

OER by Discipline Guide

OER by Discipline Guide

A reference of OER listed by subject area and discipline

LAURI M. AESOPH AND JOSIE GRAY



OER by *Discipline Guide* by BCcampus is licensed under a Creative Commons Attribution 4.0 International License, except where otherwise noted.

The CC licence permits you to retain, reuse, copy, redistribute, and revise this book – in whole or in part – for free, providing the author is attributed as follows:

The BCcampus Open Education OER by *Discipline Guide* by Lauri M. Aesoph and Josie Gray is used under a CC BY 4.0 International Licence.

If you redistribute all or part of this book, you must include on every digital page (including but not limited to EPUB, PDF, and HTML) and as part of the copyright notice of a printed copy the following:

Download this book for free at <http://open.bccampus.ca>

This textbook can be referenced. In APA style, it should appear as follows:

Aesoph, L.M., Gray, J. (2018). *OER by Discipline Guide*. Victoria, BC: BCcampus. Retrieved from <https://opentextbc.ca/oerdiscipline/>

Visit BCcampus Open Education to learn about open education in British Columbia.

Contents

Open Creation: In Progress	xiii
About This Guide	xiv
<i>How to use this guide</i>	xiv
<i>OpenCon 2017 Do-a-thon</i>	xiv
<i>About BCcampus Open Education</i>	xiv
Introduction	1
Acknowledgements	2
Interdisciplinary	
Multidisciplinary	5
<i>General OER Collections</i>	5
<i>Books/Textbooks</i>	5
<i>Images</i>	5
<i>Other</i>	6
<i>Video</i>	6
Business	
Business – General	9
<i>Open Textbooks</i>	9
Accounting	10
<i>Open Textbooks</i>	10
Economics	11
<i>Case Studies</i>	11
<i>Open Textbooks</i>	11
Repositories	11
Finance	12
<i>Open Textbooks</i>	12

Communications and Media

Communications 15

Open Textbooks 15

Computer Science

Computer Science – General 19

Software 20

Repositories 20

History – Computer Science 21

Education

Education – General 25

Open Education 26

Open Textbooks 26

Resources 26

Pedagogy 27

Instructional Design 27

Open Pedagogy 27

Research 29

Engineering

Engineering – General 33

Ancillary Resources 33

Courses 33

Textbooks 33

Videos 33

Civil Engineering 35

Computer Engineering 36

Courses 36

Videos/Simulations 36

Electrical Engineering	37
<i>Ancillary Resources</i>	37
<i>Collections</i>	37
<i>Courses</i>	37
<i>Textbooks</i>	38
<i>Videos/Simulations</i>	39
<i>More Resources</i>	39
Mechanical Engineering	40
<i>Courses</i>	40
<i>Images/GIFs</i>	40
<i>Publications</i>	40
Thermodynamics / Thermal Power Plant	41
Fine Arts	
Fine Arts – General	45
<i>Open Textbooks</i>	45
Art	46
<i>Open Course</i>	46
<i>Open Textbooks</i>	46
Websites	46
Music	47
<i>Open Course</i>	47
<i>Open Textbooks</i>	47
Theatre	48
Health and Medical	
Health and Medical – General	51
Addiction	52
Mental Health, Dementia	53
Nursing	54
Nutrition	55
<i>Open Course</i>	55
Records	56
Veterinary	57
<i>Open Textbooks</i>	57

Law and Criminal Justice

Criminal Justice	61
Environmental Law	62
First Nations	63
Law – General	64
<i>Open Textbooks</i>	64
American Law	65
Websites	65

Liberal Arts and the Humanities

Humanities – General	69
<i>Open Textbooks</i>	69
Repositories	69
Art History	70
English	71
Collections	71
<i>Open Textbooks</i>	71
Tools	71
Websites	72
First Nations	73
Gender Studies	74
History	75
Articles	75
<i>Open Textbooks</i>	75
Repositories	75
Seminar	76
Videos	76
Websites	76
Language and Philology	77
<i>Open Textbooks</i>	77
Language: OER for specific languages	78
Collections	78
<i>Resources by Language</i>	78
Philosophy	81
<i>Open Textbooks</i>	81

Math and Stats	
Math	85
<i>Open Textbooks</i>	85
<i>Repositories</i>	85
<i>Tools</i>	85
<i>Videos</i>	85
Statistics	86
<i>Open Textbooks</i>	86
Religion and Religious Studies	
Catholicism	89
Science	
Sciences – General	93
<i>Open Textbooks</i>	93
<i>Repositories</i>	93
<i>Tools</i>	93
Anatomy	94
<i>Collections</i>	94
<i>Website</i>	94
Astronomy	95
<i>Courses</i>	95
<i>Journals</i>	95
<i>Images</i>	95
<i>Learning Tools</i>	95
<i>Open Textbooks</i>	95
Biology	96
<i>Open Textbooks</i>	96
Botany	97
Chemistry	98
<i>Journals</i>	98
<i>Open Textbooks</i>	98
<i>Repositories</i>	98
<i>Videos</i>	98

Environment	99
<i>Open Textbooks</i>	99
Forestry	100
<i>Case Studies</i>	100
<i>Open Textbooks</i>	100
Geography	101
<i>Information Services</i>	101
Geology	102
<i>Information Services</i>	102
Maps	102
<i>Open Textbooks</i>	102
Physics	103
<i>Journals</i>	103
<i>Open Textbooks</i>	103
<i>Simulations</i>	103
Social Sciences	
Social Sciences – General	107
<i>Open Textbooks</i>	107
Anthropology and Archaeology	108
Gender, Race, Sexuality, Social Justice	109
Psychology	110
<i>Ancillary Resources</i>	110
<i>Blogs</i>	110
<i>Open Courses</i>	110
<i>Open Textbooks</i>	110
<i>Repository</i>	110
<i>Websites</i>	111
Social Studies	112
Sociology	113
Political Science	114
<i>Case Studies</i>	114
<i>Open Textbooks</i>	114

Trades

Automotive	117
<i>Open Course</i>	117
Common Core	118
Electricity	119
Videos	119
Mechanics	120
<i>Open Course</i>	120

Upgrading

Adult Basic Education	123
English as a Second Language	124
University Success	125
<i>Textbooks</i>	125
<i>Videos</i>	125
<i>Workshops</i>	125

Non-English OER

Le Français (French)	129
<i>Open Textbooks</i>	129
<i>Repositories</i>	129
<i>Websites</i>	129
Nederlands (Dutch)	130
<i>Repositories</i>	130
فارسی (Farsi)	131
<i>Repositories</i>	131
Español (Spanish)	132
<i>Websites</i>	132
Audio	133
Courses	134
Photos	135
Publishers	136
<i>Repositories</i>	137
Research	138

Syllabi	139
Tools, Software, Systems	140
Videos	141
Versioning History	142

Open Creation: In Progress

This guide is in the *open creation* stage.¹ Below is a list of the tasks left to complete:

- Finish adding and formatting resources
- Copy edit and add style sheet
- Review and complete Book Info page
- Check for accessibility and add accessibility statement

Last updated: See the Versioning History page.

To provide feedback about this guide, email opentext@bccampus.ca.

1. An open creation is an original work that is progress, but publicly viewable and openly licensed.

About This Guide

This is one of many support guides from BCcampus Open Education. It is designed to supplement our main resource, the *Self-Publishing Guide*.

How to use this guide

Welcome to the BCcampus Open Education OER by *Discipline Guide*. This support resource lists a broad range of open educational resources organized by discipline. The purpose of this guide is to capture as many OER as possible—case studies, courses, games, repositories, simulations, textbooks, videos, and more—and organize them so faculty can easily locate resources in their subject area.

