The Institution of Engineering and Technology

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IET Library Reading List: Engineering Mathematics

These databases, ebooks and ejournals, available via the IET Virtual Library, focus on the topic of engineering mathematics, covering algorithms, conversions and equations.

theiet.org/virtual-library

Ebooks (provided by EBSCO)

Ugly's Electrical References, Charles R. Miller (2020). Offering the most pertinent, up-to-date information used by electricians, including: table change information, mathematical formulas, NEMA wiring configurations, ampacity and conduit fill information, and conversion tables.

Mathematics Formulae for Engineers and Scientists, Engineering Mathematics Group (2018). This book provides easy and quick access to mathematics formulae for those who use them in their everyday work. This book is a useful reference for students who study engineering, science and technology.

Mathematical Models and Algorithms for Power System Optimization - Modeling Technology for Practical Engineering Problems, Mingtian Fan, Zuping Zhang, and Chengmin Wang (2019). This book introduces generator maintenance scheduling, power flow, load frequency control and transient stability, using mathematic models including optimization, dynamic, differential and difference equations.

Electricity Cost Modeling Calculations, Monica Greer (2011). A "quick look up guide," this book places the relevant formulae and calculations at the reader's finger tips, providing the reader with real-world, practical examples of how to properly quantify the costs associated with providing electric services.

Simple Solutions to Energy Calculations, Richard Vaillencourt (2014). This book aims to simplify energy feasibility studies and associated calculations, sharing time saving methods and tips for complex energy calculations.

Applied Mathematical and Physical Formulas - Pocket Reference, Vukota Boljanovic (2007). This desktop reference shows how to solve every kind of math and physics problem and explains simply and easily how to find answers fast, learn key formulas and definitions.

Databases (provided by Knovel)

Access Knovel via the Database and eresource A-Z. Through Knovel, IET members can access:

Equations: Knovel Interactive Equations combines powerful, browser-based calculation software with a robust collection of hundreds of ready to use equation worksheets keyed to classic reference works and international standards to help engineers solve problems faster.

Property Search: Knovel's material property search engine finds numeric data hidden in handbooks, manuals, and databases. There are thousands of materials and substances and more than 100 properties to search.

Unit Convertor: Engineering unit converter tool featuring over a thousand built in units, multiple scientific notation systems and the ability to control significant digits.

Interested in learning how to use Knovel? Join one of our webinars

In September 2021, the library will be hosting 2 free webinars for IET members to learn how to access and use Knovel.

These will be held on the following dates:

- Tuesday, 14 September 2021, 11am-12pm BST (UTC+1)
- Thursday, 23 September 2021, 4pm-5pm BST (UTC+1).

To register your interest, or for more information, please contact the library.

Ejournals (provided by EBSCO)

Mathematical Programming. Provides information dealing with every theoretical, computational and applicational aspect of mathematical programming.

Mathematical Problems in Engineering. Publishes results of rigorous engineering research carried out using mathematical tools.

Applications of Mathematics. Presents research about applications of mathematical methods in various branches of science and engineering.

ZAMM - Journal of Applied Mathematics and Mechanics. Presents information on applied mathematics, mainly numerical mathematics and various applications of analysis, in particular numerical aspects of differential and integral equations.

Mathematics of Control, Signals and Systems (MCSS). Covers areas of mathematical system theory, control theory and signal processing.

Foundations of Computational Mathematics. Researches and surveys papers to better understand the connection between mathematics and computation.

Studies in applied mathematics. Explores the interplay between mathematics and the applied disciplines. Topics include propagation, equilibrium, stability, optimization, and discrete and random processes.

Journal of Applied Mathematics. Publishes research papers and review articles in all areas of applied, computational, and industrial mathematics.

Further resources from the IET

- Communities and Networks
- Factfiles
- IET Digital Library
- Technical Webinars

Help and contacts

If you need any assistance on using library collections and resources you can contact us via email at: libdesk@theiet.org. You can also discover more resources and support provided by the IET Library and Archives at our homepage.

IET members can access the Virtual Library via the single sign-on (SSO) service. If you are experiencing difficulties logging in via the SSO please contact the membership services team at membership@theiet.org.

Visit **theiet.org/virtual-library** to view more content.