



## Recommended Books, Journals, and Other Resources

### Listening

*Note: Exposure to both general and technical English leads to transfer of comprehension skills in both areas, so we recommend that you listen to a wide range of content.*

Pronunciation work: use of on-line English dictionaries will help you become familiar with the expected pronunciation of a new word or expression. The site [www.dictionary.com](http://www.dictionary.com) focuses primarily on U.S.-generated pronunciation, and the Oxford Advanced English dictionary, which focuses on British pronunciation, incorporates technical vocabulary as well as specific features for practicing pronunciation.

Voice of America (VOA) is a general source for news and information, but the regular streaming of both radio and TV broadcasts help learners become adept at recognizing country-specific names, technical and general terms, and both formal and informal usages. VOA also has a site that allows you to hear how an English speaker pronounces names of individuals from non-English speaking countries, as rendered by the English alphabet: <https://pronounce.voanews.com>

U.S. Embassy: If you live near a capital or large city, investigate to see what kind of programs your U.S. Embassy has: many of the larger consulates have weekly lectures, discussion groups, and talks from subject matter experts and prominent scholars. These events are typically free and open to the public.

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### Reading

*Note: While there are few resources on how to “read like an engineer,” specifically, these resources will allow you to think about the ways that knowledge is gained systematically for engineering work (usually by reading and learning from colleagues).*

M. Al-Atabi, *Think Like an Engineer: Use Systematic Thinking to Solve Everyday Challenges & Unlock the Inherent Values in Them*. CreateSpace Independent Publishing Platform, 2014. ISBN 13: 978-9671306307.

G. Mudhavan, *Applied Minds: How Engineers Think*. W.W. Norton and Co, 2015. ISBN 13: 978-0393239874.

\* Winner of the IEEE-USA Award for Distinguished Literary Contributions Furthering Public Understanding and the Advancement of the Engineering Profession.

H. Petroski, *Invention by Design: How Engineers get from Thought to Thing*. Boston: Harvard UP, 1998. ISBN: 0674463684

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## Speaking

Note: The books below are helpful reference works. We also recommend you practice speaking in contexts outside of work, both to help with vocabulary expansion and to lessen any stress you might experience in speaking in front of colleagues. U.S. and British embassies overseas often have programs where you can interact with a native speaker of English, attend a discussion group, and more (see Listening).

A.S. Chilcutt and A.J. Brooks, *Engineered to Speak: Helping You Create and Deliver Engaging Technical Presentations*. Hoboken, NJ: Wiley-IEEE Press, 2019.

T. Nathans-Kelly and C.G. Nicometo, *Slide Rules: Design, Build, and Archive Presentations in the Engineering and Technical Fields*. Hoboken, NJ: Wiley-IEEE Press, 2014.

D. Sniderman, *Better Technical Speaking*. American Society of Mechanical Engineers. December 29, 2010. ASME. [Online]. Available: [https://www.asme.org/topics-resources/content/advancing-your-career-\(3\)](https://www.asme.org/topics-resources/content/advancing-your-career-(3)). Accessed December 2019.

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## Writing

R. Berger, *A Scientific Approach to Writing for Engineers and Scientists*. NY: Wiley-IEEE Press, 2014. ISBN-13: 978-1118832523

K. G. Budinski, *Engineer's Guide to Technical Writing*. Materials Park, OH: ASM International, 2001.

G. Graff and K. Birkenstein, *"They Say/ I Say": The Moves That Matter in Academic Writing*. NY: W. W. Norton and Co., 2016. ISBN-13: 978-0393617436.

\*Note: This book comes with two caveats: 1) The topic is academic writing, not on-the-job writing, but we provide it for those that may be heading down that path; 2) The authors point to MLA citation format, whereas science and technology usually don't use that system for referencing. Nevertheless, the guiding principles for how academic writing works are very rich.

S. Heard, *The Scientist's Guide to Writing: How to Write More Easily and Effectively Throughout Your Scientific Career*. Princeton, NJ: Princeton UP, 2016.