Open educational resources (OER) are defined as teaching, learning, and research resources that, through permissions granted by the copyright holder, allow others to use, distribute, keep, or make changes to them. We consider this publication—along with our guides, webinar slide decks, and other support materials—as a type of OER that trains faculty, staff, and students how to build, customize, and use open textbooks.

This guide does not come with an index. Instead, use the search field located in the top-right of each page in the online version to locate a specific topic.

OpenCon 2017 Do-a-thon

This guide would not be what it is without those who contributed to the “Anthology of (non-textbook) OERs, organized by discipline” do-a-thon project that took place at OpenCon in Berlin, Germany, in November 2017. Roughly a dozen people collaborated on compiling lists of OER material and collections, and that list was used as a starting point for developing this guide. Thanks to all who were able to contribute to that project.

About BCcampus Open Education

BCcampus Open Education began in 2012 as the B.C. Open Textbook Project with the goal of making post-secondary education in British Columbia more accessible by reducing students’ costs through the use of open textbooks and other OER. BCcampus supports the post-secondary institutions of British Columbia as they adapt and evolve their teaching and learning practices to enable powerful learning opportunities for the students of B.C. BCcampus Open Education is funded by the British Columbia Ministry of Advanced Education, Skills & Training, and the Hewlett Foundation.

The BCcampus Writing Guidelines for Style and Tone and BCcampus Open Education Style Guide, along with

the attached style sheet [Word file] – to be added, were referenced during the copy editing and proofreading phases of this toolkit.

If you find an error in this toolkit, please report it using the Report a Textbook Error form. For other feedback or comments, fill out the BCcampus contact form.

Introduction

Describe layout and how to use. (**write this out**)

- If can't find resource by looking at discipline specific sections or resources by type, in Back Matter, search using the Search field in the top right corner of any page. (Give example.)
- Laid out by discipline and sub-discipline
- Back Matter contains resources by type, e.g. photos.
- Licence type is noted by each resource.
- Open textbooks that are not suitable for the B.C. Open Textbook Collection may be included. Some reasons that books may not be eligible for the Open Textbook collection include -ND licence restrictions and lack of editable files.
- offer suggestions of what to search in addition to discipline specific chapters, e.g., try the various resources listed in the Back Matter such as courses (give an example)
- see Google doc from OpenCon https://docs.google.com/document/d/1QDBb1UKwF6cdwEo9YtIvbU1_-wHnXjXUZtLMHg80Im8/edit
- See Github issue: <https://github.com/sparcopen/doathon/issues/45>

Acknowledgements

Share

If you adopt this book, as a core or supplemental resource, please report your adoption in order for us to celebrate your support of students' savings. Report your commitment at www.openlibrary.ecampusontario.ca.

We invite you to adapt this book further to meet your and your students' needs. Please let us know if you do! If you would like to use Pressbooks, the platform used to make this book, contact eCampusOntario for an account using open@ecampusontario.ca.

If this text does not meet your needs, please check out our full library at www.openlibrary.ecampusontario.ca. If you still cannot find what you are looking for, connect with colleagues and eCampusOntario to explore creating your own open education resource (OER).

About eCampusOntario

eCampusOntario is a not-for-profit corporation funded by the Government of Ontario. It serves as a centre of excellence in online and technology-enabled learning for all publicly funded colleges and universities in Ontario and has embarked on a bold mission to widen access to post-secondary education and training in Ontario. This textbook is part of eCampusOntario's open textbook library, which provides free learning resources in a wide range of subject areas. These open textbooks can be assigned by instructors for their classes and can be downloaded by learners to electronic devices or printed for a low cost by our printing partner, The University of Waterloo. These free and open educational resources are customizable to meet a wide range of learning needs, and we invite instructors to review and adopt the resources for use in their courses.

INTERDISCIPLINARY

Multidisciplinary

General OER Collections

Merlot II (Various CC licences)

A curated collection of free and open online teaching, learning, and faculty development services contributed and used by an international education community.

OER Commons (Various CC Licences)

A public digital library of open educational resources.

Open Course Library (CC BY)

A collection of high quality, free-to-use courses that you can download and use for teaching. All content is stored in Google docs making it easy to access, browse and download.

SOL*R (Various CC licences)

Sharable Online Learning Resources is a BCcampus collection that provides guest access for browsing and downloading its Creative Commons Licensed resources.

UBC Open Case Studies (CC BY)

These case studies offer a student-centered approach to learning that asks students to identify, explore, and provide solutions to real-world problems by focusing on case-specific examples. This approach simulates real life practice in sustainability education in that it illuminates the ongoing complexity of the problems being addressed.

Wikibooks (CC BY-SA)

Books/Textbooks

Open Book Publishers (Various CC licences)

A collection of open monographs and textbooks in all subject areas.

Project Gutenberg (Public domain)

A collection of over 54,000 eBooks that are all in the public domain.

IntechOpen (Various CC licences)

A collection over over 3,700 peer-reviewed open access books in physical sciences, engineering, technology, life sciences, health sciences, social sciences, and humanities available for download as PDFs.

Images

Flickr (CC search filter)

The Flickr Creative Commons Search allows you to search all of image sources for items that are either CC-licensed or public domain.

The Noun Project (Various CC licences)

A catalogue of symbols that are created and uploaded by graphic designers under a CC-license.

UBC's Aggregated List of Image Sources (Licences vary)

A comprehensive list of image collections that are either in the Public Domain or Creative Commons licenced. The list includes multidisciplinary collections, as well as those specific to the humanities and sciences.

U.S. Government Photos and Images (Public domain)

A vast collection of photos and images from the U.S. Government, many of which are in the public domain and free to use.

Wikimedia Commons (Licences vary)

Wikimedia Commons contains over 20 million freely usable image, sound, and video files.

Other

Walt Whitman Archive (CC BY-NC-SA)

A collection of works by and about Walt Whitman.

Video

TED Talks (CC BY-NC-ND)

TED's videos are all Creative Commons licensed, unless otherwise indicated.

BUSINESS

Business – General

Open Textbooks

Business LibreTexts Library (CC BY-NC-SA)

A collection of open textbooks, assignments, and other educational resources relating to topics in business.

General Business Textbooks (Licences vary)

A collection of open textbooks on topics in business.

Accounting

Open Textbooks

Accounting & Finance (Licences vary)

A collection of open textbooks on topics relating to accounting and finance.

Economics

Case Studies

Canada's Pacific Groundfish Trawl Fishery: Ecosystem Conflicts (CC BY)

An open case study by the University of British Columbia that looks conflicts between British Columbia's commercial fishing industry and environmental NGO's.

Open Textbooks

CORE: The Economy (CC BY-NC-ND)

This open textbook (available in English and in French) functions as a standard introduction-to-economics text.

Economics Textbooks (Licences vary)

A collection of economics open textbooks.

Repositories

World Bank Open Knowledge Repository (Licences on specific resources vary)

This repository is the largest single source of knowledge on economic development around the world.

Finance

Open Textbooks

Accounting & Finance (Licences vary)

A collection of open textbooks on topics relating to accounting and finance.

COMMUNICATIONS AND MEDIA

Communications

Open Textbooks

A Guide to Technical Communications: Strategies & Applications (CC BY-NC)

This open textbook was designed for Engineering Technical Communications courses at The Ohio State University.

Languages & Communications Textbooks (Licences vary)

A collection of open textbooks on different topics in communications.

Write Like a PR Pro (CC BY-NC)

Write Like a PR Pro covers how to write and develop messages in different formats from professionals with expertise in different areas of communication. It was written by an instructor who teaches at The Ohio State University.

COMPUTER SCIENCE

Computer Science – General

Computer and Information Science Textbooks (Licences vary)

A collection of open textbooks relating to topics in computer and information science.

