

Bachelor of Technology and Diploma in Civil Engineering

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

Engineering Graphics and Design

Alfano, K. (2025). *Introduction to engineering design: A conceptual overview*. Maize Books.

OER Commons. <https://www.fulcrum.org/concern/monographs/hd76s349x>. License: CC BY-NC-SA.

Anonymous. (2026). *Engineering design graphics*. EngineeringTechnology.org.

<https://engineeringtechnology.org/engineering-graphics/>. License: CC BY.

Davis, F., Baumbach, W., Hasso Plattner Institute of Design at Stanford, Both, T., & Roumani, N. (2024). *Introduction to engineering design*. OER Commons.

<https://viva.pressbooks.pub/introegrdesign/>. License: CC BY.

Ford, M. (n.d.). *Engineering graphics and design*. University of Washington Libraries.

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

Workshop/Manufacturing Practices

Barnes, J. E., & Simpson, T. E. (2025). *Additive manufacturing essentials*. OpenStax. OER

Commons. <https://openstax.org/details/books/additive-manufacturing-essentials>. License: CC BY.

Virasak, L. (2019). *Manufacturing processes 4–5*. Open Oregon Educational Resources. OER

Commons. <https://openoregon.pressbooks.pub/manufacturingprocesses45/>. License: CC BY.

Basic Electronics

Montagne, A. J. M. (2023). *Structured electronics design: A conceptual approach to amplifier design*. TU Delft OPEN Books. Open Textbook Library.

<https://books.open.tudelft.nl/home/catalog/book/162>. License: CC BY.

Pytel, J. (2019). *Electrical circuit analysis 3*. Open Oregon Educational Resources.

<https://openoregon.pressbooks.pub/electronics3/>. License: CC BY-NC-SA.

Pytel, J. (2020). *Electrical circuit analysis 1*. Open Oregon Educational Resources.

<https://openoregon.pressbooks.pub/electronics1/>. License: CC BY-NC-SA.

Fluid Mechanics

Ahmari, H., & Kabir, S. M. I. (2019). *Applied fluid mechanics lab manual*. Mavs Open Press.

<https://uta.pressbooks.pub/appliedfluidmechanics/>. License: CC BY.

Bar-Meir, G. (2025). *Basics of fluid mechanics* (Version 0.7.5). Potto Project. Open Textbook Library. <https://zenodo.org/records/17328511>. License: CC BY.

Liburdy, J. (2021). *Intermediate fluid mechanics*. Oregon State University.

<https://open.oregonstate.edu/intermediate-fluid-mechanics/>. License: CC BY.

Building Materials and Construction

- Coey, B. (2024). *F-I materials*. BCcampus. OER Commons.
<https://pressbooks.bccampus.ca/materials/>. License: CC BY.
- Forehand, L. (2021). *Building construction and materials: An open educational resource textbook*. Oregon State University. Pressbooks.
<https://lbcc.pressbooks.pub/buildingconstruction/>. License: CC BY-NC-SA.
- Messner, J. (2022). *Fundamentals of building construction management*. The Pennsylvania State University. <https://psu.pb.unizin.org/buildingconstructionmanagement/>. License: CC BY-NC-SA.

Structural Analysis

- Udoeyo, F. F. (2020). *Structural analysis*. North Broad Press. OER Commons.
<https://temple.manifoldapp.org/projects/structural-analysis>. License: CC BY-NC-ND.

Hydraulics & Hydraulics Machinery

- OpenStax CNX. (n.d.). *Pascal's principle and hydraulics*. In *University Physics Volume 1* (Section 14.3). Lumen Learning. OpenStax.
<https://courses.lumenlearning.com/suny-osuniversityphysics/chapter/14-3-pascals-principle-and-hydraulics/>. License: CC BY.
- Pytel, J. (2019). *Hydraulics*. Open Oregon Educational Resources. OER Commons.
<https://openoregon.pressbooks.pub/hydraulics/>. License: CC BY-NC.
- Rapp, C. (2024). *Hydraulics in civil engineering: A course with experiments and open-source codes*. Springer Nature. <https://library.oapen.org/handle/20.500.12657/90899>. 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.

