

MERCHANT'S ENGLISH USAGE GUIDE FOR TECHNICAL WRITERS

2019

Table of Contents

Section 1: General Writing Guidelines	1
1.1 Voice	1
1.2 Parallelism	1
1.3 Balance	2
1.4 Coordination and Subordination	3
1.5 Diction	6
1.6 Absolutes and Hyperboles	9
1.7 Pronouns	9
1.8 Verb Tenses	13
1.9 American Versus British or Other Spelling Conventions	14
1.10 Confused or Misused Words	15
1.11 Vague Phrases	18
1.12 Common Incorrect Phrases	19
1.13 Dangling and Misplaced Modifiers	20
1.14 Subjunctive Mood	22
1.15 Integrating Quotations	22
1.16 Avoid Anthropomorphizing Machinery	23
1.17 Common Typing Errors: Misplacing Spaces	23
1.18 Paragraph and Sentence Construction	24
Section 2: Wordiness	25
Section 3: Abbreviations, Acronyms, Contractions, Initialisms, and Symbols	32
3.1 Definitions	32
3.2 General Usage Guidelines	33
3.3 Abbreviations	33
3.4 Contractions	35
3.5 Symbols	36
3.6 Punctuating Abbreviations	37
3.7 Indefinite Articles “A” and “An” Used With Abbreviations	39
Section 4: Numbers and Time	40
4.1 Spelling Out Numbers Versus Using Numerals	40
4.2 Punctuation	41
4.3 Time	42
4.4 Inclusive Numbers (Ranges)	43
Section 5: Punctuation	44
5.1 Commas	44
5.2 Spacing After Sentence Closing Periods	50
5.3 Hyphens, En Dashes, and Em Dashes	50
5.4 Parentheses	54
5.5 Punctuation in Equations and Formulae	55
5.6 Punctuation in Quotes	56
Section 6: Tips	57
Index	59

Section 1: General Writing Guidelines

Correct grammar, spelling, and usage are critical in technical writing. Even minor errors can make a document inefficient at best and ineffective at worst, leading to miscommunication and mistranslation. Such errors are unprofessional and reflect poorly on you and your employer. Check, double-check, and check again your grammar, spelling, and usage before submitting any technical document.

1.1 Voice

Active voice (the subject of the sentence is doing the action) is preferred over passive voice (the subject of the sentence is being acted upon). Active voice requires stronger words (for example, concrete nouns, powerful verbs, and vivid adjectives) and is often more concise and clear than passive voice. A passive voice sentence uses a “to be” verb followed by a past participle.

Passive: The crows were killed by the **virus**.

Active: The **virus** killed the crows.

Passive: Measurements of the speed of sound in muscle were obtained by **Ross et al.**

Active: **Ross et al.** measured the speed of sound in muscle.

However, not all sentences that use “to be” verbs are passive voice. For example, “I am holding the lab report” is in active voice. The passive form is “The lab report is being held by me.”

Grammar checkers do not catch all passive voice constructions. Sometimes passive voice is acceptable. Passive voice is used when the agent doing the action in a sentence is unknown. Passive voice is also used when the action of the sentence, or the recipient of the action, needs to be emphasized rather than the actor. For example, using passive voice in an error message avoids blaming the user. Also, the general philosophy for technical documents is that the work should report the results of a study, rather than the accomplishments of you or your team.

If you do use passive voice, try to keep the sentence short. Also, use passive voice ethically. For instance, a politician stating “In the last year, school budgets were slashed” is deceptive if it was the politician who slashed school budgets; by using passive voice in this instance, the politician hides the fact that he was at least partly responsible. Be ethical in your writing.

1.2 Parallelism

Parallelism is a similarity of grammatical form between two or more coordinated elements in a sentence. In other words, each word or phrase on one side of a conjunction should match each word or phrase on the other. These words or phrases can consist of nouns, adjectives, participles, prepositions, verbs, or adverbs; like other phrases, these phrases usually consist of more than one of these elements. In addition, you should relate elements not only of equal grammatical weight but also of equal logical importance. Two ideas of a similar nature can usually benefit from parallelism, while one of lesser importance can be set off by itself from the rest of the sentence.

Parallelism often aids the reader in understanding the author's meaning. For example, use parallelism to relate words and ideas in correlative conjunctions (Both...and, not only...but also, either...or, and neither...nor). A sentence lacking parallelism often becomes diffuse, unclear, or wordy; a sentence using parallelism helps a reader see a connection or contrast quickly.

In using parallelism remember to (1) include all the words dictated by usage and grammar on either side of a coordinating conjunction, (2) pair relative clauses beginning with "who" or "which" only with other "who" or "which" clauses, and (3) repeat words, if necessary, for clarity—but do so carefully as repetition can also make your writing dull or tedious.

Some examples of parallelism appear below:

Parallel Words: Recommended exercise includes running, swimming, and cycling.

The -ing words are parallel in structure and equal in importance.

Parallel Phrases: Exercise helps people to maintain healthy bodies and to handle mental pressures.

The phrases are parallel in structure and equal in importance.

Parallel Clauses: Many people begin to exercise because they want to look healthy, because they need to have stamina, and because they hope to live longer.

1.3 Balance

Use balance to emphasize a contrast between two ideas. Balance employs the same principle as parallelism—that grammatical elements on either side of a conjunction should be equal; however, it refers to clauses of a compound or complex sentence rather than to phrases or words.

Phrases are parallel but sentences are balanced. In a balanced sentence, the two main clauses are exactly (or nearly) parallel. Sometimes terms in the first clause are inverted in the second to emphasize the contrast between ideas. Often, balanced clauses are set apart with a semicolon to make the contrast between the two parts of the sentence even clearer. In any case, balanced sentences enable the reader to grasp more easily the similarities in content, function, and reason.

Consider using a balanced sentence to encapsulate the main idea or point of a paragraph or document section. Balance enforces a contrast, and a contrast can give clarity to your writing. Some examples of balanced sentences:

"You have seen how a man was made a slave; you shall see how a slave was made a man."—Frederick Douglass

"That's one small step for a man, one giant leap for mankind."—Neil Armstrong

"Those who do well in America should do well by America."—Anonymous

1.4 Coordination and Subordination

Make use of coordination and subordination where appropriate. Coordination conveys ideas of equal importance to the reader. Subordination, on the other hand, helps the writer show the reader the relationship between major and minor ideas. When the writer writes “Jon is an excellent carpenter, but his father is an excellent printer” or “Jon is an excellent carpenter; however, his father is an excellent printer,” the reader knows that Jon and his father are equally worthy of attention. When the writer writes, “Jon is an excellent carpenter although his father is an excellent printer,” the reader understands that in this sentence Jon is far more worthy of attention than is his father.

It is easy to see that coordinate sentences often do the work of main idea sentences and organizational, transitional sentences. On the other hand, subordinate sentences, clauses, and phrases are often valuable within body paragraphs and within sentences as the writer lays forth examples and evidence. To write well, the writer must employ the distinction between coordination and subordination. Major ideas should rarely appear in subordinate structures. Minor matters should not appear in coordinate structures.

But can you start a sentence with a conjunction? Yes, you can. This is a style issue rather than a grammar issue. One of the greatest writers on the Supreme Court, the late Justice Antonin Scalia, had no problems beginning a sentence with “and” or “but.” However, he stated he rarely began a sentence with “In addition” or “however.” This is because not only are “and” and “but” shorter but when used to start a sentence they do not need a comma, thus improving the flow of the sentence. He also thought that “however” should be after the word that it is intended to set apart: “It is not true, however.”¹ While you do not need to go as far as Justice Scalia, you need to use shorter words when possible and keep sentences beginning with a conjunction to a minimum.

1.4.1 Coordination: Conjunctions and Transitional Expressions

A conjunction connects words, phrases, or clauses. Coordinating conjunctions join two or more grammatically *equivalent* structures using one of the FANBOYS conjunctions:

- For
- and
- Nor
- But
- Or
- Yet
- So

Correlative conjunctions work in pairs, joining *equivalent* grammatical structures:

- Both ... and
- Either ... or
- Neither ... nor

¹ “Antonin Scalia.” *The Scribes Journal of Legal Writing*, 2010, p. 60.

- Not only ... but (also)
- Whether ... or

Adverbs modify (describes or limits) verbs, adjectives, other adverbs, and entire sentences; conjunctive adverbs modify by creating logical connections in meaning (coherence). Conjunctive adverbs can appear at the beginning, the middle, or the end of a sentence. If used as an introductory word for a sentence, set off the conjunctive adverb with a comma; if used to connect two independent clauses, use a period or semicolon before the conjunctive adverb, and a comma after. Below is a table of common conjunctive adverbs grouped by sense or usage.

Table 1. Conjunctive Adverbs

Sense or usage	Conjunctive adverbs
Addition	also, besides, furthermore, moreover
Comparison	likewise, similarly
Contrast	conversely, however, instead, nevertheless, nonetheless, otherwise, still, yet
Emphasis	certainly, indeed
Result/Summary	accordingly, consequently, hence, then, therefore, thus,
Time/Sequence	finally, meanwhile, next, subsequently, then

Subordinating conjunctions are used to show the relationship between a dependent clause and an independent clause. They usually answer some question about the independent clause: *how? when? why? or under what conditions?* The subordinate clause begins with a subordinating conjunction, but a clause can appear at the beginning, the middle, or the end of a sentence. When the subordinate clause comes before its independent clause, the clauses are usually separated by a comma. Below is a table of common subordinate conjunctions grouped by sense or usage.

Table 2. Subordinate Conjunctions

Sense or usage	Subordinate conjunctions
Cause/Reason	as, because
Choice	than, rather than, whether
Condition	if, even if, provided that, unless
Contrast	although, even though, though
Location	where, wherever
Result/Effect	in order that, so, so that, that
Time/Sequence	after, before, once, since, till, until ² , when, whenever, while

Transitional expressions are non-adverbial words and phrases that show relationships between ideas in sentences and paragraphs. Transitional words enhance the ease and flow of your writing and clarify your meaning by making the relationships between words, sentences, and paragraphs more precise. If used to connect two independent clauses, use a period or semicolon before the conjunctive adverb, and a comma after. Below is a table of common transitional expressions

² Till and until mean the same thing. The word “till” predates “until” by several centuries; “till” is not, therefore, an abbreviation for “until” which is why you do not use an apostrophe when spelling it.

grouped by sense or usage.

Table 3. Transitional Expressions

Sense or usage	Transitional expression
Addition	also, and, besides, equally important, finally, further, furthermore, in addition, next, then, too
Cause	because, for that reason, on account of, since
Concession	certainly, granted, naturally, of course, to be sure
Comparison	in comparison, in like manner, in the same way, likewise, similarly
Conclusion/Result	accordingly, consequently, due to this, therefore, thus
Contrast	at the same time, but, conversely, however, in contrast, nevertheless, nonetheless, on the contrary, on the other hand, still, yet
Exemplification	as an illustration, for example, for instance, to demonstrate, to illustrate, namely, specifically, thus
Location/Place/ Space Order	adjacent, at the side, here, in the back, in the background, in the distance, in the foreground, in the front, nearby, there
Sequence/Time Order	after, after a while, afterward, after which, at length, before, currently, during, earlier, eventually, first, second, third, finally, immediately, in the future, later, meanwhile, next, soon, subsequently, then
Summary	as a result, finally, hence, in brief, in conclusion, in short, in summary, on the whole

1.4.2 Subordination: Subordinate Phrases

Here are some examples of subordinate phrases.