Computer Science 20 (CC BY-SA)

This textbook was written to support the teaching of Computer Science 20 in Saskatchewan. It is meant to provide students with an interactive experience as they learn to program. They can read the text, watch videos, and write and execute Python code.

Learn to Program: Intro Java with interactive graphics, via Processing (CC BY-NC-SA)

This collection of free notes is aimed at helping the complete beginner learn the basics of computer programming using Processing, a free and easy to use program available for many platforms. With Processing, students start with making graphics, and skip much of the ugly, memorization-based syntax of beginner Java. Unlike other guides, this focuses on learning programming, not the features of Processing.

Software

Repositories

FLOSS Manuals (CC BY-SA)

Openly licensed booklets, course materials, and manuals for free software. The site is also available in Dutch, Farsi, and French.

History – Computer Science

Open Textbooks

Computer Graphics and Computer Animation: A Retrospective Overview (CC BY-NC-ND)

An open textbook chronicling the many important historical developments of the short life of the computer graphics world.

EDUCATION

Education – General

Case Studies

UBC Open Case Studies: Click on “Education” in top toolbar.

Open Textbooks

Education Textbooks (Licences vary)

A collection of open textbooks related to education.

Open Education

Open Textbooks

An Open Education Reader (CC BY)

A collection of readings on open education with commentary by David Wiley.

Open: The Philosophy and Practices that are Revolutionizing Education and Science (CC BY)

An book edited by Rajiv Jhangiani and Robert Biswas-Diener on all topics related to open education and open science. This book shares the stories, motives, insights, and practical tips from global leaders in the open movement.

Resources

CCCOER Helpful Resources (Licences vary)

A collection of resources curated by the Community College Consortium for Open Educational Resources that cover topics relating to OER including advocacy, open pedagogy, policy, adoption, authoring, accessibility, and more.

Pedagogy

Instructional Design

Flipped Through Design (CC BY-NC-ND)

This open textbook provides a framework for designing a “Flipped” course using principles of instructional design.

Open Pedagogy

Open Pedagogy Resources (Licences may vary)

A collection of open pedagogy resources curated by CCCOER.

Blogs

Does Open Pedagogy Require OER? (CC BY)

A post by Clint Lalonde discussing whether open licences are necessary for something to be considered open pedagogy.

Educatus – University of Saskatchewan (Not openly licensed)

A collection of posts by instructors on topics of open pedagogy and teaching and learning practices.

Quick Thoughts on Open Pedagogy (CC BY)

David Wiley expanding his thinking on open pedagogy.

What is Open Pedagogy? [PDF] (CC BY)

Professors describing what open pedagogy means to them and how they view the future of open pedagogy.

Lessons and Examples

OER-Enabled Pedagogy (CC BY)

A description and examples of a set of teaching and learning practices that are only practical in the context of the 5R permissions characteristic of open educational resources.

Open Pedagogy Examples (CC BY)

A collection of examples of open pedagogy that was generated after a BCcampus webinar on open pedagogy.

Open Textbooks

DIY Open Pedagogy: Freely Sharing Teaching Resources in Psychology (CC BY)

A chapter by Jessica Hartnett from the book *Open: The Philosophy and Practises that are Revolutionizing Education and Science* on the topic of open pedagogy.

From OER to Open Pedagogy: Harnessing the Power of Open (CC BY)

A chapter by Robin DeRosa and Scott Robinson from the book *Open: The Philosophy and Practises that are Revolutionizing Education and Science* on the topic of open pedagogy.

Webinars

Open Pedagogy (CC BY)

An archived webinar by Open Oregon (January 2017) on the subject of open pedagogy.

Research

Open Textbooks

Choosing & Using Sources: A Guide to Academic Research (CC BY)

Engaging graphics, compelling examples, and easy-to-understand explanations make Choosing and Using Sources: A Guide to Academic Research, your most valuable, open access resource for completing research-based writing assignments and projects.

Dissident Knowledge in Higher Education (CC BY-NC-ND)

This collection includes some of the leading authorities in the field, including Marie Battiste, Noam Chomsky, Yvonna S. Lincoln, and Linda Tuhiwai Smith. It is geared towards courses that focus on methodology, colonialism, Indigenous research and knowledge, and theories of change.

ENGINEERING

Engineering – General

Ancillary Resources

Engineering Technology Simulations (CC BY)

A collection of open simulations covering automation and robotics, electrical & motor control, process control or renewable energy.

Courses

Mechatronics Technology Program (CC BY-NC-SA)

Created through a collaboration with the OPEN Platform+ program, the National STEM Consortium academic certificate in Mechatronics Technology is built on a 30-semester-credit model and is mapped to the Siemens Mechatronic Systems Level 1 certification. The skills taught include electrical, mechanical, and computer technologies. Graduates are prepared for entry-level Mechatronics positions in almost every industry.

Textbooks

Engineering & Electronics (Licences vary)

A collection of open textbooks related to topics in engineering and electronics.

Engineering LibreTexts Library (CC BY-NC-SA)

A collection of open textbooks, assignments, and other educational resources related to engineering.

Linear Algebra: A Course for Physicists and Engineers (CC BY-NC-ND)

This open textbook is meant for courses on space and atmospheric science, remote sensing, geographic information systems, meteorology, climate and satellite communications at UN-affiliated regional centers, various applications of the formal theory are discussed as well. These include differential equations, statistics, optimization and some engineering-motivated problems in physics.

Videos

Practical Engineering Videos (CC YouTube Licence)

A collection of engineering videos created by Grady Hillhouse, a professional civil engineer. His goal for Practical Engineering is to increase exposure and interest in the field of engineering through the use of practical examples.

Engineering Technology Simulation Learning Videos (CC YouTube Licence)

Over 100+ quick microlearning videos on various Engineering Technology topics including: automation,

electrical, motor control, process control, fluid power, industrial robotics and more! The videos are short and are meant to be used in various classroom learning situations.

Civil Engineering

Case Studies

UBC Farm through a Sustainable Lens

Computer Engineering

Courses

EIC225 Programmable Controllers (CC BY)

This course studies the use of solid-state control equipment, primarily the programmable controller and associated solid-state sensors to control equipment, machinery or complete processes. Includes concepts of solid-state logic, characteristics of solid-state sensors; conversions of relay logic control systems to programmable control systems; and microprocessor-based systems and remote control of processes. Enables the student to design, implement and test control systems in the laboratory to meet specifically-assigned control problems. Emphasizes accuracy, safety and National Electrical Code requirements.

Programmable Controllers (CC BY)

This is an upper level course in programmable logic controllers (PLC). The course includes the following topics: PLC overview, the input/output section, processor unit, programming the devices, memory organization, ladder diagrams, numbering systems, relay instructions, beginning programming, and professionalism

Videos/Simulations

Engineering Technology Simulations: Programmable Logic Controllers (CC BY)

A series of 3D simulations on Programmable Logic Controllers.

This History of Ladder Logic (CC YouTube Licence)

Ladder Logic is the language used to program PLCs. This video gives a little background about how ladder logic came to be and gives a brief overview of how to use it.

Electrical Engineering

Ancillary Resources

Modular Electronics Learning (ModEL) project (CC BY)

A collection of tutorials on topics in electricity and electronics.

Practice Problem Worksheets (CC BY)

A collection of worksheets and exams on mathematics, basic science, electricity and electronics, and instrumentation and process control.

Worksheets (CC BY)

A large collection of worksheets on the following topics: Basic Electricity, DC Electric Circuits, AC Electric Circuits, Network Analysis Techniques, Discrete Semiconductor Devices and Circuits, Analog Integrated Circuits, Digital Circuits, and Mathematics for Electronics.

