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Collecting to the Core: Computing Instruction Manuals

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Changing Library Operations from page 84

and Wikipedia provide instant access to a growing wealth of articles and information that will satisfy the demands of most undergraduate assignments.

Instruction now focuses on assisting the development of students' discovery and evaluation skills for navigating the rapidly expanding information sphere, which includes both open Web and library provided resources. The evolution of the task is toward the provision of comprehensive, point-of-need instruction across the



curriculum using a variegated combination of in-class, online, video, interactive, LibGuide, mixed, and flipped classroom protocols. The objective is to provide an experiential process of instruction closely integrated into assignments throughout their academic career that will provide skills and conceptual frameworks for later work, civil, and personal information use.

The last three years has seen a re-direction of personnel resources to instruction. Budget that was used for the ongoing coverage of sabbaticals was used to hire a permanent instruction librarian. And the replacement of a vacated reference position with another instruction position brought the instruction team from one to three librarians. 🍇

Collecting to the Core — Computing Instruction Manuals

by **Stephen Patton** (Assistant Librarian and Chair of Systems, Indiana State University; Computer Science Editor, *Resources for College Libraries*) <stephen.patton@indstate.edu>

Column Editor: **Anne Doherty** (*Resources for College Libraries* Project Editor, CHOICE/ACRL) <adoherty@ala-choice.org>

Column Editor's Note: The "Collecting to the Core" column highlights monographic works that are essential to the academic library within a particular discipline, inspired by the *Resources for College Libraries* bibliography (online at <http://www.rclweb.net>). In each essay, subject specialists introduce and explain the classic titles and topics that continue to remain relevant to the undergraduate curriculum and library collection. Disciplinary trends may shift, but some classics never go out of style. — AD

Collecting materials to support the undergraduate curriculum in computing (including computer information systems and computer science) presents several obstacles. Faculty-driven selections in computing are often skewed toward highly theoretical texts based on individual interests and research. Additionally, the library collection in computing should not only support teaching and student research, but should also help prepare students for professional work in the industry. Furthermore, collecting with undergraduates in mind requires the selector to accept that many of the most useful and vetted materials in this discipline are product manuals and certification manuals, as well as course books, textbooks, and survey texts. Though many academic libraries avoid adding these types of materials as a general selection policy, instruction manuals like certification guides and course books often provide critical foundational knowledge for computer science students and help ensure that graduates with a degree in computing will be equipped with a basic understanding of core

concepts. In "Textbooks, Leisure Readings, and the Academic Library," **Cynthia Hsieh** and **Rhonelle Runner** explain that there is no true consensus over why librarians have decided not to collect course textbooks, even though they are in high demand by students.¹ Indeed, in the domain of computing materials, certification manuals and textbooks arguably belong in a core collection. Drawing on my experience as a library selector and systems administrator, as well as graduate work in computer science, this essay outlines rationale and specific works in support of including computing instruction manuals in the library's collection.

Since many of the published monographs in computing are specific to particular topics, such as cryptography in networking, one reason to select introductory or survey materials such as textbooks is to ensure that students have access to basic information, in this case an introduction to cryptography as well as a survey of networking, before approaching more specialized works. While there are survey books that are not strictly textbooks, those which are regularly used in the classroom have typically undergone several revisions and tend to be better structured, edited, and most importantly, thoroughly vetted by a large readership body. This last point is particularly important for computing, since it is vital for students working with example code to know that there are no errors. It seriously impedes the learning process to try to learn from and work with code that is full of errors. **William Stallings** has produced a substantial body of important textbooks for computer science fields (as well as the Website Computer Science

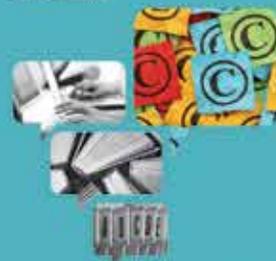
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CHARLESTON INSIGHTS IN LIBRARY, ARCHIVAL, AND INFORMATION SCIENCES

Copyright Questions and Answers
for Information Professionals

From the Columns of
Against the Grain

Edited by
Laura S. Gosselin



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Student Resources), and his *Cryptography and Network Security*, now in its sixth edition, is a useful model for a textbook that blends basic information with practical applications and could be used by an undergraduate student or as a reference by practitioners.^{2,3}

Another benefit of selecting and recommending course books to computing students is that it orients them to those foundational texts recognized across the computing industry. One particularly good example of a course book that is also arguably the definitive introductory text in the subject is *Introduction to Algorithms*, published by MIT Press.⁴ While there are other books available on this topic, this is a work that anyone in the industry will have studied from and is required reading for most computing professionals.