- **Absolute phrase:** Pap having died on the boat, Huck stood to inherit the money.
(These phrases serve as nouns, adjectives, or adverbs and position themselves accordingly.)
- **Gerund phrases:** Living off others was Pap's mission in life.
(These phrases serve as noun substitutes and can appear in any position that a noun occupies in a sentence.)
- **Infinitive phrases:** To critique prejudice was Twain's primary intent.
(These phrases serve as nouns, adjectives, or adverbs and position themselves accordingly.)
- **Participial phrases:** Leaving (Having left) Jim behind, Huck went to ambush the Spaniards and the Arabs with Tom.
(These phrases serve as adjectives or adverbs and, as adjectives, come directly before or after the noun they describe.)
- **Prepositional phrases:** Pap shamelessly got drunk on the roof.
(These phrases serve as adjectives and adverbs and position themselves accordingly.)

1.4.3 Subordination: Noun Clauses, Relative Clauses, and Subordinate Conjunctions

Here are some examples of subordinate conjunctions, relative clauses, and noun clauses.

Noun clauses often begin with the word *that*.

- That he drinks entirely too much is common knowledge.
- Everyone knows that he drinks entirely too much. (Note that the noun clause can occupy any noun position in a sentence.)
- Morris Vernon states that Twain was the best writer of the age. (Note that indirect speech and paraphrasing, important skills in research, often make use of the noun clause.)

Relative Clauses begin clauses with relative pronouns such as *that*, *who*, *whom*, *which*, and *whose*.

- The woman who is shouting is my mother.
(Note that relative clauses may follow nouns in any position in the sentence.)
- She sees the man whom the police see.
(Note that “whom” has largely disappeared from English speech and is gradually disappearing from written forms. When in doubt, use “who.”)
- He went to the hardware which stocks rivets, bolts, and nails.
(Note that “who/whom” are used exclusively for people and “which” is for objects. “Which” should be used sparingly to refer to general or vague ideas.)
- She purchased a chair whose leg is broken.
(Note that “whose” refers to both people and things and conveys ownership.)
- I purchased a hat that had a wide brim.
(“That” refers to both people and things but is rarely used to refer to identified or named nouns. It seldom appears with commas.)

Subordinate conjunctions begin clauses with words such as *although*, *after*, *as*, *because*, *before*, *even though*, *if*, *since*, *till*, *until*, *unless*, *when*, or *while*.

- If you come, I would like to meet you at the airport.
- I will meet you at the airport when you come.

Note that these clauses may begin or end the sentence in which they are used.

1.5 Diction

Choosing the exact word or expression to convey your meaning is part of writing well. Using an appropriate word or phrase can often reduce wordiness. Sometimes, though, using plain-

language will mean choosing a few clearer words instead of one complicated word. Simple, precise words and phrases help make your writing more accessible, exact, and engaging. Plain-language will help decrease the cost of translating your document.

Your diction should be understandable, acceptable, and appropriate to a wide range of readers, even if the topic you are discussing is specialized. Always consider the audience to decide what tone is most appropriate; a letter to a friend will be more casual than a business letter or a research report. A dictionary is usually the best guide to what type of expression you are using. If you are doubtful about using a particular word or phrase, look it up. It often takes work to be precise. But remember Nathaniel Hawthorne's quote: "Easy reading is *damn hard writing*."

1.5.1 Sexist Language

Do not use sexist language or language that might be taken to cast a negative light on a person's race, gender, or sexual orientation. For example, do not use "man" or "men" to refer to all human beings—use "humankind" or "people" instead. Similarly, do not use "he," "her," or the phrase "his or her" as a generic pronoun (that is, when referring to an individual of unknown gender, or whose gender you wish to not reveal), consider using a plural subject instead.

You can also use the singular "they" and "their." "They" and "their" have been used as both a plural and singular pronoun for centuries. Increasingly, dictionaries and style guides are accepting this long history and allowing "they" to be singular or plural. However, even if used in a singular sense, always use a plural verb with the singular "they." For example: "When a customer comes in with a complaint, they are to be treated with respect."

1.5.2 Figurative Language

Figurative language compares seemingly different ideas or objects to enhance the meaning of one. Figurative language allows you to make an abstract idea more concrete, perceptible, and tangible. You can often use figurative language to make an idea more vivid to a reader. There are two common types of figures of speech: metaphors and similes.

- **Metaphors** are implied comparisons between two things, omitting like or as: "A good conscience is a continual Christmas" (Benjamin Franklin). Avoid mixed metaphors: "He often hatched new ideas, using them to unlock the doors of opportunity."
- **Similes** are explicit comparisons between two things, usually joined by "like" or "as." Burns' poem "My love is like a red, red rose," uses a simile.

Clichés are words that use figurative language to convey a point, but through overuse have become trite or hackneyed. "Hour of need" and "ladder of success" are two examples. They can also cause confusion for a reader who is unfamiliar with the cliché being used and can make translating your document more difficult (and, thus, more costly).

Do not overuse figurative speech. Overuse can be a distraction to readers. Be objective: do not use judgmental wording such as "this simple procedure" or "it is obvious" as what is simple or obvious to you, especially as a subject-matter-expert, may not be simple or obvious to some of your target audience. You especially do not want to inadvertently insult your primary readers.

1.5.3 Common Fancy Diction

Below are some common fancy words.

Table 4. Fancy Diction

Instead of	Use
Address (“address a problem”)	Explain
Amongst	Among
Apprise	Inform
Ascertain	Find out, learn
Attempt (verb)	Try
Attain	Arrive at, gain, get, grasp, meet, reach, win
Cognizant of	Aware of, aware that
Commence	Begin, start
Contingent upon	Dependent on
Deem	Think
Demonstrate	Show
Desirous of	Want
Disseminate	Communicate, deliver, distribute, give, scatter, send, share, spread
Employ	Use
Endeavor (verb)	Try
Eventuate	Happen
Evidence (verb)	Show
Expedite	Hasten, help along, hurry, rush, send, speed up
Facilitate	Help
Finalize	End, settle
Finalization	End, conclusion
Fundamental	Basic
Furnish	Give, provide
Furthermore	Also
Heretofore	Before, before this, earlier, till now, until now
Implement	Begin, carry out, create, do, put into effect, set up, start
Inaugurate	Begin (unless in context of an elected official taking office)
Initiate	Begin, start
Inordinately	Excessively, unduly, unusually
Irregardless (not a real word)	Regardless
It is incumbent upon you	You must
Manifest (verb)	Show
Minuscule	Tiny
Moreover	And, also, as well, besides, but, however
Necessitate	Call, call for, compel, force, make, need, require
Nevertheless	But, even so, however
Obtain	Get
Optimum	Best, greatest, ideal, most, peak
Peruse	Examine, inspect, read carefully or thoroughly, study
Presently	In a little while, in a short time, shortly, soon (<i>not now</i>)
Prioritize	Order, rank, set priorities
Quantify	Measure

Instead of	Use
Shall	Must, will
Strategize	Plan
Subsequent to	After
Terminate	Close, end, exit, finish, limit, stop, wind up
Therein	In it, in that matter, there
Transmit	Send
Transpire	Happen
Utilize, utilization	Use
Virtually	Almost
Vis-à-vis	noun: face-to-face; preposition: concerning, regarding
Visualize	See
Wherein	In what, in which, where

1.6 Absolutes and Hyperboles

Technical writing is accurate, honest, and precise. Absolutes (always, impossible, never) are rarely correct. For example, for something to be impossible it must be either logically impossible (a square circle) or physically impossible (perpetual motion machine). Something can be practically impossible—not possible financially, politically, or technologically at present.

Sometimes absolutes are used as hyperbole. For example, “nothing is worse than,” “we tried a thousand times,” and “the data took forever to process.” Hyperboles are rarely correct. For example, “the data took forever to process” is a logical contradiction. “Took” is past tense; the data has finished processing, but its qualifier “forever” means without end (not finishing).

1.7 Pronouns

A pronoun refers to a noun or takes the place of a noun. Your pronouns need to clearly reference a specific noun, are agreeing in number and person, and are using correct possessive form.

1.7.1 Pronoun Reference

Pronouns are similar to shadows. There must be an object to produce a shadow and that shadow is attached to the object casting it. With pronouns, the object is called the antecedent (usually a noun or noun phrase). If the pronoun is too far away from its antecedent, things can get confusing:

The sleek train sped through the majestic mountain pass and then through the lush valley.
It was a beautiful sight.

What does “it” refer to? Which noun phrase is the antecedent, the one casting the pronoun “shadow”? Was it the sight of the sleek train, the majestic mountain pass, or the lush valley? The reader cannot tell which noun the shadow “it” is connected to.

Remember that unclear technical documents can be dangerous. They can also be more time consuming and expensive to translate.

Repetitive use of a pronoun referring to the same antecedent can cause text to be boring, but it can also cause misreading. If, for example, you repeat a pronoun a few times in a paragraph and repeat them again in the next paragraph, each repeat moves farther away from the antecedent increasing the chances of a skimming or scanning reader to miss the antecedent and may even erroneously connect the pronoun to a closer noun phrase. Even if the reader did not skip the first paragraph, if a similar noun phrase is introduced, the reader could become confused: they may think some repeated pronouns are referring to the new noun phrase.

Jasmin was studying hard for her statics test but she realized she needed a break. She went to the student center where she met her friend and fellow engineering student Alexandra who she had not seen for quite a while. She admitted to her that she had meant to contact her to catch up on things, but she did not want to bother her studies.

Who does “she” and “her” in the last sentence refer to? At first, the “she” seems to refer to Jasmin, but it could also refer to Alexandra. Both are engineering students with tests to study for. What if the next sentence was “Jasmin laughed and said that was the same reason she did not contact her as well”? Or what if the next sentence was “Alexandra said that it was OK, she understood as she knew that Jasmin also had a difficult test coming up”?

1.7.2 Commonly Misused Possessive Pronouns

Too many writers misuse the possessive forms of pronouns:

- Its (possessive form of it) and it's (contraction of it is)
- Their (possessive form of they), there (location), and they're (they are)
- Whose (of whom, of which) and who's (contraction of who is)
- Your (possessive form of you) and you're (contraction of you are)

“My” is the possessive of “I,” not “I's.” This error occurs from misunderstanding parallelism: “Jane and I went to the conference; Jane's and I's favorite session was the one on graph theory.” “Jane's and I's favorite session” has a parallel look, while the correct phrase “Jane's and my favorite session” does not (even though it is parallel; see 1.2 above for more on parallelism).

1.7.3 Pronoun Agreement

The pronoun must also “fit” the antecedent. Singular antecedents must have singular pronouns, and plural antecedents must have plural pronouns. Examples:

The *child* brought *his* sack lunch to the cafeteria.
The *children* brought *their* sack lunches to the cafeteria.