Collections

Electromechanical Technology Series (Public domain)

TERC, of Cambridge, Massachusetts, developed a two-year (four-semester) instructional program designed to prepare technicians for the emerging electromechanical occupations in industry. The project was completed in August 1973, and was supported by grant funds provided by the U. S. Department of Health, Education, and Welfare. This collection includes all 16 student manuals, which are all now in the public domain and free for reuse and redistribution. Each book's materials are presented in an action-oriented format combining many of the features normally found in a textbook with those usually associated with a laboratory manual.

Courses

Concepts of Direct Current (CC BY-NC-SA)

This course provides a study of basic concepts and application of direct current (DC). Specific topics include but are not limited to: an introduction to electrical theory, units of electrical measurement, DC electrical components, and constructing various types of DC circuits. Students gain hands-on experience through various laboratory problems. Emphasis is placed on the use of scientific calculators and the operation of common test equipment used to analyze and troubleshoot DC circuits and to prove the theories taught during classroom instruction.

Electric Motor Controls (CC BY)

This course is an introduction to motor controls, including a study of the various control devices and wiring used in industrial processes. It addresses the following topics: Motor Controls, Control Devices, Wiring, Industrial Processes, Electric Motors, Relay Logic, Control Devices, Electricity, Electrical Circuit, Alternating Current, and Direct Current.

Electric Vehicle Technology Program (CC BY-NC-SA)

Created through a collaboration with the OPEN Platform+ program, the National STEM Consortium academic certificate in Electric Vehicle Technology is built on a 30-semester-credit model and includes two tracks: (1) Electric Vehicle Development, and (2) Electric Vehicle Service. Graduates are prepared for product development positions in the automotive, communications, solar, wind turbine, and smart grid industries and service positions in the automotive industry.

Electronics-Avionics (CC BY)

This program prepares students for a career in electronics with a focus on aerospace avionics. Learn to design, build, repair, calibrate, and modify electrical components, circuitry, controls, and machinery such as industrial controls, transmitters, and antennas for aircraft.

Introduction to Electricity/Electronics (CC BY)

This course provides an introduction to fundamental concepts of the nature, production, and usage of electricity. A study of circuits with an emphasis on problem solving and component identification is also discussed. Please note that all course materials and content are provided in the IMS Common Cartridge (IMSCC) format.

Introduction to Electronic Principles (CC BY)

This introductory course is a survey of selected electrical and electronic concepts and lays the groundwork for future study in electronics. No previous electronics background is necessary, but adequate reading and writing skills are necessary and some knowledge of algebra is helpful. Topics to be covered include electrical units and quantities, electronic laws and circuit analysis, components and their function and the use of selected test equipment.

Textbooks

All About Circuits (Design Science License)

This free electrical engineering textbook provides a series of volumes covering electricity and electronics. The information provided is great for students, makers, and professionals who are looking to refresh or expand their knowledge in this field.

Digital Circuit Projects: An Overview of Digital Circuits Through Implementing Integrated Circuits (CC BY)

Digital circuits, often called Integrated Circuits or ICs, are the central building blocks of a Central Processing Unit (CPU). To understand how a computer works, it is essential to understand the digital circuits which make up the CPU. This text introduces the most important of these digital circuits; adders, decoders, multiplexers, D flip-flops, and simple state machines.

Electrical Engineering (CC BY-NC-SA)

Online electrical engineering textbook made available by LibreTexts.

Exploring Microcontrollers (CC BY-NC-SA)

A website looking at microcontrollers.

Public domain books relating to Instrumentation (Public domain)

Although these textbooks are quite old, and some of the techniques described therein obsolete, these texts hold much practical value to the modern technician and engineer of instrumentation.

Videos/Simulations

Electronics (CC BY-NC)

A collection of interactive learning objects that focus on concepts that cover a broad-based electromechanical program. Resources are divided into the following categories: AC Electronics, Automation, DC Electronics, Digital, Generators / Distribution, Hydraulics, Ladder / PLCs, Mechanical Drives, Mechanical Linkages, Electric Motors, Pneumatics, Process Control, Safety, Sensors, Solid State, Information and Communications Technologies, and Variable Speed Drives.

Engineering Technology: Electrical Motor Control Simulations (CC BY)

A collection of 3-D simulations demonstrating electrical motor control.

Types of Electric Motors (CC YouTube Licence)

A video describing the characteristics and advantages/disadvantages of several different types of motors. Although this video does not exhaustively cover all types of motor, it covers many of the most commonly encountered motors in industry and in home use.

More Resources

See also Electricity.

Mechanical Engineering

Courses

Intro to Motor Controls (CC BY)

Mechanical and electromagnetic control systems for both AC and DC systems will be studied. Ladder logic diagrams, starting and relay equipment used in control systems will be introduced.

Motor Controls (CC BY)

This course covers the following topics: Electrical Quantities, Electrical Tools, Electrical Test Instruments, Electrical Symbols and Diagrams, Control Logic, Alternating Current Motors and Transformers, Contractors and Magnetic Motor Starters, Control Devices, Timers, and Common Control Circuits.

Motors and Controls (CC BY)

This course contains materials to help the student to study, construct, test, and evaluate basic industrial control systems, including AC/DC motors, stepper motors, power sources, generators, tachometers, line diagrams and logic functions. Covers safety standards and preventive maintenance.

Images/GIFs

Animated Engines (Not an open licence, so read the Copyright Policy)

Here you'll find animated illustrations that explain the inner workings of a variety of steam, Stirling, and internal combustion engines.

Electronics (CC BY-NC)

A collection of interactive learning objects that focus on concepts that cover a broad-based electromechanical program. Resources are divided into the following categories: AC Electronics, Automation, DC Electronics, Digital, Generators / Distribution, Hydraulics, Ladder / PLCs, Mechanical Drives, Mechanical Linkages, Electric Motors, Pneumatics, Process Control, Safety, Sensors, Solid State, Information and Communications Technologies, and Variable Speed Drives.

Publications

Programmable Logic Controller (CC BY-NC-SA)

An open access peer-reviewed publication on programmable logic controllers. Each chapter is available for download as a PDF.

Thermodynamics / Thermal Power Plant

Simulations

Sim Labs for Thermodynamics and Thermal Power Plant Simulator (CC BY)

FINE ARTS

Fine Arts – General

Open Textbooks

Fine Arts Textbooks (Licences vary)

A collection of open textbooks related to topics in fine arts.

Art

Open Course

Art and Music Since 1945 (CC BY)

This open website is used for a course on Art and Music since 1945 offered at The Ohio State University. The website contains a collection of biographies of artists and musicians, a sample syllabus, and assignments. Its companion textbook is meant to be *A Quick and Dirty Guide to Art, Music, and Culture*, which is posted below.

Open Textbooks

A Quick and Dirty Guide to Art, Music, and Culture (CC BY)

An open textbook by The Ohio State University that discusses art and music in the context of popular culture. It is meant to work with the open course *Art and Music Since 1945*, which is posted above.

Websites

19th-Century France: A Visual Resource (Licence unspecified)

This site contains a collection of photographs and information about 19th-century French painting, architecture, fashion, and caricature.

Music

Open Course

Art and Music Since 1945 (CC BY)

This open website is used for a course on Art and Music since 1945 offered at The Ohio State University. The website contains a collection of biographies of artists and musicians, a sample syllabus, and assignments. Its companion textbook is meant to be *A Quick and Dirty Guide to Art, Music, and Culture*, which is posted below.

Open Textbooks

A Quick and Dirty Guide to Art, Music, and Culture (CC BY)

An open textbook by The Ohio State University that discusses art and music in the context of popular culture. It is meant to work with the open course *Art and Music Since 1945*, which is posted above.

