939 (pbk)] This book provides useful further reading on identification and authentication and access control, including a chapter on Unix security. There are lots of thought provoking and practical exercises.

Menezes, Alfred J., Paul C. Van Oorschot and Scott A. Vanstone *Handbook of Applied Cryptography*. (CRC, 2001) fifth edition [ISBN 0849385237 (hbk)] Chapters of this book are available to download free of charge from [www.cacr.math.uwaterloo.ca/hac/index.html](http://www.cacr.math.uwaterloo.ca/hac/index.html). This book is intended for professional cryptographers and is the ultimate reference book for cryptography. Thorough details on all aspects of cryptography are given. This book is over 700 pages and is not recommended for a light read but it is well worth looking at the website.

\*Pfleeger, Charles P and Shari Lawrence Pfleeger *Security in Computing*. (Prentice Hall, 2007) fourth edition [ISBN 0780132390774 (hbk)] In this book, the authors introduce the core concepts of computer security and then identify and assess the threats currently facing programs, operating systems, database systems and networks. Attacks on RSA, SHA and DES are discussed.

\*Piper, Fred and Sean Murphy *Cryptography: A Very Short Introduction*. (Oxford University Press, 2002) [ISBN 0192803158 (pbk)] This really is a very short book and a great introduction to cryptography. The ideas behind symmetric key and public key cryptography and their uses are explained very clearly.

Schneier, Bruce *Secrets and Lies: Digital Security in a Networked World*. (Wiley, 2004) new edition [ISBN 0471453803 (pbk)] Computer security from a business world perspective. This book examines the necessity for computer security in the real world. It is written more like a reading book than a text book and gives an interesting background to the subject of computer security.

## Extended booklist

\*Stallings, William *Network Security Essentials: Applications and Standards*. (Prentice Hall, 2006) third edition [ISBN 0132380331 (pbk)] This book covers Internet security tools and applications. It includes good descriptions of symmetric cryptosystems including DES, 3DES, AES, IDEA, Blowfish and RC5. Lots of exercises and test questions (but no solutions).

### Useful web address

[www.schneier.com/resources.html](http://www.schneier.com/resources.html)

Provides links to sites regarding symmetric algorithms as well as many other articles on computer security.

[www.cl.cam.ac.uk/~rja14/book.html](http://www.cl.cam.ac.uk/~rja14/book.html)

Download chapters of Security Engineering by Ross Anderson.

[www.cacr.math.uwaterloo.ca/hac/index.html](http://www.cacr.math.uwaterloo.ca/hac/index.html).

Download chapters of Handbook of Applied Security by Menezes, van Oorschot and Vanstone.

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## 343 Computing art and image effects

### List A

Foley, J.D., A. van Dam, S.K. Feiner, J.F. Hughes, and R.L. Phillips *Introduction to Computer Graphics*. (Addison-Wesley, 1997) [ISBN 0201609215 (hbk)].

Kemp, M. *The Science of Art – Optical Themes in Western Art from Brunelleschi to Seurat*. (Yale University Press, 1992) revised edition [ISBN 0300043376 (hbk) Out of print; 0300052413 (pbk)].

Reas, C. and B. Fry *Processing: A Programming Handbook for Visual Designers and Artists* (The MIT Press, 2007) [ISBN 0262182629 (hbk)].

### List B

Gombrich, E.H. *The Story of Art*. (Phaidon, 1st ed. 1964; 16th ed. 1995) [ISBN 071483355X (hbk); 9780714832470 (pbk)].

Kemp, M. *Seen|Unseen*. (Oxford University Press, 2006) [ISBN 0199295727 (hbk) or 9780199295722 (hbk)].

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## 346 Sound and music

The booklist for this unit will be provided at the CIS and CC news section of the University of London External System website:

[www.londonexternal.ac.uk/current\\_students/programme\\_resources/cis/news/index.shtml](http://www.londonexternal.ac.uk/current_students/programme_resources/cis/news/index.shtml)

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