

Reading List

19-101, The Computer: Technical and Policy Issues

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Module 1: BACKGROUND

Intro:

Little Man Computer, Stuart Madnick
Laudon, Chapter 1

The Computer: CPU, Storage, and Input/Output Devices

Laudon, Chapter 2,
Laudon, pp. 65-77,

The Way Things Work, television sets, David Macaulay, pp. 262-3

Computer Networks: Telecommunications, Internet, and Future Trends

Laudon, Chapters 5 and 6

Policy:

A Primer for Policy Analysis, Stokey & Zeckhauser, excerpts
The Death of Common Sense, Philip Howard, 1995, 57-68

Module 2: ENVIRONMENT

Disposal of Computers

H. S. Matthews, C. Hendrickson, F. McMichael, D. Hart, Disposition and
End-of-Life Options for Products: A Green Design Case Study, CMU
<http://www.ce.cmu.edu/GreenDesign/gded-pc-case.pdf>

Bill Breen, "Is Recycling Succeeding?", Garbage, 7/93, pp. 36-43

D. Small, R. Dodd, , S. Amagai, T. Strong, "Computer Monitor Recycling:
A Case Study," Proc. Intl Conf on Clean Electronics Products and
Technology, pp. 124-8, 10/95

Sheila D. Davis, "End-Of-Life Consumer Electronics in the San Francisco
Bay Area Municipal Waste Stream," Proc. IEEE Intl.
Symp. on Electronics and the Environment, pp. 309-13, 5/99.

B. Glazebrook, C. Beling, "Analysis of Five Residential/Consumer
End-Of-Life Electronics Collection Programs," Proc. IEEE Intl.
Symp. on Electronics and the Environment, pp. 292-7, 5/99.

Computer Design and the Environment

OTA, Green Products by Design, pp. 35-46

John L. Warren, Keith A. Weitz, "Development of an Integrated Life-
Cycle Cost Assessment Model," Proc. IEEE Intl Symp on
and the Environment, pp. 155-63, 5/94

CMU EPP Project Report, Environmental Labeling of Consumer Products,
pp. 70-80

Policy issues

OTA, Green Products by Design, pp. 10, 12-20, 93-105

C. Boks, J. Nilsson, K. Masui, K. Suzuki, C. Rose, B. H. Lee, "An
International Comparison of Product end-of-Life Scenarios and

Legislation for Consumer Electronics," Proc. IEEE Intl Symp on
Electronics and the Environment, pp. 19-24, 5/98
Au & Au, Engineering Economics for Capital Investment Analysis, pp. 30-40
Walter Coddington, Environmental Marketing, pp. 99-103, 111, 116, 119-125

Module 3: DEPENDENCE AND DEPENDABILITY

Dependence on Computers

Set Phasers on Stun, Steven Casey, pp. 13-20
"When the Computer Fails," Popular Science, 9/90
"Computer-Related Risk of the Year: Misplaced Trust in Computer
Systems," Peter Neumann, Compass-89, pp. 9-13

Dependability through Redundancy

"Safety in Numbers," Byte, 8/91, Victor Nelson

Software Dependability

"The Risks of Software," Scientific American, 11/92
"Evaluation of Safety Critical Software," Parnas et al, Communications of
the ACM, 636-48, 6/90

Computers and Computer Operators

Set Phasers on Stun, Steven Casey, pp. 40-58, 89-91, 177-180
"Latent Errors and Systems Disasters," James Reason, pp. 128-138, from
Social Issues in Computing, Huff & Finholt, 1994

Managing Risk

"Risk Analysis and Management," Granger Morgan (EPP),
Scientific American 7/93
Decision Analysis, pp. 339-347
"Choosing and Manufacturing Technology Based Risk," Granger Morgan
(EPP), IEEE Spectrum, 12/81

Policy Issues:

"Liability for Defective Electronic Information," Pamela Samuelson,
Communications of the ACM, 1/93
"Regulatory Requirements for Software Safety: Policy Issues," Peter
Neumann, Compass-89, p. 8
"Panel: Should Government Regulate Medical Software?," Compass-90, pp. 189-191
"Are Certification and Accreditation Useful Concepts for Safety Critical
Systems?," Compass-90, p. 192

Ethics

"Integrating Ethics and Design," G. F. McLean, IEEE Technology and Society,
Fall 1993, pp. 21-30 (excerpts).
Laudon, pp. 268-72

Module 4: INFORMATION

To be handed out.