Theatre

Open Textbooks

The Theatre of Shelley (CC BY-NC-ND)

A full-length study of Shelley's plays that covers Shelley's role as a playwright and dramatist and contains chapters on each of Shelley's dramatic works

Theatre and War: Notes from the Field (CC BY)

A book by Nandita Dinesh offering a description of her own experiences in conflict zones across the world to offer a theoretical and practical reflection on making theatre in times of war.

HEALTH AND MEDICAL

Health and Medical – General

Case Studies

Health Case Studies

Journals

Emerging Infectious Diseases, U.S. Government publication (public domain)

Environmental Health Perspectives, U.S. Government publication (public domain)

Preventing Chronic Disease, U.S. Government publication (public domain)

Open Textbooks

Health & Nursing Textbooks (Licences vary)

A collection of open textbooks related to the health sciences.

Medical LibreTexts Library (CC BY-NC-SA)

A collection of open textbooks, assignments, and other educational resources relating to topics in medicine.

Addiction

Journals

Addiction Science & Clinical Practice (vol. 1 through vol. 6), U.S. Government publication (public domain)

Mental Health, Dementia

Books

Dementia: Advances and Treatment (CC BY-NC-ND)

Courses

Living Well with Dementia

Nursing

Open Textbooks

Health Case Studies

CC BY-SA

Eight separate health case studies that align with the open textbooks *Clinical Procedures for Safer Patient Care* and *Anatomy and Physiology: OpenStax*.

Health and Nursing, College Open Textbooks

A list openly licensed textbooks relating to health and nursing.

Nutrition

Open Course

Nutrition 101 (CC BY)

An introductory nutrition course for fresh/sophomore undergraduate level. It assumes some basic science knowledge and it should be sufficient for most graduate or professional programs including nursing programs. Instructors are free to use all or any portion of the course and its resources.

Records

Medical Record Systems

Open MRS: Global open source enterprise electronic medical record system platform

Veterinary

Open Textbooks

Veterinary Histology (CC BY-NC)

This open textbook focuses on conveying the basic material required for understanding the microscopic anatomy to better understand the disease processes that they will learn later in the curriculum. Included is a basic overview of veterinary histology of commonly reviewed organ systems, with the goal of illustrating important concepts of cells, tissues, and organs in a manner that we hope is not only accessible to first-year veterinary students, but serves as a reference for clinical medicine and pathology.

LAW AND CRIMINAL JUSTICE

Criminal Justice

Resources

Courses, textbooks, and other resources (Houston Community College)

Environmental Law

Case Studies

The Enbridge Northern Gateway Pipelines: Reconciling interests

First Nations

Case Studies

The Enbridge Northern Gateway Pipelines: Reconciling interests

Law – General

Open Textbooks

Law Textbooks (Licences vary)

A collection of law open textbooks.

American Law

Websites

O Say Can You See: Early Washington, D.C., Law & Family (CC BY-NC-SA)

This project explores multigenerational black, white, and mixed family networks in early Washington, D.C., by collecting, digitizing, making accessible, and analyzing thousands of case files from the Circuit Court for the District of Columbia, Maryland state courts, and the U.S. Supreme Court.

LIBERAL ARTS AND THE HUMANITIES

Humanities – General

Open Textbooks

Humanities LibreTexts Library (CC BY-NC-SA)

A collection of open textbooks, assignments, and other educational resources related to engineering.

Repositories

Humanities Commons: CORE (Open access, licences vary)

A humanities repository for openly licensed articles, monographs, course materials, white papers, conference papers, code, digital projects, and more.

Art History

19th-Century France: A Visual Resource (Licence unspecified)

This site contains a collection of photographs and information about 19th-century French painting, architecture, fashion, and caricature.

Verdi in Victorian London (CC BY)

English

Collections

Eighteenth Century Collections Online (CC 0)

A collection of over 25,000 XML/SGML encoded electronic text editions of early print books produced by The Text Creation Partnership. They transcribe and mark up the text from the millions of page images in ProQuest's Early English Books Online, Gale Cengage's Eighteenth Century Collections Online, and Readex's Evans Early American Imprints.

The Victorian Web (Licences vary)

A collection of primary and secondary materials (books, articles, images) in British Victorian economics, literature, philosophy, political and social history, science, technology, and visual arts. Although the site concentrates on Great Britain in the age of Victoria (1837-1901), it includes much material before and after those years, particularly in sculpture and architecture, and the site also has a good deal of comparative material.

Open Textbooks

Developmental English (CC BY)

Students learn proficiency in the reading and writing connection, the writing process, writing effective paragraphs, prewriting strategies, organizing and outlining, parts of speech, sentence skills, basic research skills, creating a draft, revision strategies, proofreading and editing strategies.

English Composition 1 (CC BY)

Students learn the writing process and prewriting, grammar for parts of speech, punctuation and sentences, preparing to write, the first draft, revising, editing, and proofreading, narrative, comparison/contrast, and argumentative modes, and reading and research.

English & Composition Textbooks (Licences vary)

A collection of open textbooks on topics in English and composition.

Fronts of Modernity: The 20th-Century Collections at the University of Victoria Libraries [PDF] (CC BY-NC-ND)

This book outlines 20th-century collections held at the University of Victoria. For more information, read the book review.

Literature Textbooks (Licences vary)

A collection of open textbooks on topics in English-language literature.

Tools

Open Modernisms Anthology Builder (CC BY)

An online platform that allows instructors to build custom anthologies of out-of-copyright primary materials for the period 1850–1950.

Websites

The Nature of Writing (CC BY-NC-ND)

The Nature of Writing provides instructional videos, prose explanations, exercises, and sample assignments on topics like parts of speech, sentence structure, punctuation, mechanics, essay writing, citation, and more.

First Nations

Repository

Digital Atlas of Native American Intellectual Traditions (not openly licensed)

Gender Studies

Open Textbooks

The Transgender Archives: Foundations for the Future – 2nd Edition (University of Victoria)

Websites

Archives of Lesbian Oral Testimony

History

Articles

What is Open? History and Open Education Resources by Sean Kheraj (CC BY-NC-SA)

Open Textbooks

The American Yawp (CC BY-SA)

An open American history textbook designed for college-level history courses.

History Textbooks (Licences vary)

A collection of history open textbooks.

Keys to Understanding the Middle East (CC BY-SA)

This open textbook published by The Ohio State University is intended for readers who have never studied the Middle East, or who would like to improve their knowledge of the region. Chapters focus on the languages, cultural, religious and sectarian communities of the region, and certain turning points in history which are keys for understanding the region.

World History: Cultures, States, and Societies to 1500 (CC BY-SA)

An open textbook that introduces the history of humankind from prehistory to 1500. It covers such cultures, states, and societies as Ancient Mesopotamia, Ancient Israel, Dynastic Egypt, India's Classical Age, the Dynasties of China, Archaic Greece, the Roman Empire, Islam, Medieval Africa, the Americas, and the Khanates of Central Asia.

Repositories

OpenGLAM (CC0, CC BY, or CC BY-SA)

Collections from around the world that provide digital scans or photos on cultural heritage held by galleries, libraries, archives, and museums.

Trans-Atlantic Slave Trade Database (CC BY-NC)

The Trans-Atlantic Slave Trade Database has information on almost 36,000 slaving voyages that forcibly embarked over 10 million Africans for transport to the Americas between the sixteenth and nineteenth centuries. The site also links to a number of web resources.

Using Primary Sources (CC BY-NC-ND)

An archive-based open access e-textbook published by the University of Liverpool that provides students with an essential learning resource to study primary sources, comprising over 200,000 words and in excess of 200 original documents (photographs, maps, letters, audio recordings, diaries, pamphlets and newspapers) with 26 collections by leading academics in the field.

Seminar

Open History Seminar: Canadian History (CC BY-NC-SA) by Sean Kheraj and Tom Peace

This is a supplement to the open textbooks, *Canadian History: Pre-Confederation* and/or *Canadian History: Post-Confederation*.

