Collection Policy: Computer Science

1. Introduction

The Library supports the instructional and research needs of faculty and students within the Department of Computer Science. The study of computer science was previously integrated with mathematical science. Effective July 1, 1995, the School of Mathematical Sciences was divided into two departments: the Department of Computer Science and the Department of Mathematics & Statistics.

The Department of Computer Science currently offers several programs leading to a Bachelor, Honours Bachelor or Master’s degree in Computer Science:

- Honours BSc Computer Science Co-op Program (a) Business Option 5 yr
- Honours BSc Computer Science Co-op Program (b) Science Option 5 yr
- Honours BSc Computer Science Co-op Program © Hardware Option 5 yr
- BSc Computer Science - Co-op 4 yr Non-Direct Entry program
- BSc Computer Science Major 3 yr
- HBSc Computer Science Major 4 yr
- BSc Computer Science Major - 4 yr Non-Direct Entry program
- Computer Science Minor Program
- Master of Science in Computer Science - Thesis Option
- Master of Science in Computer Science - Course Option
- Master of Science in Computer Science - Co-op Option
- Concurrent Programs with Education (I/S Specialization only)

The Chancellor Paterson Library is the main location for the computer science collection in print. The Library’s print collection is enhanced by the availability of computer science electronic books and computer science electronic journals.

The Education Library contains a small collection of computer related materials including software guides and teacher guides to the Internet.

2. History of the Collection

Resources pertaining to computer science were weeded in 2006 based on established criteria contained in the 2005 Computer Science Collection Development policy. In recent years the print collection has been acquiring more current resources and is growing at a gradual rate to support curriculum. Undergraduate courses offered include
introduction to computers, object oriented programming, programming languages, data structures, software engineering, operating systems, computer graphics, artificial intelligence, and cryptography and network security. Subjects taught at the graduate level include advanced topics in object oriented programming, programming languages, computer networks, applied combinatorics, artificial intelligence, computer graphics, and computer security.

Recent print acquisitions have focused on neural networks, cryptography, telecommunications, wireless communication systems, and mobile communication systems. The print collection benefited from additional resources purchased from the Library budget allocated to the Faculty of Engineering. Engineering titles that are of mutual interest to computer science students include software engineering, wireless communication technologies, and data transmission systems and computer networks.

The print collection has been supplemented by the acquisition of computer science electronic books.

3. Languages

English (or translation into English) is the primary language of the collection.

4. Chronological Guidelines

Current works are of primary interest. Retrospective material will only be collected in exceptional cases.

5. Geographical Guidelines

There are no geographical restrictions although material predominately originates from Canada, the United States, and Great Britain.

6. Types of Material

The Library actively collects monographs, journals, government documents, and reference materials. Conference proceedings, dissertations and theses, annual reports and other serial publications are acquired selectively.

The predominate format for monographs is print although the Library is actively building the electronic book collection. The predominate format for journals and government documents is electronic.

7. Subject Areas/Levels

(4 levels: basic, initial study, advanced study, research)
The subject organization below follows the Library of Congress Classification Outline, Class Q – Science, Class T – Technology

The chart below reflects library monograph holdings in both print and electronic format.