The tricky part of pronoun agreement arises when the antecedent happens to be another pronoun, such as an indefinite pronoun. The only way to master this agreement problem is to memorize the indefinite pronouns that are always singular listed in table 5 below.

Table 5. Singular Indefinite Pronouns

Pronoun	Usage Example
Anybody	Anybody has time for his or her best friend.
Anyone	Anyone can have his or her own opinion.
Each	Each element has at least one proton.
Either	Either of the girls will be judged according to her personal merits.
Every	Every proton is composed of three quarks
Everybody	Everybody should embrace his or her own individuality.
Everyone	Everyone is entitled to his or her own opinion.
Neither	Neither of the girls brought her chess game to the park.
Nobody	Nobody should ignore his or her feelings of foreboding.
No one	No one has the answer for every one of his or her problems.
One	One of the team members is to carry his or her school flag.
Somebody	Somebody managed to trap himself or herself in the airlock.
Someone	Someone lost his or her book bag.

1.7.4 Either and Neither

“Either” originally meant, in Old English, “each of two.” “Neither” originally meant, in Middle English, “none of two.” Today they both can introduce a list of two or more alternatives. However, when used as a pronoun or an adjective, they should be used only with two alternatives.

1.7.4 Personal Pronouns

Other pronouns that give problems are the personal pronouns I, me, you, this, it, herself, himself, and myself.

The Personal Pronouns I and Me. “I” is a subjective pronoun, the subject of a verb; “me” is an objective pronoun, the object of a verb. To determine which to use, remove the other person or pronoun from the sentence.

Incorrect: John and me presented the recommendations to the client.

Remove “John” and you get the incorrect “Me presented the recommendations to the client.”

Correct: John and I presented the recommendations to the client.

Note that “I” comes last—do not put yourself first.

Do not overuse “I” in technical writing, especially if using “I” creates the wrong impression that you created or discovered something first.

Incorrect: I discovered why the Mars rover Spirit stopped working: when it broke through the crust on April 23, 2009, it got stuck in soft sand. Thus, Spirit was not able to move to an optimal position for its solar cells to power it through the Martian winter.

The above paragraph implies you were the one to discover why the Mars rover Spirit stopped working. There are two ways to correct the above incorrect paragraph.

- I learned why the Mars rover Spirit stopped working: when it broke through the crust on April 23, 2009, it got stuck in soft sand. Thus, Spirit was not able to move to an optimal position for its solar cells to power it through the Martian winter.
- The reason the Mars rover Spirit stopped working is that when it broke through the crust on April 23, 2009, it got stuck in soft sand. Thus, Spirit was not able to move to an optimal position for its solar cells to power it through the Martian winter.

The Pronoun You. While using “you” is expected in writing instructions, be careful in using “you” in other forms of technical writing. The following examples illustrate the error.

Incorrect: In the fourteenth century, *you* had to struggle to survive.

Correct: In the fourteenth century, *people* had to struggle to survive.

Your reader was probably not alive during the fourteenth century.

Incorrect: I wanted to sign up for a computer class, but the registrar said *you* had to have passed a word processing class first.

Correct: I wanted to sign up for a computer class, but the registrar said *I* had to have passed a word processing class first.

Switching from “I” to “you” is shifting the focus, or subject, of the sentence from yourself to the reader. However, if you are quoting what another person said, make it clear:

Correct: I asked the registrar if I was eligible to sign up for a computer class; she replied, “you had to have passed a word processing class first.”

The Pronoun This. Try to rewrite the sentence without using the pronoun “this.” If that is unavoidable, then have a word or phrase or clause directly following the demonstrative pronoun “this” to clarify what the pronoun is referring to.

Unclear: Jan found a telescope in her mother’s attic. This changed Jan’s life.

Does “this” refer to the telescope or her discovery of it? Did the telescope change her life by sparking a new interest, or did discovering her mother was an astronomer changed Jan’s view of her mother? To clarify, depending upon the meaning that needs to be conveyed, write either

Jan found her mother’s telescope in the attic. The *discovery* that her mom had a telescope changed Jan’s life.

or

Jan found her mother’s telescope in the attic. This *telescope* changed Jan’s life.

The Pronoun It. Avoid beginning a sentence or clause with the vague word “it.” This pronoun is often taking the place of the more important main subject. Examples:

Incorrect: It is wise to proofread any written message.

Correct: To proofread any written message is wise.

Correct: Proofreading a written message is wise.

The Pronouns Herself, Himself, and Myself. These reflexive pronouns are often used to emphasize:

1. While many disliked the movie *The Last Airbender*, I myself loved it.
2. I thought to myself “they are too critical.” [Who else would I be thinking to?]

In technical writing, reflexive pronouns can often be removed without any loss of meaning.

1. While many disliked the movie *The Last Airbender*, I loved it.
2. “They are too critical,” I thought.

Reflexive pronouns are sometimes misused as replacements for personal pronouns:

Incorrect: Tina and myself worked on the project.

Correct: Tina and I worked on the project.

The Pronoun They. “They” and its possessive “their” can be used either as a singular or plural pronoun. However, always use a plural verb with them. As discussed in Section 1.6.1 “Sexist Language” above, use “they” when referring to an individual of unknown gender or to an individual whose gender you wish to not reveal. Also, usually use “they” when referring to pronouns such as “anyone,” “everyone,” or “someone”; however, when referring to a group of the same gender, do not use “they,” but use “he” or “she” as appropriate. For example, “if someone is pregnant, she should not drink alcohol” is correct because only women can be pregnant (barring questionable gene editing).

You can also use “they” when referring to two individuals of different gender joined by “or”: “Joshua or Tori thinks they can operate the robot.” Using “he” instead of “they” changes the meaning of the sentence to “Joshua thinks he can operate the robot, or Tori thinks Joshua can operate the robot.” Using “he or she” requires using “respectively,” making the sentence unnecessarily long: “Joshua or Tori thinks he or she, respectively, can operate the robot.” Using the singular “they” is more concise.

1.8 Verb Tenses

Tense conveys time. English has six verbs tense divided into simple and perfect groups; each tense also has a progressive form.

1.8.1 Simple Tenses

Simple tenses divide time into present, past, and future.

- Present Tense: an action or condition happening now (I **open** the store); a timeless action or condition (I **want** to be successful); a general truth or widely held opinion (Everyone thinks Jane **is** a good manager), or a regularly occurring action (I **open** the store every day.); a fixed-time future event (I **open** for Jane next Monday)
- Past Tense: an action or condition completed or ended (John **opened** the store yesterday).
- Future Tense: Action or condition not yet started or experienced (John **will open** the store tomorrow).

The progressive form shows an ongoing or continuing dimension.

Table 6. Simple Verb Tenses

	Regular Verb	Progressive Form	Irregular Verb	Progressive Form
Present	I open the store.	I am opening the store.	I eat lunch.	I am eating lunch.
Past	I opened the store.	I was opening the store.	I ate lunch.	I was eating lunch.
Future	I will open the store.	I will be opening the store.	I will eat lunch.	I will be eating lunch.

1.8.2 Perfect Tenses

Perfect tenses also divide time into present, past, and future.

- Present Perfect Tense: an action or condition that begun and completed in the past which effects continue into the future.
- Past Perfect Tense: an action or condition that was completed or ended before another took place. When two actions both started and stopped in the past, the earlier action uses *had* as a helper.
- Future Perfect Tense: an action or condition that will be complete before some specified time.

The progressive form shows an ongoing or continuing dimension.

Table 7. Perfect Verb Tenses

	Regular Verb	Progressive Form	Irregular Verb	Progressive Form
Present	I have opened the store.	I have been opening the store by myself.	I have eaten lunch	I had been eating lunch before I went home.
Past	I had opened the store before I clocked in.	I had been opening the store by myself.	I had eaten lunch before going home.	I had been eating lunch before going home.
Future	Monday I will have opened the store by myself.	By August I will have been opening the store by myself for a year.	By tomorrow I will have eaten lunch.	I will have been eating lunch.

1.9 American Versus British or Other Spelling Conventions

For words that have more than one correct spelling depending upon whether you are using American conventions or British conventions, spellcheckers will not normally tell you which one is preferred. Most major organizations' style guides prefer American convention.

1.9.1 Acknowledgment Versus Acknowledgement

While both are correct, acknowledgment is more of a North American (US and Canada) convention, while acknowledgement is more of a British and Australian convention. For North American audiences use acknowledgment, otherwise, use acknowledgement.

1.9.2 Afterward Versus Afterwards

While both are correct, afterward is more of a North American convention, while afterwards is more of a British convention. In technical writing, use “afterward” over “afterwards.”

1.9.3 Among Versus Amongst

While both are correct, amongst has an old-fashioned feel to it. Among is more commonly used.

1.9.4 Gray Versus Grey

While both are correct, gray is the American English convention, while grey is a British convention. One mnemonic is that gray is spelled with an “a” like America and grey is spelled with an “e” like England.

1.9.5 Toward Versus Towards

While both are correct, toward is an American English convention, while towards is a British English convention. For U.S. audiences, use toward; otherwise, use towards.

1.10 Confused or Misused Words

Spellcheck catches many misused words, for instance, the nonexistent word “irregardless” (regardless is the correct spelling). However, spellcheckers will not catch all misspelled words (especially technical or esoteric ones), and will not catch bad word choices, including improper use of homonyms or wrongly worded, but correctly spelled, phrases. These are major errors.

1.10.1 Affect and Effect

One set of words often misused in technical writing documents is the pair “affect” and “effect.” “Affect” is often used as a verb, and means “to influence or produce an effect on.” “Effect” is often used as a noun, and means “a phenomenon resulting from a previous phenomenon,” “outward appearance,” or “a symptom caused by a drug or illness.”

In psychology, “affect” is sometimes used as a noun when it means “the conscious subjective aspect of feeling or emotion” while “effect” is sometimes used as a verb when it means “produce” as in “the newly elected party effected many reforms,” but these are special cases.

1.10.2 Alot, A lot, and Allot

“Alot” is not a word. “A lot” means “a large number,” while “allot” means “to parcel out.”

1.10.3 Already Versus All Ready

“Already” can mean prior to a specified or implied time, as in before now or previously, or it can mean as early as now; it is also used as an intensifier. “All ready” means “completely prepared” or that an entire group is prepared.

1.10.4 Among Versus Between

“Among” is used when talking about indistinct items, groups, or people; use “between” when talking about distinct items, groups, or people. For example:

- The differences among rocket propulsion systems are significant.
- The differences between chemical rockets, ion thrusters, and solar sails are significant.

Among is also used for collective relationships while between is used for reciprocal relationships. For example:

- Among her Star Wars figures was a lone Star Trek figure.
- An agreement was reached between the planets of the Federation.

1.10.5 Criterion Versus Criteria

A criterion is a standard of judgment, a reference point against which something can be evaluated. Criteria is the plural of criterion, not criterions.

1.10.6 Datum Versus Data

Datum is Latin for “fact,” and is the singular form. Data is the plural form. While “data” is used informally as either singular or plural, for technical (and academic) writing, treat it as a plural.

Correct: These data show that liquid surface water was once present on Mars.