Videos

Canadian History: Post-confederation: historian interviews (45 videos) (CC BY)

Canadian History: Pre-confederation: historian interviews (97 videos) (CC BY)

Websites

Active History (CC BY-NC-SA)

A website that connects the work of historians with the wider public and the importance of the past to current events.

Civil War Washington (CC BY-NC-SA)

Civil War Washington allows users to study, visualize, and theorize the complex changes in the city of Washington, DC between 1860 and 1865 through a collection of datasets, images, texts, and maps.

Histories of the National Mall (CC BY)

This site contains a collection of historical maps, a chronology of past events, short bios of significant individuals, and episodes in the Mall's history.

19th-Century France: A Visual Resource (Licence unspecified)

This site contains a collection of photographs and information about 19th-century French painting, architecture, fashion, and caricature.

NICHE Canada (Network in Canadian History & Environment) (CC BY-NC)

NiCHE: Network in Canadian History & Environment / Nouvelle initiative canadienne en histoire de l'environnement is a Canadian-based confederation of researchers and educators who work at the intersection of nature and history. They explore the historical context of environmental matters and communicate their findings to researchers, policymakers, and the public.

O Say Can You See: Early Washington, D.C., Law & Family (CC BY-NC-SA)

A site documenting the challenge to slavery and the quest for freedom in early Washington, D.C., by collecting, digitizing, making accessible, and analyzing freedom suits filed between 1800 and 1862, as well as tracking the multigenerational family networks they reveal.

Language and Philology

Assessment

Bilingual Language Profile (CC BY-NC-SA)

Open Textbooks

Languages & Communication (Licences vary)

A collection of textbooks on topics on language and communication.

Networks

Language OER Network (by COERLL, University of Texas)

Projects

Open Greek and Latin Project (CC BY-SA): The ultimate goal is to represent every source text produced in Classical Greek or Latin from antiquity through the present, including texts preserved in manuscript tradition as well as on inscriptions, papyri, ostraca and other written artifacts.

Open Persian Project (CC BY-SA): communication and collaboration among the world's leading traditions of classical scholarship, share resources and expertise.

Repositories

Humanities Commons (permissions vary)

Language: OER for specific languages

Collections

Languages & Communications Textbooks (Licences vary)

A collection of open textbooks including books on learning Chinese, French, and Spanish.

Resources by Language

Arabic

Arabic Voices

A web site designed for learners and teachers of Arabic seeking materials for listening comprehension. The site provides **listening materials and accompanying activities that are intended for the various levels of proficiency from Novice to Superior.**

Arabic Teaching Methods (CC BY-NC)

A website that aims to support professors teaching Arabic as a foreign/second language.

Cree

Cree: Language of the Plains / nēhiyawēwin: paskwāwi-pikiskwēwin (CC BY-NC-ND)

Cree: Language of the Plains is a comprehensive educational resource, offering a broad range of learning materials that is easily accessible to Cree language learners. This collection includes an updated and redesigned Cree language textbook, Cree language audio labs, and a Cree language workbook.

Czech

Reality Czech (CC BY-SA)

A Czech textbook and curriculum currently under development. Resources are expected to be completed by end of Summer 2018. In addition to a textbook, resources will include an in-class activity book, online grammar and cultural units, and printable homework exercises.

French

Les conversations mises à jour

A collection of authentic conversations in French that targets mostly intermediate and advanced learners of French. Each conversation highlights the shared experience of two native or near-native French speakers and provides both an oral history of that experience and a trove of cultural references.

Enhancing French Skills (CC BY-NC)

A website for intermediate learners of French, created for students in a three-hour semester course at the

University of Texas at Austin. Students expand their knowledge of the French language and francophone cultures and continue the development of their communicative abilities by practicing the four basic skills of speaking, listening, writing and reading.

Français interactif (CC BY)

An open textbook developed by the University of Texas at Austin for their first-year French program. The book helps you explore the French language and culture by following the lives of real UT students who participated in the UT Summer Program in Lyon, France.

French à la mode (CC BY-NC-ND)

This website has activities for French learners at the beginning and intermediate levels that are intended to be used in conjunction with any curriculum.

Le littéraire dans le quotidien (CC BY)

An open textbook offering a transdisciplinary approach to reading/writing at the first and second year levels of college French.

Tex's French Grammar (CC BY)

A user-friendly guide to French grammar that combines explanations with dialogues and cartoon images.

German

German Frame-semantic Online Lexicon (CC BY)

A German-English vocabulary resource that organizes words according to their meanings, rather than just alphabetically, provides detailed definitions and pointing out differences between seemingly similar German and English words, and includes a number of real example sentences for each word (from www.dwds.de) to show how it is used in context.

Hindi

Hindi in America Video Collection (CC BY)

A video collection of Hindi speakers answering questions about their experiences living in the United States.

K'iche'

Chqe'tamaj le qach'ab'al K'iche'! (CC BY)

This beginner-to-advanced level online course for K'iche', a Mayan language of Guatemala.

Mandarin

Gateway to Chinese (CC BY-NC)

This site offers a collection of free interactive language learning resources for beginning Mandarin Chinese. Students now have the option to practice pronunciation, vocabulary, grammar, listening, and reading skills at their own convenience.

Portuguese

Brazilpod (CC BY)

A collection of teaching materials created at the University of Texas at Austin for the study of Portuguese.

Spanish

Heritage Spanish (CC BY)

On online community created to help Spanish instructors share and find teaching resources.

Spanish Corpus Proficiency Level Training (CC BY-NC-ND)

Video recordings of Spanish learners of different levels answering several questions, a written transcript of what they say, and exercises that will guide you interactively to notice features about their talk, as well as answers to those exercises.

Spanish in Texas (CC BY)

The purpose of the Spanish in Texas project is to profile Spanish as it is spoken throughout Texas today and to provide open learning tools that allow students, teachers, and the general public to explore Spanish language variation. A central goal of the project is to encourage users to view local varieties of Spanish and their speakers as important resources for learning about language and culture.

Yorùbá

Yorùbá Yé Mi (CC BY-NC-ND)

An interactive, communicative, introductory, multi-media program intended to provide college/university students with basic listening, speaking, reading, and writing skills of language learning in Yorùbá. It exposes the learner not only to Yorùbá language in meaningful situations, but also to the culture of the Yorùbá-speaking people of South-western Nigeria.

Philosophy

Open Textbooks

Philosophy Open Textbooks (Licences vary)

A collection of open textbooks relating to topics in philosophy.

MATH AND STATS

Math

Open Textbooks

Linear Algebra: A Course for Physicists and Engineers (CC BY-NC-ND)

This open textbook is meant for courses on space and atmospheric science, remote sensing, geographic information systems, meteorology, climate and satellite communications at UN-affiliated regional centers, various applications of the formal theory are discussed as well. These include differential equations, statistics, optimization and some engineering-motivated problems in physics.

Mathematics LibreTexts Library (CC BY-NC-SA)

A collection of open textbooks, assignments, and other educational resources on the topic of mathematics.

Mathematics Textbooks (Licences vary)

A collection of mathematics open textbooks.

Repositories

Applied Math and Science Education Repository (AMBER) (Licences vary)

A collection of educational resources and services on topics related to applied math and science.

Tools

Comparison of MyOpenMath and WeBWork (CC BY)

A chart by Open Oregon Educational Resources comparing two open math platforms: MyOpenMath and WeBWork.

PhET Interactive Simulations (Open Source – CC BY)

The PhET Interactive Simulations project at the University of Colorado Boulder creates free interactive math and science simulations. The site is available in a number of languages.

Videos

Mathispower 4u Tutorials (CC BY-SA)

This site provides more than 6,000 free mini-lessons and example videos on different math topics.

