

Category	Website Name	URL	Description	Access
Technical & Engineering References	MathWorks — MATLAB & Simulink	https://mathworks.com	Official MATLAB environment: full documentation, ready-made examples, and toolboxes for communications, signal processing, RF, and FPGA design	Subscription / University
	GNU Radio — Open Source SDR	https://www.gnuradio.org	Open-source software-defined radio (SDR) platform. A free alternative to MATLAB for hands-on communications experiments	Free
	DSP Guide — The Scientist's DSP Book	https://www.dspguide.com	A complete free e-book on digital signal processing with a practical approach. An excellent reference for instructors and students alike	Free
	rftools.io — RF Simulation in Browser	https://rftools.io/tools	14 free browser-based RF simulation tools: impedance matching, link budget, NEC2 antenna simulation, S-parameters — no installation required	Free
	All About Circuits	https://www.allaboutcircuits.com	Comprehensive engineering website: technical tutorials, calculators, engineering forum, and articles on electronics and digital communications	Free
	RF Cafe — RF & Microwave Engineering	https://www.rfcafe.com	Specialized reference for RF and microwave engineering: engineering tables, equations, RF calculators, and technical articles	Free
Simulation Tools	CircuitLab — Online Circuit Simulator	https://www.circuitlab.com	Browser-based electronic circuit simulator. Useful for illustrating fundamental concepts and drawing circuits interactively during lectures	Free
	Falstad Circuit Simulator	https://www.falstad.com/circuit	Open-source circuit simulator that runs directly in the browser and visualizes current flow — ideal for illustrative explanations in class	Free
	Wolfram Alpha — Engineering Calculations	https://www.wolframalpha.com	Computational engine that instantly solves engineering equations, Fourier transforms, signal analysis, and differential equations	Free
	Desmos — Interactive Graphing	https://www.desmos.com	Interactive graphing tool for functions and signals. Useful for demonstrating phase, frequency, and mathematical transform concepts	Free
	OpenEMS — Free 3D EM Simulator	https://openems.de	Open-source electromagnetic simulator (FDTD). Suitable for simulating antennas, microwave filters, and RF circuits	Free

Academic Search Engines	Google Scholar	https://scholar.google.com	The largest academic search engine: 200 million papers, citation tracking, and links to free versions. The first stop for any research	Free
	IEEE Xplore Digital Library	https://ieeexplore.ieee.org	The primary library for electrical engineering and communications research. Contains journal papers, conference proceedings, and IEEE standards	Subscription / Partial Free
	Semantic Scholar	https://semanticscholar.org	AI-powered research search engine that uncovers hidden connections between papers and intelligently displays citation impact	Free
	Scopus — Elsevier	https://scopus.com	The largest database of peer-reviewed scholarly literature. Provides h-index analysis, citation metrics, and journal rankings	Subscription
	Web of Science	https://webofscience.com	The reference database for high-impact scholarly articles. Used by universities to evaluate the research output of academics and departments	Subscription
	arXiv.org — EESS Section	https://arxiv.org/list/eess/recent	Free preprint archive for electrical engineering and systems science. Access the latest research immediately upon submission	Free
	ScienceDirect — Elsevier	https://sciencedirect.com	18 million research papers from Elsevier, including 1.4 million Open Access articles. A key reference in engineering and technology	Subscription / Partial Free
Free Access to Research Papers	Unpaywall — Open Access Finder	https://unpaywall.org	100% legal browser extension that automatically finds free versions of research papers. Covers 50–85% of all scholarly articles	Free / Legal
	CORE.ac.uk	https://core.ac.uk	Aggregates 136 million Open Access papers from university repositories worldwide. Provides direct PDF links in most cases	Free / Legal
	ResearchGate	https://researchgate.net	Academic network of 20 million researchers. Request papers directly from authors; many papers are available for free download	Free
	Academia.edu	https://academia.edu	Platform for researchers to share their papers with the academic community. Suitable for publishing instructors' work and following research	Partially Free
	DOAJ — Directory of Open Access Journals	https://doaj.org	Index of over 20,000 high-quality peer-reviewed Open Access journals. A reference for choosing the right journal for publication	Free / Legal

	Library Genesis (LibGen)	https://libgen.is	Large archive of technical and engineering books. Widely used in countries with limited access to academic subscriptions	Grey Area
International Standards & Organizations	IEEE.org	https://ieee.org	Official website of the world's largest engineering organization. Includes technical standards, engineering news, and specialized communities	Partially Free
	ITU — International Telecommunication Union	https://itu.int	UN-affiliated international telecommunications body. Publishes global communications standards including IMT-2020, 5G, and 6G	Partially Free
	3GPP — 3rd Generation Partnership Project	https://3gpp.org	The organization that defines mobile network standards (LTE, 5G NR, 6G). All technical specifications are freely available for download	Free
	ETSI — European Telecommunications Standards Institute	https://etsi.org	European telecommunications standards body. Publishes technical standards for Wi-Fi, Bluetooth, IoT, and fifth-generation networks	Free