Incorrect: This data shows that liquid surface water was once present on Mars.

1.10.7 Each Versus Every

Both are indefinite pronouns used for countable nouns. Each means “every one separately or individually,” as in “one by one,” while every means “each and all members of a group treated as one group, without exception.”

The speaker gave each audience member a booklet.

Every audience member applauded the speaker.

“Every” is used to indicate time schedules:

Incorrect: The International Space Station orbits Earth about each 90 minutes.

Correct: The International Space Station orbits Earth about every 90 minutes.

“Every” cannot be used for two things; use “each” instead:

Incorrect: Neil held a cookie in every hand.

Correct: Neil held a cookie in each hand.

Otherwise, you can use “each” and “every” interchangeably:

Correct: Inflation increases each year.

Correct: Inflation increases every year.

1.10.8 Every Day Versus Everyday

“Every day” is an adverbial phrase, modifying a verb, while “everyday” is an adjective that modifies or qualifies a noun (describing the noun as common, routine, or mundane). For example:

- I need to do my chores every day.
- I need to do my everyday chores.

One test is to replace “every” with “each.” Compare “I need to do my chores each day” with “I need to do my each day chores.”

1.10.9 Orient Versus Orientate (as verbs)

Both mean “to align or position yourself; to work out where you are in a particular situation or environment.” However, “orient” is more common in American English use, while “orientate” is more common in British use.

1.10.10 That, Which, and Who

“That” refers to things or a class of people, “which” refers to things, and “who” refers to a person or persons. (“Who” refers to the subject of a clause and “whom” refers to the object of a clause.)

“That” can be used to introduce a restrictive clause, “which” to introduce a non-restrictive clause, and “Who” to introduce both restrictive and nonrestrictive clauses. Recall that restrictive clauses are not separated from the sentence by commas, while non-restrictive clauses are separated from the sentence by commas.

Make sure it is clear what clause “that,” “which,” or “who” is referring to.

1.10.11 Worse and Worst

These words are often confused with each other. Worse is usually used in two ways:

- To compare two things: X is worse than Y.
- To indicate deterioration: The orbital decay of the ABC satellite is getting worse.

Worst is used to compare more than two things:

- X is worse than Y, but Z is the worst of all;
- The ABC satellite has the worst orbital decay [of all the satellites].

Notice that “worst” always uses “the” as “worst” is describing a singled-out item.

1.10.12 Some Other Commonly Confused or Misused Words

- **Accept** (to receive) and **except** (to leave out).
- **Allude** (to speak of without mentioning) and **refer** (to speak of directly).
- **Around** (physically near or surrounding) and **about** (approximation).
- **Bad** (adjective, not good) and **badly** (adverb, how poorly something is done).

- **Bemused** (confused) and **amused** (pleasantly occupied).
- **Beside** (at the side of) and **besides** (in addition to).
- **Biannual** (twice a year) and **biennial** (every two years).
- **Billion** and **trillion** mean different numbers depending upon whether the short scale or long scale system for naming numbers is used. See Section 4 below for information regarding writing large numbers for an international audience.
- **Can** (capability) and **may** (permission).
- “**Compare to**” (identifying either the similarities or differences) and “**compare with**” (identifying both the similarities and differences).
- **Conversate** is not a word, use **converse** instead.
- “**Different from**” (indicates a distinction exists) and “**different than**” (comparing).
- **Dilemma** is a choice between two (only two) equally unfavorable options.
- **Farther** (at a greater physical distance) and **further** (additional, to advance); Mnemonic: the word farther contains the word far.
- **Fewer** (a smaller number, countable) and **less** (smaller amount, not countable).
- **Forth** (out into view) and **fourth** (next after third)
- **Good** (adjective) and **well** (adverb): Caleb is a good singer. Caleb sings well.
- **Historic** (an important event) and **historical** (a past event).
- **Imply** (to convey indirectly) and **infer** (reach a conclusion as the result of an experience or circumstance).
- **Incidence** (the rate of occurrence) and **incidents** (separate occurrences).
- **Lay** (to place or put down something; past tense is laid) and **lie** (to put in a prone position; past tense is lay; also can mean tell a falsehood; past tense then is lied).
- **Lead** (as a verb, is present tense) and **led** (past tense of the verb lead).
- **Literally** (actually, a fact, not an exaggeration) and **virtually** (metaphorically).
- **Loose** (roomy) and **lose** (something missing, fail to get, fail to win). Mnemonic: loose and roomy both contain “oo.”
- **Nauseous** (to cause nausea) and **nausea** (a state that precedes vomiting).
- **Peruse** (carefully review something) and **skim** (glance over something).
- **Precede** (come before) and **proceed** (to go forward).
- **Principal** (authority [noun], most important [adjective]) and **principle** (general truth).
- **Redundant** (more than is needed) and **repetitive** (characterized by repetition).
- **Sight** (vision, seeing) and **site** (a location).
- **Then** (next) and **than** (comparison).
- “**There is**” (writing about one thing) and “**there are**” (writing about multiple things).
- **To** (toward), **too** (also or excessively), and **two** (number).
- **Travesty** (a mockery) and **tragedy** (an event resulting in misfortune).
- **Weather** (verb, to endure; noun, atmospheric conditions) and **whether** (if).

1.11 Vague Phrases

Vague or confused phrases can cause errors in understanding as well as make translations difficult and expensive. Consider the sentence “the river overflowed its bank.” Most readers will probably not think of the definition “financial institution” when they read the word “bank.”

However, when they read “he inherited the house from his aunt” there is an ambiguity here: aunt can mean either “father’s sister” or “mother’s sister.”

1.11.1 And/Or

Most style guides are against using the indefinite phrase “and/or” as it can introduce ambiguity. While conciseness is important, clarity is also important. As always, keep the context in mind.

Avoid using “and/or” in legal documents; judges often criticize its use and even find against plaintiffs or defendants because of its use. For example, in *Sproule and/or Fidelity Life Ins Co v Taffe* (1938), the court voided a lease because the landlord was listed as “J.R. Sproule and/or Fidelity Life Insurance Company.” The “and/or” in this context is confusing. Who was the landlord? Was J.R. Sproule the landlord, or was Fidelity Life Insurance Company the landlord, or were they both? If both, then the document needed to use “and” instead of “and/or.”

Usually “or” includes the connotation of “and,” especially in negative constructions. For example, the sign “No food or drinks are allowed in the lab” means neither are allowed in the lab; thus, if you cannot bring in either one then it follows that you cannot bring in both. If you need greater emphasis than just “or,” you can add “or both”: “No food or drinks, or both, are allowed in the lab.”

While sometimes using “and” includes the connotation of “or,” “and” often means the items connected are to be treated as one unit or group. For example, if you ordered eggs and ham at a restaurant, you are not telling the server to bring you either eggs or ham.

Try to rewrite so that “and/or” is not needed, even if the resulting sentence is not as concise.

Poor: I will accept cake and/or pie in exchange for fixing your computer.

Better: I will accept either cake or pie in exchange for fixing your computer.

1.11.2 Unsupported Statements

Avoid vague unsupported statements like “some scientists say.” Since technical writing needs to be honest, accurate, and verifiable, you must document your statements.

1.12 Common Incorrect Phrases

Below are some common incorrect phrases; these are **major grammar errors**.

Table 8. Common Grammatically Incorrect Phrases

Incorrect Phrase	Correct Phrase
Could care less	Could not care less
Could [should, would] of	Could have [should have, would have]
Each one worse than the next	Each one worse than the last
For all intensive purposes	For all intents and purposes
Hone in	Home in
I been, I done, I seen	I have been, I did, I saw

Incorrect Phrase	Correct Phrase
Mute point	Moot point
On accident	By accident
One in the same	One and the same
Pour over (“pour over the books”)	Pore over
Scott free (or Scotch free)	Scot free ³
Suppose to	Supposed to
Take a different tact	Take a different tack
A 360-degree change ⁴	A 180-degree change
Try and combine	Try to combine
Use to be	Used to be
Wreck havoc	Wreak havoc

1.13 Dangling and Misplaced Modifiers

Sentences must be logically constructed. Modifiers need to be close to the word that they are describing or modifying. Remember that in technical writing you have to be accurate in your wording. A dangling or misplaced modifier can be misread, especially when being translated. Make sure that what word or phrase your modifier is modifying is clear.

13.1 Dangling Modifiers

A dangling modifier is a phrase at the beginning of a sentence but does not modify the noun immediately following the comma.

Some misplaced modifiers are hard to spot at first read.

Poor: Though nearby, it was still necessary for the team to stop for a rest.

Grammatically, what the sentence is saying is that “it” was nearby. The sentence needs to be rewritten so that the modifier is near the sentence element being modified.

Better: Though nearby, the team still had to stop for a rest.

A dangling modifier also occurs when the subject is missing or incorrectly stated.

Poor: With most of the paint flaked off of the siding, the building’s old age was obvious.

As written, the modifying phrase is modifying the noun “age.” Age is a measure of time and as such cannot have paint flaking off of it.

Better: With most of the paint flaked off of the siding, the building was obviously old.

³ The etymology of “Scot free”: *skat*, the Scandinavian word for tax or payment, was adopted circa 10th century by Britain, where the word changed into *scot*. Thus, Scot free originally meant getting away from paying your taxes.

⁴ This is incorrect when a 180-degree change is meant, but is correct for other uses: for example, a treatment of benign positional vertigo is the 360-Degree Maneuver; some aircraft maneuvers include “360-degree” in their titles.

13.2 Misplaced Modifiers

A misplaced modifier is a word or phrase placed too far from the element it is modifying; in other words, a misplaced modifier is placed too close to the wrong element (such that it appears to modify that element and not the one it was meant to modify).

Poor: The researcher gave antiviral shots to the patients stored in the main lab.

The modifying phrase “stored in the main lab” is too far away from its referent “antiviral shots” and is too close to the noun “patients.” This misplacement makes the sentence say that the patients were stored in the main lab.

Better: The researcher gave antiviral shots that were stored in the main lab to the patients.

Generally, adjectives and adverbs go before the word they are modifying, while prepositional phrases go after the word they are modifying.

Poor: The broken researcher's analyzer was easy to fix.

In the above sentence, the adjective “broken” is modifying “researcher.” The adjective should be right before the noun phrase that it is actually modifying.

Better: The researcher's broken analyzer was easy to fix.

Some modifier constructions are difficult to notice as a misplaced modifier, especially when using the modifier “only.”

Poor: I only visited the museum yesterday.

The above sentence means that I was the only person to visit the museum yesterday, though it can also be read as that I was

Better: I visited only the museum yesterday.

If I was the only person to visit the museum yesterday, the sentence should be rewritten to lessen the likelihood of being misread:

I was the only person to visit the museum yesterday.

While a prepositional phrase usually goes after the noun it is modifying, clarity is more important. For example, in the following sentence, which noun is being modified?

Poor: NASA said on Friday they would be announcing an exciting discovery.

Did NASA (National Aeronautics and Space Administration) say on Friday that they would be announcing an exciting discovery (with no set date as to when that announcement would be made) or did NASA mean that the exciting discovery will be announced on the upcoming

Friday? If NASA made the statement on Friday the sentence should have the prepositional phrase starting the sentence:

On Friday, NASA said they would be announcing an exciting discovery.