As universities and accrediting agencies place higher importance on job placement after graduation, libraries should consider collecting certification manuals for myriad reasons. Certifications are increasingly being promoted and supported by computing departments, which underscores the importance of acquiring these materials for the library. In “Integrating IT Certification into an Information System Course,” authors Akram Al-Rawi, Azzedine Lansari, and Faouzi Bouslama prescribe a strategy for incorporating certification exams into the university computing curriculum.⁵ In computing, a degree alone does not necessarily show employers that a potential new hire has a certain breadth of knowledge, whereas certification proves competence and the ability to pass an accredited industry-wide exam. Certifications ensure common and measurable fluency on a topic, since students or professionals sitting for the exam must be able to demonstrate their knowledge. Popular certification paths that can be tied to the undergraduate curriculum, library materials, and professional certifications are the tracks for Network+ and the CCNA (Cisco Certified Network Associate).

Much of the material in these courses mirrors the material taught in any introductory college networking course. Certification exams provide effective surveys of their topic areas and give the student a solid foundation on which to build a career. Though industry-recognized certifications can be résumé builders, they are not necessarily correlated with job placement, and library selectors should also recognize that computing faculty may have mixed feelings on incorporating certification training into the curriculum. Some programs have successfully integrated certification manuals into courses, supplemented with more theoretical texts; other computing departments opt to offer certification courses as electives. To support these efforts, bibliographers might look toward purchasing certification manuals and texts from the following group of publishers and series: Cisco Press (Official Cert Guide Series); McGraw-Hill Osborne Media (All-in-One Series); Microsoft Press Books (also available as electronic books through O’Reilly Media

and Safari Books Online); and various series from Wiley’s Sybex imprint. Texts from these series can be easily integrated into collections and as universities become more accountable to students’ postgraduate career placements, supporting computing certification becomes more critical.

Once bibliographers decide to add selective textbooks and certification manuals to the computing collection, challenges remain. One practical concern is that it can be difficult to locate hardcover texts that will stand up to the wear and tear of users, as these titles are routinely heavily used. Certain works, such as the *CCNA Routing and Switching Study Guide*, will often be continuously checked out from the moment they are received.⁶ They will also probably be stolen, highlighted, dog-eared, and ripped apart, so it may be necessary to buy two copies or a physical copy and an electronic copy, allowing students to choose their preferred format. The consideration of whether to provide electronic texts is still an important question for computing students, who do not necessarily want to read books online, especially when they are trying to code or cross-reference materials. Nevertheless, when purchasing computing course materials and certification manuals in an electronic format, it is important to purchase a concurrent user license so that as many users as possible can access the needed materials. Given the general affordability of these works in both print and electronic forms, they are low-cost yet high-value additions to the undergraduate collection.

It is important to remember that, despite falling outside the scope of most traditional selection policies, instruction manuals — both textbooks and certification guides — are often the preeminent books in computing. They are intentionally written to be easy to understand, which makes them ideal for



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We are excited to have a UNC-Chapel Hill School of Library and Information Science Data Curation Course which will take place for one-and-a-half day on the Monday and Tuesday prior to the Charleston Conference! Stay tuned!

www.katina.info/conference

Brainstorming the other night with the awesomes Mitchell Davis and Carolyn Morris and the newly-hired Biblioboard employee Steve Sutton (yes, you heard me right) and my wonderful husband Bruce, we had the idea for a Charleston Conference band... or music group... There are so many musicians in our midst! In fact, I was talking by email to Scott Plutchak about this since he

self-directed learning; they are usually highly vetted and well known in the industry; they are frequently edited and reissued, which is key in a fast-changing field; and they often directly support certification study, all of which make these materials excellent options for the undergraduate library collection. In fact, libraries of different sizes serving distinct communities — from liberal arts colleges to universities, technical schools to large public libraries — should find little reason to exclude these important and useful instructional materials from the computing collection. After all, it is often said that collection development is an art, not a science. When it comes to computer science, course books and certification guides can be critical for helping students learn their chosen art. 🌟

Endnotes

1. Hsieh, Cynthia, and Rhonelle Runner. “Textbooks, Leisure Readings, and the Academic Library.” *Library Collections, Acquisitions, and Technical Services* 29.2 (2005): 192-204.
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4. Cormen, Thomas H., Charles E. Leiserson, Ronald L. Rivest, and Clifford Stein. *Introduction to Algorithms*. Third edition. Cambridge, MA: MIT Press, 2009.*
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Editor’s note: An asterisk () denotes a title selected for *Resources for College Libraries*.

is part of the Bearded Pigs who I have always wanted to get to perform in Charleston. But Scott says they retired the annual Bearded Pigs event at the MLA meeting after last year since there were too many logistical and other issues. Of course the initial challenge is getting the right core group of musicians together, as Scott says. But he adds a thought — suggests an open mike session one evening during the Charleston Conference. People would sign up for fifteen minute sets ahead of time. That could be a fun event in itself and help identify some people we could tap for something the next year. What musicians out there want to help with this crazy idea? Jack Montgomery, how about you? Seems like every other person mentions music in the *Against the Grain* profile! Fun, fun, fun! Who is interested? Please let me or Leah Hinds know! <leah@katina.info>

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