<table>
<thead>
<tr>
<th>#</th>
<th>Subjects</th>
<th>LC Class</th>
<th>Current Level</th>
<th>Target Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Artificial Intelligence</td>
<td>Q 334-336</td>
<td>Initial</td>
<td>Advanced</td>
</tr>
<tr>
<td>2</td>
<td>Introduction to Computer Science-History, General Works</td>
<td>QA 75-76.1</td>
<td>Initial</td>
<td>Initial</td>
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<tr>
<td>3</td>
<td>Digital Computers</td>
<td>QA 76.5-76.59</td>
<td>Initial</td>
<td>Advanced</td>
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<tr>
<td>4</td>
<td>Programming(includes Object Oriented Programming)</td>
<td>QA 76.6</td>
<td>Advanced</td>
<td>Advanced</td>
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<tr>
<td>5</td>
<td>Programming Languages</td>
<td>QA 76.7-76.73</td>
<td>Advanced</td>
<td>Advanced</td>
</tr>
<tr>
<td>6</td>
<td>Expert Systems</td>
<td>QA 76.76E</td>
<td>Basic</td>
<td>Initial</td>
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<tr>
<td>7</td>
<td>Hypertext Systems – HTML &amp; XML</td>
<td>QA 76.76H</td>
<td>Initial</td>
<td>Initial</td>
</tr>
<tr>
<td>8</td>
<td>Operating Systems/Windows XP, Linux, Unix</td>
<td>QA 76.76O</td>
<td>Initial</td>
<td>Advanced</td>
</tr>
<tr>
<td>9</td>
<td>Computer Systems/ Microprocessors</td>
<td>QA 76.8</td>
<td>Initial</td>
<td>Advanced</td>
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<tr>
<td>10</td>
<td>Neural Computers/ Neural Networks</td>
<td>QA 76.87</td>
<td>Initial</td>
<td>Advanced</td>
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<tr>
<td>11</td>
<td>Computer Architecture/Cryptography Computer Security</td>
<td>QA 76.9A</td>
<td>Initial</td>
<td>Advanced</td>
</tr>
<tr>
<td>12</td>
<td>Computer Simulation</td>
<td>QA 76.9C</td>
<td>Initial</td>
<td>Advanced</td>
</tr>
<tr>
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<tr>
<td>13</td>
<td>Database Management/Database Design/Data structure</td>
<td>QA 76.9D</td>
<td>Initial</td>
<td>Initial</td>
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<tr>
<td>14</td>
<td>Soft Computing/Fuzzy logic</td>
<td>QA 76.9S</td>
<td>Initial</td>
<td>Advanced</td>
</tr>
<tr>
<td>15</td>
<td>Computer Graphics</td>
<td>T 385</td>
<td>Initial</td>
<td>Advanced</td>
</tr>
<tr>
<td>16</td>
<td>Telecommunications</td>
<td>TK 5101</td>
<td>Initial</td>
<td>Initial</td>
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<tr>
<td>17</td>
<td>Telecommunications – wireless communication systems</td>
<td>TK 5103</td>
<td>Advanced</td>
<td>Advanced</td>
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<tr>
<td>18</td>
<td>Data Communications/ Computer Networks/ Internet Computing</td>
<td>TK 5105</td>
<td>Advanced</td>
<td>Advanced</td>
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<td>19</td>
<td>Mobile communication systems</td>
<td>TK 6570M</td>
<td>Initial</td>
<td>Initial</td>
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8. Interdisciplinary Activities

There is interdisciplinary activity with the Department of Mathematics and Statistics as many of the mathematics courses are required courses for the completion of a Computer Science degree. There is also interdisciplinary activity with the Faculty of Natural Resources Management (Forestry) and the Faculty of Engineering as Computer Science provides specific courses which are restricted to students within those two disciplines.

9. Strengths/Weaknesses

A weakness of the Computer Science print monograph collection is the limited number of current titles. Computer Science evolves very quickly and it is difficult to maintain substantial quantities of new books on each topic. The strongest areas of the print monograph collection are digital computers, programming, programming languages, telecommunications, and Internet computing.

The limitation of the print collection is offset by the growing number of electronic book acquisitions. Computer Science materials are contained in the following packages: SpringerLink, Synthesis Collection, Canadian Electronic Library, Oxford University...
Press, and the IEEE-Wiley eBooks Library. The computer science electronic book collection is strong and relates to a broad range of computer science topics. Recent electronic book acquisitions include programming languages SQL, JAVA, PHP, and XML; artificial intelligence; computer algorithms; computer games; networks; computer security; data mining; database management; human-computer interaction; and neural networks.

The electronic journal collection is exceptionally strong. The library provides access to electronic journals through participation in the Canadian Research Knowledge Network (CRKN) and through consortial subscriptions through the Ontario Council of University Libraries (OCUL). Journal packages which contain a substantial number of computer science journals include ACM Digital Library, Elsevier’s Science Direct, ABI/Inform, SpringerLink, and Taylor & Francis. The library also subscribes to IEEE/Xplore which contains computer science journals, magazines, and conference proceedings.

10. **Thunder Bay and Regional Resources**

Confederation College’s Paterson Library Commons has a monograph and video/DVD collection to support students enrolled in computer courses. The programs currently offered are Electronics Engineering Technician-Computers and Electrical Engineering Technology-Computer Control. The Thunder Bay Public Library also contains computer science resources of a general nature. They are predominately limited to software guides, troubleshooting manuals, and Internet related titles.

11. **Internet Resources**

The Library maintains links to computer related resources on the Internet via the electronic Computer Science subject guide.

12. **Liaison:**

The Department of Computer Science is responsible for selecting appropriate library resources. A library representative from the Department of Computer Science liaises with a designated Collections Development Librarian with respect to the Department’s library budget, the acquisition process, consortia projects and serials management. It is the responsibility of the Collections Development Librarian to ensure that relevant information regarding new publications is forwarded to the Department’s library representative for consideration. The Library accepts donations of books and journals which fall within its collection scope.

13. **Weeding.**

Weeding will be done on an ongoing basis to preserve the quality, currency and strength of the collection.
November 2011

Collection Policy

Computer Science

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Library Representative  Collection Development Librarian
Department of Computer Science

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Date  Date