The sentence could also be written with the prepositional phrase immediately after “NASA”:

NASA, on Friday, said they would be announcing an exciting discovery.

If NASA meant to say that the announcement of the discovery would be made on Friday the sentence should be written with the prepositional phrase immediately after “discovery”:

NASA said they would be announcing an exciting discovery on Friday.

Remember, in face-to-face communication, we can notice misunderstanding by your audience’s reaction (facial expressions or verbal responses) and correct the misunderstanding immediately; this is usually not the case with written communications. Be clear and precise in your writing.

1.14 Subjunctive Mood

The subjunctive mood is used to express a doubtful, hypothetical, or wishful condition. The subjunctive mood is often found in clauses beginning with “if” or “that” as well as in clauses following a verb that expresses a demand, doubt, proposal, regret, request, or wish. Students of languages like French and Spanish are highly aware of the subjunctive mood, but in English, this mood is less obvious (especially in British English).

- If I were you, I would not do that. (Not “If I was you”)
- If there were a device that made warp drive possible, we would already have colonies on Mars. (Not “If there was a device that made warp drive possible”).
- I wish that she were here now. (Not “I wish that she was here now.”)

1.15 Integrating Quotations

One area that you do want to vary is your sentence patterns when quoting. If you use the same pattern each time you quote, your writing will become repetitious and dull.

1. **Author’s name** + **attributive verb** + “quotation”:

In *How Does a Poem Mean?*, **John Ciardi** **illustrates** how a complicated symbol can be “like a rock dropped into a pool” (37).

2. “Quotation” + **attributive verb** + **author’s name** + “continued quotation”:

“Like a rock dropped into a pool,” **explains John Ciardi**, in *How Does a Poem Mean?*, a symbol can “[send] out ripples in all directions, and the ripples are in motion.” (37).

3. Blend grammatically into the sentence:

John Ciardi, in *How Does a Poem Mean?*, discusses how a complicated symbol can be “like a rock dropped into a pool” (37).

4. Attach a quotation by using a colon:

In *How Does a Poem Mean?*, John Ciardi shows how complicated a symbol can be: “like a rock dropped into a pool” (37).

However, keep quotations to a minimum. Use quotations when presenting something that is an opinion; use paraphrases when expressing a fact. When paraphrasing, try to use less than 25 percent of the original wording.

1.16 Avoid Anthropomorphizing Machinery

While fine for fiction or humorous writing, anthropomorphizing machinery is often not appropriate for technical writing. For example, the computer does not remember your choices; the computer stores your choices. However, you can use possessives: “The computer’s hard drive needed reformatting.”

1.17 Common Typing Errors: Misplacing Spaces

One common typing error is the misplacing of spaces. Space errors can decrease readability, increasing the likelihood of misreading. Having the first and last letters being in the correct place also increases a text’s readability⁵. Spacing errors can confuse the shape of the word as well as confuse what appears to be the first or last letter of the word. Also, spacing errors can cause a search engine to miss some results. Below are some examples to look for:

1. No space after a comma (“It was warm,sunny,and windy).
2. No space after a period (“I think.Therefore I am.”).
3. No space between the word “Figure” and the figure number (use “Figure 8 shows...,” not “Figure8 shows...”).
4. No space between the word “Table” and the table number (use “Table 8 is...,” not “Table8 is...”).
5. No space between a number and the associated units (use 15 cm/s, not 15cm/s).
6. No space before an opening parenthesis (polystyrene sulfonate(PSS) is...).
7. An extra space after an opening parenthesis or before a comma, period, or closing parenthesis.

See Section 6 for tips on searching for errors in your document.

⁵ If, however, the internal letters are greatly rearranged or if their arrangement creates another word, retaining the first and last letter of a word will be of little help for readability. A study by Rayner et al. showed that reordered letters slow readers down by as much as 11 percent, even if the readers were not always aware that a word they read had reordered letters.

1.18 Paragraph and Sentence Construction

Keep paragraphs tightly focused. Short, focused paragraphs help a skimming, scanning reader to not only quickly find specific information, but to also quickly find their place in the text when interrupted. If one of the contexts for your reader is they are using a small screen to view your document (such as a mobile phone), short paragraphs become even more important.

Break a paragraph when you change direction: shifting from an introduction to your main point, shifting from one idea or topic to another, and shifting from your main point to a conclusion or summary.

This can mean that sometimes you have paragraphs that are two or one sentences long. Try to keep paragraphs to under seven sentences (there are exceptions, of course).

Likewise, try to keep sentences easy to read by keeping them tightly focused. Try to keep one idea per sentence. Try to keep complex sentences to a minimum. One test is to read your sentence aloud: if you have to take a breath while reading it, then your sentence may need to be shortened or split into two or more sentences.

Section 2: Wordiness

Pleonasm (wordiness) can be used as a rhetorical strategy to emphasize an idea. However, this strategy is often overused. Avoid wordiness in technical writing; use the clearest words possible. As Stephen King advises in his book *On Writing: A Memoir of the Craft*, “One of the really bad things you can do to your writing is to dress up the vocabulary, looking for long words because you’re maybe a little bit ashamed of your short ones.” However, sometimes that means using a few plain words instead of one complex word. As Seneca the Younger⁶ states, “it is quality rather than quantity that matters.” Examples:

Poor: First of all, with only the exception of absolutely essential personnel, the facility should be evacuated in the event or case of an unexpected emergency.

Better: First, except for essential personnel, evacuate the facility in an emergency.

Poor: It should be noted that at the present time a badge is considered to be required to be shown before entering the lab.

Better: A badge must now be shown before entering the lab.

Poor: Calibration of the transducer was done.

Better: The transducer was calibrated.

2.1 Expletives at the Beginning of Sentences

While expletives (formed by combining “it” or “there” with a be-verb) can be used to help emphasize a point, they are often unnecessary. Usually, expletives that precede a noun and a relative clause beginning with “that,” “which,” or “who” can be removed.

Poor: It is the manager who sets the policies.

Better: The manager sets the policies.

Poor: There are six employees that are interested in the certification program.

Better: Six employees are interested in the certification program.

Poor: There may be other factors that affected the results.

Better: Other factors may have affected the results.

Poor: There are two main approaches through which neuroscience research is conducted.

Better: Researchers study neuroscience through two main approaches.

Notice that often when you remove an expletive at the beginning of a sentence, the relative clause is converted into a concise phrase, further reducing the sentence’s wordiness.

2.2 Unnecessary Modifiers

As E.B. White says, “[modifiers] are the leeches that infest the pond of prose, sucking the blood of words.” If a modifier can be removed without changing the sentence’s meaning, remove it.

⁶ Seneca was a Roman Stoic philosopher, statesman, orator, and dramatist who lived from c. 4 BC to AD 65.

One overused adverb is “very.” It often adds no useful meaning or weakens a statement. For example, “very tired” is weak. A more concise and stronger replacement is “exhausted.”

Below is a list of some of commonly overused modifiers.

Actually	It can be seen that	Rather
Basically	It is understood that	Really
Certain	It goes without saying	Somewhat
Definitely	It should be noted that	Sort of
Essentially	It would seem that	This (that) being said
Fairly	Kind of	Unique
For all intents and purposes	Particular	Variou
Given	Practically	Very
Having said that	Pretty	Virtually
In essence	Quite	With this in mind

2.3 Redundant Modifiers

Redundant modifiers rarely add value in technical writing. Below is a list of common redundant modifiers. The unnecessary modifier (which can be removed) is shown in bold type.

Absolute truth	Final outcome	Personal beliefs
Actual facts	Free gift	Plan ahead
Add an additional	Frozen ice	Pooled together
Added bonus	Fuse together	Postpone until later
Add up	Future plans	Recur again
After the conclusion of	General consensus	Revert back
Aid and abet	Important essentials	Resulting effects
Advance warning	... in color (red in color)	Safe haven
Anonymous stranger	Integrate together	Serious danger
Annual anniversary	Initial preparation	Share together
Ask a question	Joint collaboration	Small size
Attached together	Knowledgeable experts	Splice together
Basic fundamentals	Lag behind	Sudden crisis
Blend together	Later time (date)	Sum total
Boiling hot	Local residents	True facts
Close proximity	Merge together	Terrible tragedy
Completely finish/destroyed	Month of... (Month of May)	Unexpected emergency
Consensus of opinion	Mutual cooperation	Unfilled vacancy
Current status / trend	Natural instinct	Usual custom
Depreciate in value	New innovation	Variou differences
Difficult dilemma	Off or Outside of	Very unique
Drop down	Over exaggerate	(In)visible to the eye ⁷

⁷ Sometimes modifiers add meaning to a sentence. For example, if you were describing a coating that made a surface invisible to radar but not to the human eye, the phrase “visible to the eye” in that context adds value to the sentence.

Each individual

End Result

False pretense

Pair of twins

Past experiences

Past history

Weather conditions

Whole entire (Whole **entire**)

2.4 Redundant Acronyms

Some acronyms are often written with their last letter spelled out; this is redundant. For example, A PDF document is a document in the Portable Document Format. You do not need to write “PDF format.” See below for some examples of common redundant acronyms.

Table 9. Some Common Redundant Acronyms

Redundant Acronym	What the Redundant Acronym then means
% APR	Percentage Annual Percentage Rate
AC [DC] current	Alternating [Direct] Current current
ACT test	American College Test test
ATM machine	Automated Teller Machine machine
BASIC code	Beginner's All-purpose Symbolic Instruction Code code
CAD design	Computer-Aided Design design
GIF format	Graphic Interchange Format format
GMT time	Greenwich Mean Time time
GOP party	Grand Old Party party
GPS system	Global Positioning System system
GRE exam	Graduate Record Examination examination
HIV virus	Human Immunodeficiency Virus virus
HDMI interface	High-Definition Multimedia Interface interface
HTML language	Hypertext Markup Language language
IRA account	Individual Retirement Account account
ISBN number	International Standard Book Number number
ISDN network	Integrated Services Digital Network network
LAN network	Local Area Network network
LCD display	Liquid Crystal Display display
LED diode	Light Emitting Diode diode
MIDI interface	Musical Instrument Digital Interface interface
NPR radio	National Public Radio radio
OPEC countries	Organization of Petroleum Exporting Countries countries
PC computer	Personal Computer computer
PDF format	Portable Document Format format
PIN (or VIN) number	Personal (or Vehicle) Identification Number number
POST test	Power On Self Test test
RAM memory	Random-Access Memory memory
RF frequency	Radio Frequency frequency
SAT test	Scholastic Assessment (or Aptitude) Test test
SCSI interface	Small Computer System Interface
UL laboratories	Underwriters Laboratories laboratories
UPC code	Universal Product Code code

2.5 Doubled Words

The English language has a long tradition of doubling words. They are common in speech. However, in technical writing, doubled words are often meaningless redundancies. Below is a list of common doubled words that should not be used in technical writing.

Any and all	First and foremost	Hope and trust
Basic and fundamental	Full and complete	True and accurate
Each and every	Hopes and desires	Various and sundry

Of the doubled words listed above, “Each and every” is the most overused.

