

Bachelor of Computer Application

We are pleased to provide a curated list of open educational resources for the Bachelor in Computer Application programme. These are only for the purpose of additional readings and support classroom interactions.

Programming Fundamentals using C

Busbee, K. L. (2013). *Programming fundamentals: A modular structured approach using C++*. OpenStax CNX. Open Textbook Library.

<https://open.umn.edu/opentextbooks/textbooks/programming-fundamentals-a-modular-structured-approach-using-c>. License: CC BY.

Downey, A. B. (2012). *How to think like a computer scientist: C++ version*. Green Tea Press. Open Textbook Library. <https://www.greenteapress.com/thinkcpp/thinkCScpp.pdf>. License: CC BY-NC.

Scheffel, T. (2024). *ThinkC*. GitHub. <https://github.com/tscheffl/ThinkC>. License: CC BY-NC 4.0.

Discrete Structures

Doerr, A., & Levasseur, K. (2017). *Applied discrete structures*. Open Textbook Library.

<https://open.umn.edu/opentextbooks/textbooks/applied-discrete-structures>. License: CC BY-NC-SA.

Programming in JAVA

Arsenault, P. (2025). *Open programming: Java I*. Bentley University. Pressbooks.

<https://pressbooks.bentley.edu/openprogrammingjava/>. License: CC BY-NC-SA 4.0.

Bhuiyan, A. A., & Amiruzzaman, M. (2025). *Programming with Java* (2nd ed.). The Pennsylvania Alliance for Design of Open Textbooks (PA-ADOPT). Open Textbook Library. <https://open.umn.edu/opentextbooks/textbooks/programming-with-java>. License: CC BY-NC.

Haverbeke, M. (2014). *Eloquent JavaScript: A modern introduction to programming*. No Starch Press. Open Textbook Library. https://eloquentjavascript.net/Eloquent_JavaScript.pdf. License: CC BY-NC 3.0.

Mayfield, C., & Downey, A. (2020). *Think Java: How to think like a computer scientist* (2nd ed.). Green Tea Press. Open Textbook Library. <https://greenteapress.com/thinkjava7/thinkjava2.pdf>. License: CC BY-NC 4.0.

McFadyen, R. (2016). *Java with BlueJ Part 2*. Ron McFadyen. Open Textbook Library. <https://acs.uwinnipeg.ca/rmcfadyen/CreativeCommons/Part%20%20Chapters%201%202%203%204%205%206%207%208%209%2010.pdf>. License: CC BY-NC-SA 4.0.

Morelli, R., & Walde, R. (2017). *Java, Java, Java: Object-oriented problem solving* (3rd ed.). Trinity College. Open Textbook Library.

<https://open.umn.edu/opentextbooks/textbooks/java-java-java-object-oriented-problem-solving>. License: CC BY.

Data Structures/ Design and Analysis of Algorithm

Downey, A. B. (2017). *Think data structures: Algorithms and information retrieval in Java*. Green Tea Press. Open Textbook Library.

<https://greenteapress.com/thinkdast/thinkdast.pdf>. License: CC BY-NC-SA.

Morin, P. (2013). *Open data structures: An introduction*. Athabasca University Press. Open Textbook Library.

https://aupress.ca/app/uploads/120226_99Z_Morin_2013-Open_Data_Structures.pdf.

License: CC BY-NC-ND 4.0.

Moser, L., M. M., & Bible, P. (2023). *An Open Guide to Data Structures and Algorithms*. Open Textbook Library.

<https://pressbooks.palni.org/anopenguidetodatastructuresandalgorithms/>. License: CC BY.

Nievergelt, J., & Hinrichs, K. (2011). *Algorithms and data structures with applications to graphics and geometry*. Global Text Project. Open Textbook Library.

<https://collection.bccampus.ca/textbooks/algorithms-and-data-structures-with-applications-to-graphics-and-geometry-global-text-project-22/> . License: CC BY.

Computer System Architecture

Preston, K. (2024). *Introduction to computer architecture and operating systems*. The University of Alabama in Huntsville. LOUIS Open Educational Resources (OER).

<https://louis.uah.edu/oer/1/>. License: CC BY-SA 4.0.

Operating System

Hiraki, L. (2022). *Productivity in common operating systems: Unix essentials*. Toronto

Metropolitan University Pressbooks. <https://pressbooks.library.torontomu.ca/opsyshiraki/>.

License: CC BY-NC.

Spillner, J. (2023). *Operating systems and infrastructure in data science*. vdfHochschulverlag.

Open Textbook Library.

<https://digitalcollection.zhaw.ch/server/api/core/bitstreams/176bf138-1bc7-4b84-bdd7-c9962ca5ddb4/content>. License: CC BY-NC-SA.

