

COMPUTER SCIENCE

I. General Statement of Collection Development Policy

The Collection supports the study and research needs of faculty, graduate students and undergraduate students in the Computer Science department. The collection includes holdings in the systems, applications, and technologies currently in use by the Computer Science department.

II. Description of University Program

Wake Forest University offers a Bachelor of Science degree in computer science and a Master of Science degree in computer science.

III. Interdisciplinary Elements of Subject Area

Materials purchased with the library budget for Computer Science may also support other departments in the sciences and applied computing in other fields, as well as interdisciplinary programs or minors.

IV. Formats and Types of Materials

Print and electronic materials such as books and periodicals will be the most common acquisitions, but microforms and audiovisuals are considered and added as needed. Preference may be given to electronic format, depending upon such factors as cost, availability of secure archives and the needs of the program. Duplicative format collecting is avoided.

In consonance with the academic endeavors of the University community, the emphasis is on scholarly critical works and on scholarly editions of literary works. Popular genre fiction is collected on a very selective and representative basis, to support courses dealing with those genres and to provide for the recreational reading interests of the University community. The following types of materials are collected:

Monographs – The library collects research and major trade monographs.

Reference – The Reference Collection supports the curriculum emphases of the various academic programs and the information needs of the Wake Forest community. Major reference materials such as bibliographies, dictionaries, encyclopedias, indices and abstracts are collected.

Serials – A serials collection constitutes an integral part of the library's research resources in the Sciences. The serials collection represents the historical and current requirements of the Computer Science department and will continue to be developed as new courses are added. Funds are also available for a limited number of interdisciplinary journals.

Abstracts and Indexes – The library subscribes to a broad range of databases covering disciplines in the Sciences.

Proceedings – Proceedings or reports of conferences, symposia and international congresses are collected selectively.

Theses and dissertations – Dissertations and theses which have not been commercially published are rarely acquired, and then only as specific faculty or student interest warrants.

Textbooks and Anthologies – In general the library does not acquire textbooks adopted as required texts for any given courses nor textbook-style anthologies. However, anthologies which represent previously marginalized groups (gender, ethnic, regional, etc.) or topical cultural themes may be considered for purchase.

Microforms – Microforms are purchased to fill in gaps in periodical holdings or in cases where the information is not available in electronic or print format.

Non-print materials – Video and audio materials that support the curriculum are purchased. Non-print format collecting is subject to change according to available presentation technology. Streaming video databases augment the collections of these resources.

V. Languages

The collection consists primarily of works in English; important foreign-language works which relate to Computer Science literature are also purchased.

VI. Geographic Areas (subject approach)

Not applicable.

VII. Time Periods (subject approach)

Emphasis is on materials published within the last ten years.

VIII. Date of Publication

The collecting effort is directed primarily at current and recent scholarship. However, retrospective titles may be acquired in response to changes in the curriculum and other academic initiatives (new courses, minor and interdisciplinary programs), faculty research interests, and significant lacunae in the collection. Very selective retrospective purchasing may involve reprints, microform or electronic archives.

IX. Subject Area and Level of Collecting Intensity

Subject	Desired Level
Q300-385 Cybernetics	
Artificial intelligence	4
Information theory	3
QA 75-76.95 Computer Science	
Abstract data types	3
Access control (security)	3 to 4
Algorithm design and analysis	4
Architecture	4
Automata and formal languages	3 to 4
Automatic hypothesis formation	2
Automatic theorem proving	3 to 4
Compilers	4
Computational geometry	3
Computer arithmetic	3
Computer graphics	4
Computer organization	3 to 4
Computer simulation	3 to 4
Computer software	2 to 4

Algebraic specification	2 to 3
Assemblers/Assembly language	2 to 3
Development	2 to 3
Evaluation of software	2 to 3
Expert systems	3
Input design (user interface)	2 to 3
Reliability	2
Reusability	2 to 3
Software engineering	3
Translators	4
Utilities	2
Verification, validation and testing of software	3
Computer standards and specifications	2 to 3
Databases	3 to 4
Data compression	3 to 4
Digital computers	3 to 4
Real-time	2
Programming	2 to 4
Programming Languages	3
Distributed processing	4
Electronics, computer engineering, computer hardware	2 to 3
Evaluation of computer performance	3
Fault-tolerant computing	2 to 3
File organization	3
Functional programming	3
Hashing	3
High performance computing	3 to 4
History, biography	2
Hybrid and analog computers	1 to 2
Interactive computer systems	2 to 3
Logic programming and constraint logic programming	3 to 4
Mathematics, Computer	4
Network theory	3
Neural networks/neural computing	3 to 4
Object-oriented programming	3
Operating systems	4
Parallel Algorithms	4
Program semantics	2 to 3
Scientific computing	3 to 4
Signal and image processing	3 to 4

Symbolic computing	3 to 4
System design	3
Telecommunication, General	2 to 3
Computer networks	3
Theory of computing	3 to 4
Virtual computer systems	2 to 3
QA Mathematics	
Mathematical logic	
Constructive Mathematics	
General works	3
Algorithms	4
Computable functions, Computability theory	3 to 4
Recursion theory	3 to 4
General works	3
Recursive functions	3
Hierarchies	3
Unsolvability	3 to 4
Decidability, Godel's theorem	3 to 4
Completeness	3
Machine theory, abstract machines, abstract automata	3 to 4
Formal Languages	3 to 4
Special types of machines	3 to 4
Cellular Automata	3 to 4
Probabilistic Automata	3 to 4
Sequential machines	3 to 4
Coding theory	3
Switching theory	3

X. Deselecting Library Materials

The continuous review of library materials is important as a means of maintaining an active library collection. Materials will be withdrawn from the collection in accordance with the Deselection policy.

Thomas Dowling, Library Liaison, December 2014