Statistics

Open Textbooks

Statistics LibreTexts Library (CC BY-NC-SA)

A collection of open textbooks, assignments, and other educational resources on subjects related to statistics.

Statistics & Probability Textbooks (Licences vary)

A collection of open textbooks on topics relating to statistics and probability.

RELIGION AND RELIGIOUS STUDIES

Catholicism

Open Textbooks

The Seghers Collection: Old Books for a New World (University of Victoria)

SCIENCE

Repository

Applied Math and Science Education Repository (AMBER) [New Tab] – check each item for permissions

Sciences – General

Open Textbooks

General Sciences Textbooks (Licences vary)

A collection of open textbooks on different science-related topics.

Repositories

Applied Math and Science Education Repository (AMBER) (Licences vary)

A collection of educational resources and services on topics related to applied math and science.

Tools

PhET Interactive Simulations (Open Source – CC BY)

The PhET Interactive Simulations project at the University of Colorado Boulder creates free interactive math and science simulations. The site is available in a number of languages.

Anatomy

Collections

Anatomy Zone (Free but not openly licensed)

A collection of interactive question banks, flashcards (with 3D app), tutorials, and a 3D atlas.

Website

Anatomy of the Brain (CC BY-NC-SA)

This website includes photographs, diagrams, illustrations, video tutorials, MRI scans, and 3D reconstructions of functionally important parts of the human brain.

The Brain from Top to Bottom (Copyleft)

An interactive website about the human brain and behaviour.

Clinical Anatomy (CC BY-NC-SA)

Neuroanatomy (CC BY-NC-SA)

Astronomy

Courses

Introduction to Astronomy, MIT (CC BY-NC-SA)

Introduction to Astronomy, Saylor (CC BY)

Journals

Journal of Research of NIST, U.S. Government publication (public domain)

Images

Digital Diagrams for Astronomy (CC BY)

A collection of images created or adapted by Douglas College with a grant from BCcampus Open Education for the Astronomy: OpenStax textbook. Many of the images are available in several formats, with labelled and unlabelled versions to be used for assessment purposes.

Learning Tools

Stellarium (open source): planetarium for your computer

Teach Astronomy

Open Textbooks

General Astronomy, Wikibooks (CC BY-SA)

Biology

Open Textbooks

Biology and Genetics (Licences vary)

A collection of open textbooks on topics relating to biology and genetics.

Biology LibreTexts Library (CC BY-NC-SA)

A collection of open textbooks, assignments, and other educational resources on biology subjects.

Photos

Bioscience Image Library (Berkshire Community College)

Videos

Biology textbook (12 videos)

License: CC BY-NC-SA 3.0 US

Description:

Botany

Open Textbooks

Identifying Noxious Weeds of Ohio (CC BY)

Chemistry

Journals

Journal of Research of NIST, U.S. Government publication (public domain)

Open Textbooks

Chemistry LibreTexts (CC BY-NC-SA)

A collection of open textbooks, assignments, and other educational resources on chemistry subjects.

Chemistry Textbooks (Licences vary)

A collection of chemistry open textbooks.

Repositories

MERLOT Chemistry (licenses vary)

Open Chemistry, UCI (CC BY-SA unless otherwise noted): full curriculum of recorded lectures, courses, and ancillary materials

Videos

The following three training videos were produced by the University of Northern British Columbia (UNBC) with an OER Grant from BCcampus Open Education. These items are released with a CC BY licence.

1. pH meter and electro-conductivity (EC) meter training
2. **Ion Chromatography Training**
3. **Microwave Digester Training**

Environment

Open Textbooks

The Environment in the Age of the Internet (CC BY)

How do we talk about the environment? Does this communication reveal and construct meaning? Is the environment expressed and foregrounded in the new landscape of digital media? An interdisciplinary collection that draws together research and answers from media and communication studies, social sciences, modern history, and folklore studies.

Environmental Science Bites (CC BY-NC)

An environmental open textbook written by undergraduate students at OSU.

Forests and Food: Addressing Hunger and Nutrition Across Sustainable Landscapes (CC BY)

This volume provides evidence and insights about the potential of forests to reducing global hunger and malnutrition, exploring the different roles of landscapes, and the governance approaches that are required for the equitable delivery of these benefits.

Geosciences LibreTexts Library (CC BY-NC-SA)

A collection of open textbooks, assignments, and other educational resources on the subject of geosciences.

What Works in Conservation 2018 (CC BY)

This book provides an assessment of the effectiveness of 1277 conservation interventions based on summarized scientific evidence.

Forestry

Case Studies

UBC Open Case Studies: Click on “Forestry” in top toolbar.

Open Textbooks

Geosciences LibreTexts Library (CC BY-NC-SA)

A collection of open textbooks, assignments, and other educational resources on the subject of geosciences.

Geography

Information Services

SOILx (CC BY)

An information service for soil types and soil sites across Canada. **SOILx** enables you to search spatially its database of soil sites and view detailed information on each one.

Open Textbooks

Geosciences LibreTexts Library (CC BY-NC-SA)

A collection of open textbooks, assignments, and other educational resources on the subject of geosciences.

Maps

OpenStreetMap (CC BY-SA license)

Geology

Information Services

SOILx (CC BY)

An information service for soil types and soil sites across Canada. **SOILx** enables you to search spatially its database of soil sites and view detailed information on each one.

Maps

U.S. Geological Survey (Public domain)

Real-time or near real-time data and information on current conditions and earth observations.

Open Textbooks

Geosciences LibreTexts Library (CC BY-NC-SA)

A collection of open textbooks, assignments, and other educational resources on the subject of geosciences.

Introduction to Geology (CC BY-NC-SA)

An open textbook for introductory geology courses created by instructors at Salt Lake Community College.

Physics

Journals

Journal of Research of NIST, U.S. Government publication (public domain)

Open Textbooks

Linear Algebra: A Course for Physicists and Engineers (CC BY-NC-ND)

This open textbook is meant for courses on space and atmospheric science, remote sensing, geographic information systems, meteorology, climate and satellite communications at UN-affiliated regional centers, various applications of the formal theory are discussed as well. These include differential equations, statistics, optimization and some engineering-motivated problems in physics.

Physics LibreTexts Library (CC BY-NC-SA)

A collection of open textbooks, assignments, and other educational resources on subjects related to physics.

Physics Textbooks (Licences vary)

A collection of physics open textbooks.

Simulations

PhET Simulations (CC BY)

PhET provides fun, free, interactive, research-based science and mathematics simulations. We extensively test and evaluate each simulation to ensure educational effectiveness. These tests include student interviews and observation of simulation use in classrooms. The simulations are written in Java, Flash or HTML5, and can be run online or downloaded to your computer.

SOCIAL SCIENCES

Social Sciences – General

Open Textbooks

Social Science LibreTexts Library (CC BY-NC-SA)

A collection of open textbooks, assignments, and other educational resources on topics in the social sciences.

Anthropology and Archaeology

Open Textbooks

Anthropology & Archaeology (Licences vary)

A collection of anthropology and archaeology open textbooks.

SFU Archaeology Press (CC BY-ND)

An open-access publisher publishing monographs on subjects in archaeology.

Gender, Race, Sexuality, Social Justice

Case Studies

UBC Open Case Studies: Click on “Gender Race Sexuality & Social Justice” in top toolbar.

Repositories

Humanities Commons (permissions vary)

Psychology

Ancillary Resources

Scientific Reasoning MCAT Modules (CC BY)

A series of eight modules developed by Oregon State University and designed to be used by instructors teaching introductory psychology courses to teach scientific reasoning skills.

Blogs

R Psychologist (CC BY)

A blog about R, statistics, psychology, open science, and data visualization.