D. Kmiec and B. Longo, *The IEEE Guide to Writing in the Engineering and Technical Fields*. NY: Wiley-IEEE Press, 2017. ISBN-13: 978-1119070139

E.B. White and W. Strunk, *The Elements of Style*. (any edition).

\*Note: Now in its fourth edition, you can find this classic book in many places, both used and new. All editions are helpful. Recent editions have add-ons, such as workbooks.

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## Recommended Journals and Conference Proceedings

- *IEEE Transactions of the Professional Communication Society*
- *Technical Communication* (from the Society of Technical Communication)
- *Technical Communication Quarterly*
- *ASEE Conference Proceedings (American Society of Engineering Education)*
- *Journal of International Business Studies*



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## Basic Sentence Formula #1, enhanced

*A period goes between two complete sentences that include restrictive adjective clauses.*

Subject + *verb* + **object** *with a restrictive adjective clause.*

*predicate*

Subject + *verb* + **object** *with a restrictive adjective clause.*

*predicate*

### Examples

We *should use* motion **sensors** *that can estimate position change over time.*

The L3 vehicles *include* **designs** *that release the driver from monitoring the environment at all times.*

The technicians *have discovered* **inconsistencies** *on how these tests are run.* Density test procedures *should follow* **procedures** *that are standardized across departments.*

## Basic Sentence Formula #2 (See Lesson 3 Writing)

A core sentence can be modified with **restrictive** or **nonrestrictive** adjective clauses.  
Remember, the predicate is the *verb* (+ **object**).

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Subject, **nonrestrictive adjective clause**, *verb* (+ **object**). (nonrestrictive form)

or

Subject **restrictive clause** + *verb* (+ **object**). (restrictive form)

**Examples** (predicates not indicated below, in order to simplify the diagrams)

In-house tests, **which were just completed yesterday**, *confirm* **that the alloy material is strong enough for the weight-bearing columns.**

The ISO standards **that were published in 2013** *were* substantially *updated* in 2015.

The team **that is underperforming** *will be eliminated*, and the team **that is meeting its objectives** *will be retained*.

### Basic Sentence Formula #3 (See Lesson 4 Reading)

Qualifier, + core.

#### Examples

Usually, engineers understand advanced calculus.

Traditionally, lidar (light detection and ranging) technology works by sending out pulses of laser light and measuring how long it takes for the light pulses to bounce back.

Instead of the “old” lidar functionality, their invention pushes laser light continuously instead of in pulses and bypasses the need for algorithms.

By the end of the first couple of months, I was independently responsible for the software and tests covering the data link layer negotiation portion of the emulator.

Because the solar panels can rotate with the sun, we can optimize energy-gathering potential for almost any installation.

## Basic Sentence Formula #4 (see Lesson 7)

Core sentence; core sentence.

*or, stated another way,*

Subject + predicate; subject + predicate.

\*\*The key to this formula is the **semicolon**; it indicates a relationship between the two ideas expressed in the core sentences. \*\*

### Examples

Update the software overnight; you will avoid problems.

Sensors can detect light; they then convert that input to an electrical output.

A complete lack of light will trigger a fail state; the sensor will register 0 V as the output.

The value obtained by the sensor is mapped to a value between 0 and 255; that number then determines the duty cycle of a pulse-width modulated output, which controls LED brightness.

## Basic Sentence Formula #5 (see Lesson 7)

Core sentence; transition, core sentence.

*or, stated another way*

Subject + predicate; transition, subject + predicate.

**\*\*It is important to use a comma after the transition in this formula.\*\***

### Examples

Collecting devices for e-waste reclamation is a move in the right direction when it comes to sustainable practices; however, extracting the harmful or valuable materials from those devices is a complicated process.

Sustainability is a core value; however, costs are too high.

Logrify could continue to do business as usual; however, the opportunities to innovate the way we source manufacturing materials should not be overlooked.

Our proposed double action would promote Logrify as responsive to the community and to stakeholders; therefore, we hope to gain support from the LWRA committee.