Table 10. Wordy Phrases Using Each or Every

Instead of	Use
Each and every one	Each, every
Each individual	Everyone
Each of	Each
Each separate situation	Each situation
Every one of	Every
Every single one	All, each

2.6 “Of (to) the fact” Phrases

Another common cause of wordiness in technical documents is the use of “of the fact” and “to the fact” phrases. Most can be replaced by “because,” “since,” or “although.” Below is a list of the more common wordy “the fact” phrases and their concise equivalents.

Table 11. Of (To) the Fact Phrases and Their Concise Equivalents.

Instead of	Use	Instead of	Use
Based on the fact that	Because, since	In view of the fact that	Because
Because of the fact of	Because of	It is a fact that	[delete]
Despite the fact that	Although	Notwithstanding the fact that	Although
Due to the fact that	Because, since	On account of the fact that	Because
In light of the fact that	Because, since	Owing to the fact that	Because
In spite of the fact that	Though, although	Regardless of the fact that	Although

2.7 “In order that (to)” Phrases

“In order that” usually can be replaced with “So that.” “In order to” usually expresses the same meaning as “to” when expressing purpose:

"She worked hard to write a good report."

"She worked hard in order to write a good report."

The second is too formal and wordy and is usually avoided in technical writing.

However, "in order to" is preferred to "to" when used with stative verbs. Stative verbs, as well as most participial adjectives, refer to a static or unchanging state or existence. They express cognition or perception (things in the mind) or relation (relationship between things), rather than an action. Stative verbs cannot be used in the continuous (progressive) forms:

Incorrect: The process is consisting of... (“Consists” is a state, not an action)

Correct: The process consists of ...

Below is a list of common stative verbs.

Adore	Dislike	Loathe	Remember
Agree	Doubt	Look (seem)	Resemble
Appear (seem)	Equal	Love	Satisfy
Appreciate	Feel (opinion)	Matter	See (perceive, understand)
Astonish	Fit	Mean	Seem
Be (exist)	Forget	Measure	Smell
Believe	Hate	Mind (care about)	Sound
Belong to	Have (possess)	Need	Suppose
Concern	Hear	Owe	Surprise
Consist of	Imagine	Own	Taste (having a flavor)
Contain	Impress	Please	Think (opinion)
Cost	Include	Possess	Understand
Deny	Involve	Prefer	Want
Depend on	Know	Promise	Weigh (have weight)
Deserve	Lack	Realize	Wish
Disagree	Like	Recognize	

Some of the verbs above can be either dynamic or stative. Below are two examples.

Dynamic: You are being unusually quiet. (Action: acting or behaving quietly right now, not a usual characteristic of this person.)

Stative: You are a quiet person. (State: being quiet is a part of this person's personality.)

Dynamic: I will see [meet] you at school.

Stative: In order to see [understand] what you mean, I need to question my assumptions.

When used before a negative infinitive, “in order to” is preferred over “to.”

"In order not to fail the class, she began writing her report early."

Note that "not" comes before "to."

2.8 Unnecessary Relative Clauses

Some relative clauses can be converted into concise phrases.

Poor: The satellite, which was launched yesterday, failed to deploy its solar array.

Better: The satellite launched yesterday failed to deploy its solar array.

2.9 Wordy Indefinite Quantifier Phrases

Below is a selected list of wordy indefinite quantifier phrases and their concise equivalents.

Table 12. Wordy Indefinite Quantifier Phrases and Their Concise Equivalents

Instead of	Use	Instead of	Use
A majority of	Most	In greater abundance	More abundant
A number of	Some, many	In large measure	Largely
A sufficient amount of	Enough	In many cases	Many, often
By a factor of two	Two times, double, twice	In most cases	Usually
Excessive number of	Too many	In no case	Never
Few in number	Few	In some cases	Sometimes
Fewer in number	Fewer	Large in size	Large
A multitude of	Most	Many in number	Many
In all cases	Always	More in number	More
In a number of cases	Some, several, many	Small in size	Small
In excess of	More than	A vast majority of users	Most users, Users often

2.10 Other Common Wordy Expressions

Below is a selected (not exhaustive) list of other wordy phrases to avoid.

Table 13. Other Common Wordy Expressions and Their Concise Equivalents

Instead of	Use	Instead of	Use
After the conclusion of	After	In view of	Because, since
All of the	All the	In view to	To
Along the lines of	Like	Is capable of	Can
Appear(s) to be	Appear(s)	Is found to be	Is
As is the case	As is true	Is in a position to	Can
As of late	Lately	Is something that is	Is
As of this date	Today	It is interesting to note that	Note that
At such time as	When	It is our opinion that	We think
At the conclusion of	After, following	It is our recommendation	We recommend
At the present time	Now, currently	It is possible that	Perhaps
At this point in time	Now, presently	Make an effort to	Try
Be deficient in	Lack	Make inquiry regarding	Ask (inquire) about
By means of	With, by	Make reference to	Refer to
Come to a conclusion	Conclude	Manner in which	How
During the time that	During, while	Most all	Most
Equally as well	Equally well, as well	None at all	None
For the duration of	During, for, through	On a daily basis	Daily
For the purpose of	For, to	On a few occasions	Occasionally
For the reason that	Since, because	On an annual basis	Yearly
For this reason	Thus, therefore	On behalf of	For
From the point of view of	For	On the basis of	By, from, because
Give consideration to	Consider, examine	On the grounds that	Because
Give indication of	Show, indicate, suggest	On the order of	About, approximately
Happen(s) to be	Am, is, are	On the part of	By, among, for
Has been proven to be	Is	Over and over again	Repeatedly

Instead of	Use	Instead of	Use
Have the capability to	Can	Point in time	Point, time
If conditions are such that	If	Previous to	Before
In an effort to	To	Prior to	Before
In a position to	Has, have	Provided that	If
Inasmuch as	For, as	Puts an end to	Ends
In a satisfactory manner	Satisfactorily	Reach a conclusion	Conclude
In close proximity to	Near, close	Serves the function of being	Is
In connection with	Of, in, on	So as to	To
In regard to	Regarding, about	Subsequent to	After
In the amount of	For	Take into account	Consider
In the case of	For	Take into consideration	Consider
In the event that	If	The question as to whether	Whether
In the midst of	In, amid, during	The reason is because	Because
In the nature of	Like	There can be little doubt that	Probably
In the possession of	Has, have	Till/until such time as	Till, until
In the process of	[delete]	With a view to	To
In the near future	Soon	With the exception of	Except, unlike
In the neighborhood of	Near, about, nearly	With the exception that	Except that
In the vicinity of	In the vicinity of	With reference to	About [or delete]
In terms of	In, for [or delete]	With regard to	About [or delete]
In this day and age	Now, today	With the result that	So that

2.11 Wordy Expressions and Words You Can Often Delete (Without a Replacement)

Below is a list of common wordy phrases that can often be removed without any replacement. Some of these expressions are not verifiable (“it has been said”—by whom?), others add no value to the sentence or talk down to your audience (“It is evident that”).

Having said that	It is noted that	Really
It has been found that	It has been said	That (being) said
It has long been known that	It is obvious that	Type of
It is a fact that	It is well known that	
It is evident that	It may be said that	

“Currently” and “presently” are two other expressions that can often be deleted without a replacement. For example, in the sentence “we are not currently taking advantage of all the technology available to us to rapidly create prototypes,” the word “currently” adds no meaning. Unless there is a need to emphasize “at the present time” (the company was taking advantage of all the technology available in the past but is not at the present time), you can remove “currently” and “presently” from your sentence.

Section 3: Abbreviations, Acronyms, Contractions, Initialisms, and Symbols

Since readers of technical documents are often scanners or skimmers, abbreviations, acronyms, initialisms, and contractions can be easily misread or mistranslated. A reader must remember what an abbreviation, acronym, initialism, or symbol means; thus, unless the abbreviation or symbol is a common one or one the reader is familiar with, a spelled-out term easier to read. Follow these guidelines to make your writing clear and accessible.

3.1 Definitions

An **abbreviation** is a shortened form of a word or phrase: “corp.” is an abbreviation for “corporation.”

An **acronym** is a word formed from the initial letters of the several words in the name and is pronounced as a word. Most acronyms are written either with an initial capital letter or all in caps.

Table 14. Examples of Acronyms That Must be Capitalized

Acronym	Full Form
Aids	Acquired immune deficiency syndrome
BASE jumping	Building, Antenna, Span, or Earth jumping
CAPTCHA ⁸	Completely Automated Public Turing Test to tell Computers and Humans Apart
NASA	National Aeronautics and Space Administration
SIM card	Subscriber Identification Module

Some acronyms have become “regular” words and are thus written in lower-case letters (unless starting a sentence). These do not have to be spelled out the first time they are used in a document.

Table 15. Examples of Acronyms That Are Now Considered Words

Acronym	Full Form
laser	light amplification by stimulated emission of radiation
radar	radio detection and ranging
scuba	self-contained underwater breathing apparatus
taser	Thomas A. Swift's electric rifle ⁹

⁸ Many acronyms are play with word order or word choices so that the word formed reflects what the acronyms meaning. CAPTCHA was created, for example, to reflect the word “capture.” CARE packages is another example. CARE stands for The Cooperative for Assistance and Relief Everywhere, an organization created after WWII to provide food to war-torn Europe.

⁹ The inventor, Jack Cover, was a fan of Tom Swift, the inventive hero in a long running series of children's science-fiction novels from 1910 to 2007. Mr. Cover also probably wanted his paralyzing electric shock weapon to reflect the word “laser.”

A **contraction** is a word formed from two or more words by omitting or combining some sounds: can't is the contraction for cannot.

An **initialism** is an abbreviation made up of the first letters of words or syllables, each pronounced separately: the CDC (“Cee-Dee-Cee”) is the initialism for the Center for Disease and Control Prevention (they do not include the word prevention in their initialism).

A **symbol** is a standard sign that represents an abstract idea, equation, formula, or measurement. Below are some technical writing examples:

Table 16. Some Examples of Symbols

Symbol	Meaning
Rh+	Blood factor Rh-positive (blood cells contain the Rh protein antigen)
°C	Degree Celsius
≤	Greater than or equal to
Pa	Pascal (measurement of pressure or stress)
¥	Yen (basic unit of money in Japan)

3.2 General Usage Guidelines

In memos and in each major section of a long report, introduce or spell out the first use of an abbreviation, acronym, or initialism except when the abbreviation is used for the first time in a figure, table, or equation—spell out such abbreviations in a footnote. However, even if the abbreviation is first used in a figure, table, or equation, and is spelled out in a footnote, the abbreviation still needs to be spelled out the first time it appears in the text.

Try to be consistent: either introduce the abbreviation, acronym, or initialism first immediately followed by the spelled-out version in parentheses (or brackets if already in parentheses) or introduce the spelled-out version first immediately followed by the abbreviation in parentheses (or brackets if already in parentheses).

Today, JAXA (Japan Aerospace Exploration Agency) successfully launched the Greenhouse gases Observing SATellite-2 (GOSAT-2).