Open Courses

Lifespan Development (CC BY)

An open textbook covering human development over a lifespan with accompanying lecture notes, power point slides, and other resources.

Open Textbooks

Noba Project (CC BY-NC-SA)

A collection of psychology open textbooks. The Noba platform also allows you to customize textbooks or build your own. Many modules include instructor manuals, PowerPoint presentations, and test banks.

Psychology Textbooks (Licences vary)

A collection of psychology open textbooks.

Repository

Teach Psych Science (CC BY)

A website devoted to peer-reviewed resources for teaching research, statistics, and writing for psychological science.

Websites

Abnormal Psychology (CC BY-NC-SA)

A wiki on abnormal psychology developed by Dr. Caleb Lack and his students at the University of Central Oklahoma and Arkansas Tech University.

Social Studies

Open Textbooks

Keys to Understanding the Middle East (CC BY-SA)

Sociology

Open Textbooks

Sociology Textbooks (Licences vary)

A collection of sociology open textbooks.

Political Science

Case Studies

Global Climate Justice

Open Textbooks

Keys to Understanding the Middle East (CC BY-SA)

This open textbook published by The Ohio State University is intended for readers who have never studied the Middle East, or who would like to improve their knowledge of the region. Chapters focus on the languages, cultural, religious and sectarian communities of the region, and certain turning points in history which are keys for understanding the region.

Political Science Textbooks (Licences vary)

A collection of political science open textbooks.

TRADES

Automotive

Open Course

Diesel Drivetrain Systems (CC BY)

This course covers theory and operation of all drive system components including manual transmissions, automatic transmissions, clutches, drivelines and differentials. Other studies include component troubleshooting, inspecting, service, repair operations, removal, replacement and preventive maintenance practices.

Common Core

Videos

Trades Access Common Core, instructional (35 videos)

Electricity

Videos

The Electric Academy – CC BY licence

Sometimes electrical theory can come across as confusing. The videos you find here will be simple and to the point. This series of dozens of easy-to-understand videos have been created by Chad Flinn, a trades instructor, at the British Columbia Institute of Technology in Vancouver, B.C., Canada.

Mechanics

Open Course

Drive Systems (CC BY)

Topics covered are the following: Introduction to Mechanical Drive Systems, Key Fasteners, Select Mechanical Drive System Measurements, Power Transmission Systems, V-Belt Drives, Chain Drives, Spur Gear Drives, Multiple Shaft Drives.

UPGRADING

Adult Basic Education

Computer Science 20 (CC BY SA)

This textbook was written to support the teaching of Computer Science 20 in Saskatchewan. This book is meant to provide students with an interactive experience as they learn to program. They can read the text, watch videos, and write and execute Python code.

English as a Second Language

Course

Project I-DEA

Practice Exercises

Study Zone (University of Victoria)

University Success

Textbooks

College Success Reading and Learning Objectives (CC BY)

Students first discover what they want from their education, then build a plan to get there. This content takes students through the steps to successfully navigate their journey in higher education. Topics include planning for success, choosing a career path, setting and attaining goals, understanding financial management, developing critical thinking skills, making healthy choices, using effective communication, managing time, developing learning strategies, developing meaningful relationships.

A Different Road to College: A Guide For Transitioning To College For Non-traditional Students (CC BY)

This book is designed to introduce students to the contextual issues of college in the United States. Non-traditional students have an ever-growing presence on college campuses, especially community colleges. This open educational resource is designed to engage students in seeing themselves as college students and understanding the complexity of what that means to their lives.

Videos

University Skills Video Series (CC BY)

The KPU Learning Centre's YouTube channel with video collections on writing skills, time management, reading skills, and critical thinking.

Workshops

Reading Texts: An Interactive Workshop (CC BY-NC-SA)

Reading Texts: An Interactive Workshop guides you through a series of videos and exercises to help you read efficiently and purposefully. The workshop as a part of the Academic Skills Workshop series developed by the KPU Learning Centres.

NON-ENGLISH OER

Le Français (French)

Open Textbooks

L'économie (CC BY-NC-ND)

An open textbook for an introduction-to-economics class.

Repositories

Floss Manuals (CC BY-SA)

Openly licensed booklets, course materials, and manuals for free software.

Websites

Le cerveau à tous les niveaux (Copyleft)

Un site web interactif sur le cerveau et les comportements humains. (The brain from top to bottom.)

Nederlands (Dutch)

Repositories

Floss Manuals (CC BY-SA)

Openly licensed booklets, course materials, and manuals for free software.

فارسی (Farsi)

Repositories

Floss Manuals (CC BY-SA)

Openly licensed booklets, course materials, and manuals for free software.

Español (Spanish)

Websites

Acceso (CC BY-NC-ND)

Acceso is intended as a complete, interactive curriculum for intermediate-level learners of Spanish.

Audio

Sounds

Free Sound

Courses

Repositories

MIT Open Courseware (CC BY-NC-SA)

Open Course Library (CC BY)

Saylor Academy (CC BY)

Photos

Pexels (CC0)

Unsplash (free to use and change)

Publishers

Publishers of OA Books [New Tab]

Repositories

https://mason.deepwebaccess.com/mason__MasonLibrariesOpenEducationResources_5f4/desktop/en/search.html

University of Hawai'i directory of repositories [New Tab]

Research

UBC cIRcle: <http://circle.ubc.ca/> is the University of British Columbia's digital repository for research and teaching materials created by the UBC community and its partners.

- the license (see “#3: Grant of License”) corresponds to the Attribution-NonCommercial-NoDerivs, or CC BY-NC-ND Creative Commons license

Syllabi

[Open Syllabus Explorer](#)

Tools, Software, Systems

Conference Planning

Open Conference Systems (GNU General Public and CC BY licenses): conference planning tool that allows you to create a conference website, compose and send a call for papers, electronically accept paper and abstract submissions, allow paper submitters to edit their work, post conference proceedings and papers in a searchable format, post original data sets, register participants, integrate post-conference online discussions.

Publishing

Open Journal Systems (GNU General Public and CC BY licenses): a journal management and publishing system.

Open Monograph Press (GNU General Public and CC BY licenses): open source software platform for managing the editorial workflow required to see monographs, edited volumes and, scholarly editions through internal and external review, editing, cataloguing, production, and publication. OMP can operate, as well, as a press website with catalog, distribution, and sales capacities.

Testing and Assessment

Open Assessments

Videos

Pexels Videos (CC0)

Versioning History

This page provides a record of changes made to this guide. Each set of edits is acknowledged with a 0.1 increase in the version number. The exported files for this toolkit reflect the most recent version.

If you find an error in this toolkit, please fill out the Report an Open Textbook Error form. If you know of OER that we should add, let us know here: Suggestion for the Collection. Just add a clarifying note that your suggestion is for the OER by *Discipline Guide*.

Version	Date	Change	Affected Web Page
1.0	February 20, 2018	Guide added as an open creation to B.C. Open Textbook Collection.	
1.1	June 6, 2018	<ul style="list-style-type: none"> Organized content in each chapter by type of resource Providing standardized information 	Multiple
1.2	August 2, 2018	New chapter added with resources.	University Success
1.3	September 18, 2018	New resources added.	Computer Science – General Electricity English University Success
1.4	September 24, 2018	New chapter added on Electrical Engineering. A number of new resources added.	Engineering – General New chapter: Electrical Engineering
1.5	September 25, 2018	Two new collections added.	English
1.6	September 27, 2018	Two new chapters added. Multiple new resources added.	New chapters: Automotive, Mechanics, Mechanical Engineering, and Computer Engineering. Chapters with new resources: Electrical Engineering, Engineering – General, Physics, and Multidisciplinary. Updated the About This Guide page to reorganize the information, add headings, and add information on the do-a-thon.