

Bachelor of Technology and Diploma in Mechanical Engineering

We are pleased to provide a curated list of open educational resources for the B. Tech and Diploma in Mechanical Engineering Programs. These are only for the purpose of additional readings and support classroom interactions.

Basic Electrical Engineering

Johnson, D. (2014). *Fundamentals of electrical engineering*. OpenStax CNX.

<https://www.ece.rice.edu/~dhj/courses/elec241/coll0040.pdf>. License: CC BY.

McLaughlin, D. J., & Howe, W. C. (2025). *Applied electrical engineering fundamentals*. University of Massachusetts Amherst Libraries.

<https://openbooks.library.umass.edu/funee/>. License: CC BY.

Engineering Graphics and Design

Dell'Acqua, E. C., & Mohammadi, J. (2025). *Introduction to engineering drawing and design*. Illinois Institute of Technology. Engineering LibreTexts.

<https://carli.commons.libretexts.org/book/eng-116887>. License: CC BY.

Ford, M. (n.d.). *Engineering graphics and design*. Pressbooks.

<https://uw.pressbooks.pub/enggraphics/front-matter/introduction/>. License: CC BY-NC-SA.

Manufacturing Practices

Virasak, L. (2019). *Manufacturing processes 4–5*. Open Oregon Educational Resources. Open Textbook. <https://openoregon.pressbooks.pub/manufacturingprocesses45/>. License: CC BY.

Basic Electronics

Kardam, N. (2024). *Introduction to microcontrollers*. Open WA, Lake Washington Institute of Technology. OER Commons. <https://openwa.pressbooks.pub/nehakardam10/>. License: CC BY.

Pytel, J. (2020). *Basic electronics 1 (Basic electricity and electronics 1)*. Open Oregon Educational Resources. <https://oercommons.org/courses/basic-electronics-1-by-jim-pytel>. License: CC BY-NC-SA.

Solid Mechanics

Borri, C., Betti, M., & Marino, E. (2008). *Lectures on solid mechanics*. Firenze University Press. <https://library.oapen.org/handle/20.500.12657/54835>. License: CC BY.

Fluid Mechanics

Liburdy, J. (2021). *Intermediate fluid mechanics* (1st ed.). Oregon State University. <https://open.oregonstate.edu/intermediate-fluid-mechanics/>. License: CC BY-NC-SA 4.0.

Ahmari, H., & Kabir, S. M. I. (2019). *Applied fluid mechanics lab manual*. Mavs Open Press.
<https://uta.pressbooks.pub/appliedfluidmechanics/>. License: CC BY 4.0.

Building Materials and Construction

Forehand, L. (n.d.). *Building construction and materials: An open educational resource textbook*. Pressbooks. <https://lbcc.pressbooks.pub/buildingconstruction/>. License: CC BY-NC-SA.

Messner, J. (2022). *Fundamentals of building project management*. Penn State University Pressbooks. <https://psu.pb.unizin.org/buildingprojectmanagement/>. License: CC BY-NC-SA 4.0.

Rutherford, C. (2018). *Building maintenance & construction: Tools and maintenance tasks (Interactive)*. Pressbooks. <https://pressbooks.oer.hawaii.edu/buildingmaint/>. License: CC BY.

Structural Analysis

Abdalla, M. (2014). *Advanced structural analysis*. Delft University of Technology OpenCourseWare. <https://ocw.tudelft.nl/courses/advanced-structural-analysis/>. License: CC BY.

Udoeyo, F. F. (2019). *Structural analysis*. Temple University Press.
<https://oercommons.org/courses/structural-analysis>. License: CC BY.

Zhu, F. (n.d.). 4.6 *Structural analysis*. In *A guide to CubeSat mission and bus design* (1st ed.). Pressbooks.
<https://pressbooks-dev.oer.hawaii.edu/epet302/chapter/4-6-structural-analysis/>. License: CC BY.

Hydraulics & Hydraulics Machinery

OpenStax. (n.d.). *University Physics Volume 1: Pascal's principle and hydraulics*. In *University Physics Volume 1*. OpenStax CNX.
<https://courses.lumenlearning.com/suny-osuniversityphysics/chapter/14-3-pascals-principle-and-hydraulics/>. License: CC BY.

Pytel, J. (2016). *Hydraulics*. Open Oregon Educational Resources, Columbia Gorge Community College. Pressbooks. <https://openoregon.pressbooks.pub/hydraulics/>. License: CC BY.

Geotechnical Engineering

Kouretzis, G. (2025). *Fundamentals of foundation engineering and their applications* (2nd ed.). University of Newcastle.
<https://newcastle.pressbooks.pub/fundamentals-of-foundation-engineering/>. License: CC BY 4.0.

Surveying

Stack, X. (2021). *Introduction to land surveying*. College of the Canyons. Open Resources Publication.
https://drive.google.com/drive/folders/1EMB-SFa_RzGatxdEA6COhcNZ-WCYFvnE. License: CC BY.

Tiberius, C., van der Marel, H., Reudink, R., & van Leijen, F. (2022). *Surveying and mapping*. TU Delft OPEN Publishing. <https://books.open.tudelft.nl/home/catalog/book/163>. License: CC BY.

Environmental Engineering

Antonelli, M., & Della Vecchia, G. (Eds.). (2022). *Civil and environmental engineering for the sustainable development goals: Emerging issues*. Springer. <https://doi.org/10.1007/978-3-030-99593-5>. License: CC BY.

Engineering Geology & Rock Mechanics

TU Delft OpenCourseWare. (n.d.). *Principles of rock mechanics*. <https://ocw.tudelft.nl/courses/principles-of-rock-mechanics/>. License: CC BY-NC-SA 4.0.

Structural Design

Abdalla, M. (2014). *Advanced structural analysis*. Delft University of Technology OpenCourseWare. <https://oercommons.org/courses/advanced-structural-analysis>. License: CC BY-NC-SA.

Earthquake Engineering and Disaster Management

Nyman, M. (2013). *Earthquake case studies: Scientific details and societal impacts*. Science Education Resource Center (SERC), Carleton College. <https://serc.carleton.edu/integrate/workshops/envirojustice2013/activities/70833.html>. License: CC BY-NC-SA.

Water Resources Engineering

Loucks, D. P., & van Beek, E. (2017). *Water resource systems planning and management: An introduction to methods, models, and applications*. Springer. <https://link.springer.com/book/10.1007/978-3-319-44234-1>. License: CC BY-NC 4.0.

Construction Engineering & Management

Messner, J. (2022). *Fundamentals of building construction management*. The Pennsylvania State University. <https://psu.pb.unizin.org/buildingconstructionmanagement/>. License: CC BY-NC-SA 4.0.

Engineering Economics, Estimation & Costing

Schmid, B., & Vanderby, S. (n.d.). *Engineering economics: A Canadian text*. OpenPress.USask.Ca. <https://saskoer.ca/engecon/>. License: CC BY 4.0.