Computer Networks

Dordal, P. L. (2014). *An introduction to computer networks* (2nd ed.). Peter L. Dordal. Open Textbook Library.

<https://open.umn.edu/opentextbooks/textbooks/an-introduction-to-computer-networks>.

License: CC BY-NC-ND.

Peterson, L., & Davie, B. (2019). *Computer networks: A systems approach*. Larry Peterson and Bruce Davie. Open Textbook Library.

<https://open.umn.edu/opentextbooks/textbooks/computer-networks-a-systems-approach>.

License: CC BY.

Van Horn, M. J. H. (2025). *Mastering enterprise networks* (2nd ed.). Embry-Riddle Aeronautical University. Pressbooks. <https://eaglepubs.erau.edu/mastering-enterprise-networks-labs/>.

License: CC BY-NC.

Software Engineering

Barnes, B., & Cotterell, M. (2025). *Software development*. University System of Georgia.

OpenALG. <https://alg.manifoldapp.org/projects/csci1302-uga>. License: CC BY-NC-SA 4.0.

Jones, D. M. (2020). *Evidence-based software engineering*. Knowledge Software. Open Textbook Library.

<https://open.umn.edu/opentextbooks/textbooks/evidence-based-software-engineering>.

License: CC BY-SA.

Letaw, L. (2024). *Handbook of software engineering methods* (2nd ed.). Oregon State University. Open Textbook Library. <https://open.umn.edu/opentextbooks/textbooks/1557>. License:

CC BY-NC.

Database Management Systems

Danault, R. (n.d.). *Database management systems*. University of New Hampshire.

<https://pressbooks.usnh.edu/databasemanagementsystems/>. License: CC BY-NC-SA.

Watt, A. (2014). *Database design* (2nd ed.). BCcampus Open Education. Pressbooks.

<https://opentextbc.ca/dbdesign01/>. License: CC BY 4.0.

Artificial Intelligence

Frické, M. (2024). *Artificial intelligence and librarianship* (3rd ed.). Open Textbook Library.

<https://softoption.us/sites/default/files/AInLibrariesNotesForTeaching3rdEd.pdf>.

License: CC BY-NC-SA.

Sylvia IV, J. J. (2024). *The data renaissance: Analyzing the disciplinary effects of big data, artificial intelligence, and beyond*. Open Textbook Library.

<https://open.umn.edu/opentextbooks/textbooks/the-data-renaissance-analyzing-the-disciplinary-effects-of-big-data-artificial-intelligence-and-beyond>. License: CC BY-NC-SA.

Theory of Computation

Critchlow, C., & Eck, D. (2011). *Foundations of computation*. Open Textbook Library.

https://math.hws.edu/FoundationsOfComputation/FoundationsOfComputation_2.3.2_6x9.pdf. License: CC BY-NC-SA.

Hugtenburg, S., & Yorke-Smith, N. (2022). *Delfse foundations of computation* (2nd ed.). Open Textbook Library. <https://books.open.tudelft.nl/home/catalog/view/211/393/640>. License: CC BY-NC-SA.

Computer Graphics

Eck, D. J. (2023). *Introduction to computer graphics* (Version 1.4). Hobart and William Smith Colleges. <https://math.hws.edu/eck/cs424/downloads/graphicsbook-linked.pdf>. License: CC BY-NC-SA 4.0.

Graphic Communications Open Textbook Collective. (2015). *Graphic design and print production fundamentals*. BCcampus Open Education. Pressbooks. <https://opentextbc.ca/graphicdesign/>. License: CC BY.

Internet Technologies

Mitra, R., et al. (2023). *Telecommunications and networking*. UT San Antonio Pressbooks. <https://utsa.pressbooks.pub/networking/>. License: CC BY-NC-SA 4.0.

Compiler Design

Bergmann, S. D. (2017). *Compiler Design: Theory, Tools, and Examples*. Rowan University Open Educational Resources. <https://rdw.rowan.edu/oer/1/>. License: CC BY-NC-ND 4.0

R Programming

Gagolewski, M. (2022). *Deep R Programming*. <https://deepr.gagolewski.com/>. License: CC BY-SA 4.0.

Irizarry, R. A. (2023). *Introduction to Data Science*. Harvard University. <https://rafalab.dfci.harvard.edu/dsbook/>. License: CC BY-NC-SA.

JAVA Script

Haverbeke, M. (2014). *Eloquent JavaScript: A Modern Introduction to Programming*. Open Textbook Library. <https://open.umn.edu/opentextbooks/textbooks/eloquent-javascript-a-modern-introduction-to-programming>. License: CC BY-NC.