(Gravity waves were first detected by the Laser Interferometer Gravitational-Wave Observatory [LIGO] on 14 September 2015.)

3.3 Abbreviations

Use standard abbreviations only. Use the *Merriam-Webster's Collegiate Dictionary* as a primary source and the *American Heritage College Dictionary* as a secondary source. Keep the use of abbreviations to a minimum. Avoid using abbreviations in abstracts or executive summaries. Try to not abbreviate words at the beginning of a sentence.

3.3.1 Latin Abbreviations

Foreign words or phrases that are not familiar with your readers should be italicized; if the foreign words or phrases are familiar with your readers, they often do not have to be italicized. For example, a white paper with biologists as the primary audience, scientific names do not have to be italicized. You can italicize it the first time it is used and then for the rest of the document do not italicize the term (as the reader now becomes familiar with the term). Some Latin abbreviations do not need to be italicized because they are common (such as “etc.”); check the *Merriam-Webster's Collegiate Dictionary* as a primary source and the *American Heritage College Dictionary* as a secondary source to determine if a Latin abbreviation is common. Some abbreviations, like “*sic*” are normally italicized even if your audience is familiar with the term. See below for discussions about specific Latin abbreviations.

E.g., i.e., and NB. Replace e.g., i.e., and NB with “for example,” “that is,” and “note” (respectively). Most readers (and writers) confuse e.g. and i.e. and many do not know what NB stands for.

Et al. In most standard styles, “et al.” (which means “and others”) is standard for use in references and citations, so it should stay as it is when used in references. Since “et al.” is a familiar phrase repeatedly used, it does not need to be italicized. Et al. is the abbreviation for *et alia* (neuter plural), *et alii* (masculine plural), or *et aliae* (feminine plural)—Latin for “and others.” Note that “et” is not an abbreviation. Do not use et al. unless there are more than two authors. “Et al.” is not italicized.

Et al. is also short for *et alibi*, meaning “and elsewhere” and is used in lists of places. Do not use et al. as an abbreviation for *et alibi* since most readers only know et al. as an abbreviation for *et alii*.

Etc. Limit using etc. If you begin a list with “for example,” “including,” or “such as,” do not use “etc.” or a phrase like “and so forth” since it is already implied. “Etc.” is used in lists of things, while “et al.” is used in lists of people. “Etc.” is not italicized.

[Sic]. “*Sic*” is short for the Latin phrase *sic erat scriptum*—“thus it was written.” [Sic] is standard for indicating in a quote that a misspelled or incorrectly used or archaic word or phrase was in the original source and is not the fault of the present writer. It is italicized and placed in brackets (the brackets are not italicized) immediately after the incorrect or archaic word or phrase. For example:

The client wrote, “I ploed [*sic*] the lever in the lowest position before starting the motor.”

However, if it is obvious you are quoting an ancient historical document (grammar and spelling have changed over the centuries), non-standard American dialect, or a British text (as American and British spellings differ), you should not use [*sic*]. Those are not spelling errors in their contexts. If need be, you can state in your introduction of the quoted text that the grammar or spelling is different from your audience’s expectations and, if needed, a brief explanation why (again, only if helpful to do so—keep your audience in mind; if your audience already knows why, then leave that explanation out).

Spell out vs. as versus, except in legal usage, where it is abbreviated as v. (include the period).

3.3.3 Social Media Abbreviations

Do not use Instant Messaging or texting type abbreviations, acronyms, or smilies unless using discussing them and they are needed for illustration.

3.4 Contractions

Do not use contractions in technical writing (except if quoted material has them). Because apostrophes are small, and often technical document readers are busy readers who skim or are non-native speakers, a contraction can be easily misread. Misreading increases if the font size is small or if the page is printed by a printer running low on ink. Type choice can also increase the likelihood of misreading. For example, the contraction “I’ll” (“I will”) can look like the word “Ill” (as in illness) but in certain typefaces, it can look like three letter I’s and thus the Roman numeral three, or look like three number ones.

In addition, some contractions can have more than one spelled-out possibility. For example, “She’d” can mean “She would” or “She had.” While the meaning can be figured out through context, in technical writing you need to make reading as easy and efficient as possible.

Table 17. Some Examples of Easily Misread Contractions

Contraction	Spelled-out	Confused With
Can’t	Cannot	Cant [nonsense stock phrase; heel over]
He’ll	He will	Hell
I’d	I would, I had	Id [primitive instincts]
I’ll	I will	Ill, iii, 111
She’d	She would, she had	Shed
She’ll	She will	Shell [the oil company; hard outer covering]
We’d	We would, we had	Wed
We’ll	We will	Well
We’re	We are	Were
Who’re	Who are	Whore
Won’t	Will not	Wont [established custom]

Uncommon or nonstandard contractions can especially disorientate readers, or force a reader to stop and figure out what the contraction means. For example, contractions like “something’d’ve” or “somebody’dn’t’ve” are clumsy constructions that take a moment to figure out (“something would have” and “somebody would not have,” respectively). Other contractions may have more than one meaning, such as “someone’s” which can mean either “someone is” or “someone has.”

Informal, colloquial, or vernacular contractions are not in the proper tone for a technical document. These include contractions like “ain’t” for “am not” and “gonna” for “going to.”

Contractions involving the letter “s” can confuse readers since readers generally expect an apostrophe with an “s” indicates that the word is possessive and that the possession will be

named next. Thus, if your reader reads the word as a possessive, they will read on with the expectation that the following word or phrase is what is being possessed. Context, and rereading the sentence, may quickly correct this reading, but they may first feel that a word or phrase has been left out before realizing what the sentence is really saying.

The hotel's safe.

Is this about the safe owned by the hotel? If so, what about it? The reader may read on, thinking this is a sentence fragment and the rest of the sentence follows when the sentence is not a fragment but stating, in nonstandard written form, that “the hotel is safe.”

Finally, never use contractions in text meant to be read as a script: text for a presentation, for example. The last part of a contraction can be missed or can be otherwise misheard when spoken. For example, “I can’t do it” and “I can do it” sound similar, especially if the listener is busy or in a noisy environment. “I cannot do it” helps ensure the “not” is heard.

3.5 Symbols

Use symbols in the body text only when you are certain that readers are familiar with them, even if you included a list of symbols in your document.

Do not use symbols when the reference is indefinite or casual; for example, write “several gigahertz” not “several GHz.”

Do not use symbols when writing a script meant to be read aloud. For example, write “dollars” instead of “\$”, “Yen” instead of “¥”, or “degrees” instead of “°”. Do not use symbols when the reference is indefinite or casual; for example, write “several degrees” not “several °.”

3.5.1 Copyrights and Trademarks

A copyright (©) symbol indicates that only the copyright owner of the work is allowed to produce or reproduce the work or to permit anyone else to do so.

A registered trademark (®) symbol is a formally or officially registered (with a national trademark office) symbol identifying the manufacturer or distributor of a product (goods or services). The symbol can be composed of a word (or words), a design, or a combination of these.

A trademark (™) symbol identifies a manufacturer or distributor of a product (goods or services) that has not been officially registered in any country. The symbol can be composed of a word (or words), a design, or a combination of these.

For most documents, it is important to include trademark and copyright information. Some documents which do not need trademark and copyright notices include:

- Letters
- Memos

- Personal Papers
- Press Releases
- Blogs
- Resumes
- Applications
- Short Reports

Documents which need trademark and copyright notices include:

- Dissertations and theses
- Grant and proposal documents
- Long reports
- Newspaper and magazine articles
- Quick start guides
- Research results
- Scientific papers
- User guides
- Websites

3.5.2 Percent Symbol

Use the word "percent" in the text; use the "%" symbol only in figures and tables or if quoted material uses the symbol. Note: "percent" is used with a number, while "percentage" is used without a number; for example:

Thirty-five percent of the fuel was burned.
What percentage of the fuel was burned?

While for most symbols you put a space between a number and its unit, do not put a space between a number and the percent symbol:

Incorrect: 35 %.
Correct: 35%.

3.6 Punctuating Abbreviations

See Section 4 for decisions for using abbreviated time designations. All abbreviations in American English end in a period. This is not always true for British English. In British English, abbreviations made from the first and last letters of a word do not end with a period.

American English: Dr. for doctor
British English: Dr for doctor

3.6.1 Periods and Spaces

For acronyms and initialisms made up of all uppercase letters, periods are not usually used. The main exception is initials used for personal names where a period and space follow each initial:

J. R. R. Tolkien

Make sure a line break does not separate a person's initials.

Abbreviations that end in lowercase letters generally use a period after the last letter.

Regen. (Regenerated)

Initialisms made up of lowercase letters (where each letter represents a word) generally use a period after each letter.

a.m. (*ante meridiem*: “before noon”) n.p. (no publisher or no place of publication)

When using the U.S. postal service's approved two-letter abbreviations for states, capitalize both letters and do not use periods between the letters:

LA not L.A. for Louisiana (L.A. is used for Los Angeles.)

There are exceptions where periods and spaces are not used. For example:

dpi (dots per inch) os (operating system) rpm (rotations per minute)

However, when “in” is used as an abbreviation for inch, use a period if the abbreviation could be confused with the preposition.

3.6.2 Apostrophes and Plurals

Be careful of using apostrophes to form plurals. Readers will often first read them as possessives. Abbreviations of nouns longer than one letter and not ending in “s” are made plural by adding a lower-case “s” (before the period, if the abbreviation ends in one).

CD-ROMs Drs. DVDs MAs PhDs

Use apostrophes to show the possessive.

Plural: The DVDs are missing labels.

Possessive singular: The DVD's label was missing.

Possessive plural: The DVDs' labels were missing.

Some singular abbreviations that end in a capitalized “S” are made plural by adding another capitalized “S”:

MS for manuscript, MSS for manuscripts.

TS for typescript, TSS for typescripts.

Single letters, though, use apostrophes to form the plural as they could otherwise be misread as a word. For example, making “a” plural by adding an “s” without an apostrophe forms the word “as” or the symbol for arsenic: As.

Some single letter abbreviations are pluralized by doubling the letter:

- n. for note, nn. for notes.¹⁰
- p. for page, pp. for pages
- v. for verse, vv. for verses.

See Section 4 for decisions for using apostrophes in time designations.

3.6.3 Publications

The abbreviations for publications whose full titles are italicized are also italicized. For example, *Dissertation Abstracts International* is abbreviated *DAI* and the *Congressional Record* is abbreviated *Cong. Rec.*

3.7 Indefinite Articles “A” and “An” Used With Abbreviations

The article used depends on the usual pronunciation of the acronym or initialism:

A Mars Tech University student, an MTU student, a MECO (pronounced MĒ-kō).

However, if you are talking about an organization as a noun, you usually do not use an article:

Mars Tech University is a great university. MTU is the first university on Mars.

The same is true when defining an acronym; usually, you do not use an article:

MECO stands for Main Engine Cut Off.

¹⁰ This abbreviation is used after the number of the page containing the text of the note or notes. For example: 42n1 means that the text for note number 1 is found on page 42; 42nn1—3 means that notes 1 to 3 are found on page 42.

