# Engineering: Electrical/Computer Science

Purpose: The Electrical Engineering, Computer Engineering, and Computer Sciences collections support teaching and research through the doctoral level. At a basic level, they support university students, faculty, and staff needs in applications literature.

## General Collection Guidelines:

Languages: English is primarily the language of acquisition. Works originally published in other languages are purchased only in English translation.

Chronological Guidelines: Emphasis is on material published in the past five years. Historical works are purchased selectively.

Geographical Guidelines: Not applicable.

Treatment of the Subject: Emphasis is on research literature and upper undergraduate and graduate materials. Books on specific programming languages, specific computers, engineering graphics, surveying, photogrammetry, and popular treatments of electrical engineering and computer science, biographies, and histories are purchased selectively. Trade school manuals and juvenile treatments are excluded.

Types of Material: Materials are primarily in the form of monographs and periodicals, but also include directories, society publications, dictionaries, encyclopedias, proceedings, transactions, university and research institution technical reports, and U.S. Government documents and research reports in any suitable format.

Date of Publication: Primarily the past five years though some earlier publications may be sought. In the case of non-current publications, no preference is given to original prints or editions

## Observations and Qualifications by Subject with Collection Level:

Electrical Engineering

Communications: C(1) / B

Data communications, digital signal processing, wireless local area networks, microwave communications, networking, telecommunications, voice recognition/voice technologies, wide area networks.

Hardware: C(1) / B

Architecture, circuits, components, computers/supercomputers/workstations, electron devices, fault tolerance/fault tolerant computing, instrumentation, optics, peripherals, power systems.

Power Systems: C(1) / B

Power system protection, protective relaying of power systems, power system analysis, power system faults, power system stability, power system operation, power system control.

Theory: C(1) / B

Circuit Theory, Complexity Theory (Algorithms).

Theory: C(2)

Design Theory (Engineering).

Computer Science

Algorithms: C(1) / B

Analysis, design, graph algorithms, parallel algorithms, scheduling algorithms.

Applications: C(2) / B

Distributed computing (a/k/a network computing); logic in computer science.

Applications: C(2) / C(1)

Computational complexity; computer assisted instruction (CAI); performance evaluation of computer systems; programming.

Computer Games: D / C(2)

Program design.

Languages (Computing): C(1) / B

Formal languages; higher level languages; specific languages.

Software: C(1) / B

CASE (Computer Assisted Software Engineering), data acquisition, data analysis, data management, databases, database management systems (DBMS), data structures, expert systems, operating systems, programming, performance evaluation.

Software Engineering/Software Metrics: C(1) / B

Software modeling and analysis, model checking, stochastic models, Petri nets, Markov chains, process algebras, formal specification and verification/analysis.

Text Processing: D

TEX/Latex

Theory: C(2)

Program design.

User Interfaces: C(2) / C(1)

CAD/CAM, Computer Art, Graphical User Interfaces (GUIs).

Joel Cummings

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