

Masters of Computer Application

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

Programming in C & 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.

Computer Organization & Architecture

Lee, S. (2025). *Computer organization*. University System of Georgia. OpenALG. <https://alg.manifoldapp.org/projects/computer-organization>. License: CC BY 4.0.

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.

Database Management System (DBMS)

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

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.

Data Structures & Algorithms

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.

Java Programming

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%202%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.

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.

Operating Systems

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.

Web Technologies (HTML, CSS, JavaScript, PHP)

Stewart, S. (2018). *WEB authoring*. Ryerson University. Hillsborough Community College Pressbooks. <https://pressbooks.hccfl.edu/webauthoring/>. License: CC BY-NC 4.0.

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.

Python Programming

Das, U., Lawson, A., Mayfield, C., & Norouzi, N. (2026). *Introduction to Python programming*. OpenStax, Rice University.

https://assets.openstax.org/oscms-prodcms/media/documents/Introduction_to_Python_Programming-WEB.pdf. License: CC BY-NC-SA 4.0.

Downey, A. (2015). *Think Python: How to think like a computer scientist* (2nd ed., Version 2.4.0). Green Tea Press. <https://greenteapress.com/thinkpython2/thinkpython2.pdf>.

License: CC BY-NC 3.0.

Severance, C. R. (2024). *Python for everybody: Exploring data using Python 3*. Charles Severance. Open Textbook Library

<https://open.umn.edu/opentextbooks/textbooks/python-for-everybody-exploring-data-using-python-3>. License: CC BY-NC-SA 3.0.

Artificial Intelligence & Machine Learning

Frické, M. (2024). *Artificial intelligence and librarianship* (3rd ed.). Open Textbook Library. <https://softoption.us/sites/default/files/AIinLibrariesNotesForTeaching3rdEd.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.

Big Data Analytics

Hearon, E. L. (2025). *Introduction to data analytics*. Business LibreTexts.

https://biz.libretexts.org/Workbench/OER_Textbook_for_Data_Analytics/01%3A_Introduction_to_Data_Analytics. License: CC BY 4.0.

Matter, U. (2024). *Big data analytics*. University of St. Gallen. OER Commons.

<https://umatter.github.io/BigData/>. License: CC BY-NC-SA 4.0.

Cloud Computing

Bentley, D. (2022). *Current & emerging computing technology*. BCcampus Open Education.

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

Cybersecurity & Ethical Hacking

Tolboom, R. (2022). *Computer systems security: Planning for success*. Ryan Tolboom. Open Textbook Library. <https://open.umn.edu/opentextbooks/textbooks/1355>. License: CC BY-NC-SA.

Weber, E. V. (2025). *Ethics in technology*. St. Charles Community College. Open Textbook Library. <https://open.umn.edu/opentextbooks/textbooks/1871>. License: CC BY-NC-SA 4.0.

Internet of Things (IoT)

Dian, F. J., & Vahidnia, R. (2020). *IoT use cases and technologies*. British Columbia Institute of Technology. BCcampus Open Education Pressbooks.

<https://pressbooks.bccampus.ca/iotbook/>. License: CC BY-NC-SA 4.0.

Vahidnia, R., & Dian, F. J. (2021). *Cellular Internet of Things for practitioners*. British Columbia Institute of Technology. BCcampus Open Education Pressbooks.

<https://pressbooks.bccampus.ca/cellulariot/>. License: CC BY-NC-SA 4.0.

Advanced 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.

Research Methodology

- Alqahtani, N., et al. (2019). *Short guides in education research methodologies*. Indiana University Bloomington. Indiana University Pressbooks. <https://iu.pressbooks.pub/lcle700resguides/>. License: CC BY-NC-SA 4.0.
- Brinkerhoff, C. (2019). *Doing research: A student's guide to finding and using the best sources*. BCcampus Open Education Pressbooks. <https://pressbooks.bccampus.ca/doingresearch/>. License: CC BY 4.0.