Surveying

- Tiberius, C., et al. (2021). *Surveying and mapping*. TU Delft OPEN Publishing. Open Textbook Library. <https://books.open.tudelft.nl/home/catalog/view/163/281/530>. License: CC BY-NC-SA.

Environmental Engineering

- Antonelli, M. & Della Vecchia, G. (Eds.). (2022). *Civil and environmental engineering for the sustainable development goals: Emerging issues*. Springer Nature.
<https://library.oapen.org/bitstream/handle/20.500.12657/56999/978-3-030-99593-5.pdf?sequence=1&isAllowed=y>. License: CC BY
- Clark, K. A., Shaul, T. R., & Lower, B. H. (Eds.). (2019). *Environmental scienceBites*. Ohio State University. Pressbooks. OER Commons.
<https://ohiostate.pressbooks.pub/sciencebites/>. License: CC BY-NC

Engineering Geology & Rock Mechanics

- Deline, B., Harris, R., & Tefend, K. (2015). *Laboratory manual for introductory geology*. University of North Georgia Press. Open Textbook library. <https://open.umn.edu/opentextbooks/textbooks/laboratory-manual-for-introductory-geology>. License: CC BY-SA
- Earle, S. (2019). *Physical geology* (2nd ed.). BCcampus. <https://opentextbc.ca/physicalgeology2ed/> License: CC BY

Transportation Engineering

- Chen, P., Boyd, T., & Williams, K. (2024). *Multimodal transportation planning*. Mavs Open Press. OER Commons. <https://uta.pressbooks.pub/oertransportmultimodalplanning/>. License: CC BY-NC-SA.
- Pande, A., Ratto, P., & Farid, A. (2024). *Fundamentals of math, physics, and statistics for future transportation professionals*. Mavs Open Press. Open Textbook Library. <https://uta.pressbooks.pub/oert-mpsfundamentals/>. License: CC BY-NC-SA.
- Reyes-Sanchez, A., Sharifi-Asl, S., & Mozaffarian, L. (2024). *Green cities and transportation*. Mavs Open Press. OER Commons. <https://uta.pressbooks.pub/oertgreentransport/>. License: CC BY-NC-SA.

Structural Design

- Khodadadi, A. (2021). *Basic concepts of structural design for architecture students*. Portland State University Library. Open Textbook Library. <https://pdxscholar.library.pdx.edu/pdxopen/37/>. License: CC BY-NC.

Earthquake Engineering and Disaster Management

- Yeats, R. S. (2020). *Living with earthquakes in the Pacific Northwest: A survivor's guide*. Oregon State University. OER Commons. <https://open.oregonstate.education/earthquakes/>. License: CC BY-NC.

Water Resources Engineering

- Joslin, I. (2019). *Introduction to water systems technology*. OER Commons. <https://oercommons.org/courses/introduction-to-water-systems-technology>. License: CC BY.
- Van Koningsveld, M., Verheij, H., Taneja, P., & de Vriend, H. (2021). *Ports and waterways: Navigating the changing world*. TU Delft Open. Open Textbook Library. <https://books.open.tudelft.nl/home/catalog/book/204>. License: CC BY-NC-SA.

Construction Engineering & Management

- Alshareef, H. (2021). *Construction management from a modernized perspective*. OER Commons. <https://pressbooks.pub/husamalshareef/>. License: CC BY.

- Gurmu, A., Udawatta, N., Karunasena, G., & Taban, R. (2025). *Digital approaches to building measurement: Standards, tools and techniques*. Deakin University. Open Textbook Library. <https://deakin.pressbooks.pub/buildingmeasurementapproaches/>. License: CC BY-NC.
- Messner, J. (2022). *Fundamentals of building construction management*. Pennsylvania State University. OER Commons. <https://psu.pb.unizin.org/buildingconstructionmanagement/>. License: CC BY-NC.
- Rutherford, C. (2018). *Building maintenance & construction: Tools and maintenance tasks (interactive)*. University of Hawai‘i at Mānoa. Open Textbook Library. <https://pressbooks.oer.hawaii.edu/buildingmaint/>. License: CC BY.

Engineering Economics, Estimation & Costing

- Schmid, B., & Vanderby, S. (2020). *Engineering economics*. OpenPress, University of Saskatchewan. SaskOER. <https://www.saskoer.ca/engecon/>. License: CC BY.