Section 4: Numbers and Time

Accuracy is important in technical writing: do not exaggerate. Be sure of your numbers. If the numbers are approximations, make sure you indicate that. Always provide references for where you got your numbers; if the numbers came from your own research, provide that information.

4.1 Spelling Out Numbers Versus Using Numerals

Avoid starting a sentence with a number, but if you must start with a number, spell it out.

Spell out approximations using 1 to 10 (about four million years ago, about ten pounds, about 89 million US dollars).

If writing for an international audience, do not spell out “billion” or “trillion,” as they mean different numbers in different countries depending upon whether they use the short scale or long scale system for naming large numbers. In short scale, 1 billion = 10^9 and 1 trillion = 10^{12} , while in long scale 1 billion = 10^{12} and 1 trillion = 10^{18} (with milliard = 10^9). In both scales 1 million = 10^6 . Some countries use both scales. For instance, English-speaking Canada uses the short scale, while French-speaking Canada uses the long scale. Instead of using billion or trillion, use the full numeral, a numeral as a power of 10, or combinations using the word “million”: for example, 1 billion (short scale) can be written as 1,000,000; 10^9 ; one thousand million; or 1,000 million.

Exception: when used with monetary amounts (with the particular monetary system used made clear): 1 billion pounds sterling, 1 trillion U.S. dollars¹¹.

Spell out cardinal and ordinal numbers ten and below unless:

- When mathematical **calculations, equations, mathematics, or science** are involved.
- When using numbers in the same context where some are smaller than 11 and others greater, then put all numbers in numeral form. For example:

There were 15 bottles filled with the same experimental fuel. However, during the five days of testing, only 5 of the bottles were used.

Both 15 and 5 are put in numeral form, even though 5 is smaller than 11 since both 15 and 5 are used in the same context: number of bottles. The “five days” is spelled out since it was smaller than 11 and not used in the same context. Both can be considered an application of parallelism.

- When two numbers appear consecutively in a phrase spell out the shorter of two numbers (7 five-inch nails). If the two consecutive numbers start a sentence, then spell out the first number (Seven 5-inch nails).

¹¹ Make clear what currency your monetary figures are in. For instance, 6 countries call their currency *pound* and use the pound sign (£) as their currency symbol, while 23 countries call their currency *dollar* and use the dollar sign (\$) for their currency symbol. While sharing the same name, they are different currencies.

One reason for not spelling out larger numbers is that larger numbers when spelled out take up a lot of space, which is especially an issue for columns, headlines, or captions where the space available is restricted. Another reason is that a large number spelled out takes longer to read than its numeral.

Except for the start of a sentence, always use numerals:

- For ages. (He is 21. He is 21 years old. He is a 21-year-old.)¹²
- With abbreviations or symbols in mathematical or statistical calculations (29 lbs., 31%),
- With units of measurement (30 millimeters, 30 thousand dollars). See 4.3 below for exceptions with time measurements,
- In addresses (14582 Ennerdale Street) and phone numbers (318-555-1234),
- In dates (December 21, 2012),
- In decimals and fractions (75.5, 2½),
- In formulas and calculations ($y=2X + 8$),
- In divisions (page 7, year 3 of the project),
- In money or scores (\$3, 23 points),
- When you form the plural of a number: “That address had many 9s in it.”

4.2 Punctuation

Generally, follow American Standard English guidelines.

- Use commas for every three places: 1,000; 1,000,000; 1,000,000. *Exceptions:* commas are not used in page numbers, line numbers, addresses (including zip codes), or four-digit year numbers (but are used in year numbers of five or more digits).
- Do not use apostrophes after the number for decades: “The 1960s”; however, the preference is to spell out decades: “the sixties.” (Note: do not capitalize the decade unless it is a special expression like “the Roaring Twenties.”)

Do use an apostrophe before the number if it is being shortened: “the ‘60s” as it is standard practice for the apostrophe to represent missing text. Since such a construction could be argued to be a contraction and could also be misinterpreted under some contexts (does ‘80s mean 1980s or 1880s?) it is best to use the full year.

- Do not use apostrophes for plurals: “That address had many 9s in it.”
- Do not use contractions unless used in a quotation.
- A hyphen is used for spelled out fractions and numbers twenty-one and above: one-fourth, one-half, one and one-fourth, twenty-four. Do not use hyphens for fractions expressed as “a fourth” or “a half.”
- A hyphen is used in mixed numerals, separating the integer from the fraction: 10-3/4 centimeters long.
- For telephone numbers, place country and area codes in parentheses, and use hyphens to separate the prefix from the line number; include a space after a closing parenthesis:

¹² See Section 9.3 for information on hyphenation.

Note the space after the closing parentheses.

(1) (318) 000-0000 (phone number format example for Ruston, Louisiana, USA)
(81) (3) 0000-0000 (phone number format example for Tokyo, Japan)

- Fonts and computers are inconsistent in the treatment and availability of fraction symbols. For in-text fractions, therefore, full-size numerals with a slash are usually preferred: 1/2, not ½. In more complicated mathematical expressions set in MathType, built-up fractions are generally used: numerator over denominator, separated by a horizontal line.
- Put a zero before the decimal point in a fraction, especially for medical documents¹³. Decimal points can be easily missed by a busy or stressed reader and wrong, possibly fatal, dosage is given. For instance, .3 mg can be easily misread as 3 mg. Writing the dosage as 0.3 mg is clearer, and thus safer, as the leading zero helps to indicate to the reader that this is a decimal as most people do not write 03 to represent 3.
- Only put a trailing zero after a decimal point where precision warrants. Do not, however, put a trailing zero for medication-related documents. Decimal points can be easily missed by a busy or stressed reader and wrong, possibly fatal, dosage is given. For instance, 3.0 mg can be easily misread as 30 mg; writing it as 3 mg is clearer.

4.3 Time

Follow the guidelines below to clearly and consistently present calendar and clock information.

- Use figures and cardinal numbers and not ordinal numbers for dates:

“Testing began December 21, 2012” *not* “Testing began December 21st, 2012.”

- The usual date format for documents is month-day-year style (December 21, 2012), unless otherwise specified.
- Spell out the names of months in the text but abbreviate them in bibliographic references, except for the months May, June, and July.
- Spell out the words week, month, year, and century. Spell out century designations: twelfth century.
- Spell out days of the week.
- AD, BC, BCE, and CE are not spelled out. AD precedes the year, all the rest follow the year:

AD 1066, 1066 CE, 19 BCE

¹³ This is based on the Official “Do Not Use” List created by the Joint Commission in 2004 as a National Patient Safety Goal; in 2010 the list was integrated into the Information Management standards (elements of performance 2 and 3 under IM.02.02.01). The full list is at < https://www.jointcommission.org/facts_about_do_not_use_list/>.

- Spell out the words second, minute, and hour.
- A.m. and p.m. are not spelled out; use periods in their abbreviations. Put a space between the time and the a.m. or p.m.: 8:00 a.m.
- Use numerals for indicating times of the day (the 6:20 bus to Raccoon City). Include the minutes even if the time is on the hour (8:00 a.m., not 8 a.m.). *Exceptions:* time expressed in quarter and half hours and in hours followed by o'clock (half-past ten, eight o'clock). However, avoid using o'clock except in quoted material; it is not as clear as using a.m. or p.m. Seconds, minutes, or hours should be spelled out for numbers smaller than eleven: "It took three days and three hours for Apollo 11 to get to the Moon."
- Spell out the month but use numerals for the day and year (September 3, 1976 or 3 September 1976). This helps avoid confusion as dates written in all numerals can easily be misread because the U.S. military and most of the world read dates as day, month, year, while for U.S. civilians, dates are usually read month, day, year. Thus, September 3, 1976 expressed in all numerals is 11/3/1976 which could be misread as 11 March 1976.

4.4 Inclusive Numbers (Ranges)

Use the en dash (–) and not a hyphen (-) to indicate a range between two numbers. Recall that a hyphen is for connecting two words that function as a single concept or as a joint modifier. An en dash is used to connect things related to each other by a range. In addition, the en dash more clearly separates the numerals than does a hyphen. However, for additional clarity, you should usually use the word "to" when discussing value ranges or scores instead of the en dash; for example: "the iron oxide content ranges from 3 to 5 percent." See 5.3 for more information, including how to type en and em dashes.

For inclusive numbers, give the second number in full up to ninety-nine, but for larger numbers, give only the last two digits of the second number, unless more are necessary for clarity.

3–5	7–99
101–04 [for 101–104]	915–52 [for 915–952]
99–187	1,015–531 [for 1,015–1,531] 1012–2015

Exception: when writing a span of time that mixes century dates, give the full year for both: 1995–2015; 1887–1912.

Section 5: Punctuation

Use standard American English punctuation; for example, no texting or British English punctuation conventions. In technical writing, keep sentences simple (but not simplistic). A sentence heavy with internal punctuation slows reading and makes a document more difficult to skim. If you have a sentence that has several internal punctuations, think about rewriting it.

5.1 Commas

The comma (from the Greek *komma*, related to *keptein*, to cut), is used more often than all other punctuation marks combined. Commas can be confusing since they must be used in certain instances, must not be used in other instances, and optional in still other instances.

5.1.1 Comma Splices

Joining two sentences, two independent clauses, together with a comma is a comma splice. Comma splices can be fixed by placing a period or a semi-colon in the place of the incorrect comma, or by adding a conjunction after the comma, usually “and” or “but.” You may be able to omit the comma if the two independent clauses being connected by a coordinating conjunction are brief or nicely balanced. Remember the conjunctions by the acronym FANBOYS: For, And, Nor, But, Or, Yet, So.

Do not insert a comma merely because you happen to pause to think before moving on. Also, do not separate a subject from its verb, a verb from its object, a verb from its complement, or a preposition from its object.

5.1.2 Serial Commas

Always use the serial, or Oxford, comma in a list of three or more items. Although serial commas slow down reading, and thus why they are not used in other writing genres, in technical writing they are required as they help ensure there are no ambiguities. For example:

Ambiguous: The director asked for separate reports on the ductility of tin, aluminum, gallium, copper and silver and gold.

Better: The director asked for separate reports on the ductility of tin, aluminum, gallium, copper, and silver and gold.

In the above examples, the director wanted five reports, with the first reports on individual metals only, and the fifth report on both silver and gold. Readers scanning a document will more likely misunderstand the first example than they would the second. Do not use the serial comma only in complicated series. Consistency is important in technical writing; you are creating a “user interface” to your documents and a user needs to trust that you will always use the serial comma. Otherwise, this can lead to confusion or extra work on the user’s part.

For example, if early in the document you write, “the director requests separate reports on the ductility of tin, aluminum, gallium, copper, and silver and gold,” and then later write, “the

director also requests separate reports on the melting points of tin, aluminum, gallium, copper and silver at different atmospheric pressures,” since you earlier used a serial comma, the user will expect that you are using it the second time and possibly misread. Your reader should know as they read that copper is a separate report from silver and not have to wait until after they have read past the last list item to figure that out.

5.1.3 Multiple Adjectives (Coordinate Adjectives)

There are two ways to test if adjectives are coordinate adjectives. (1) If you can reverse the order of the adjectives without changing the meaning, then the adjectives are coordinate. (2) Add “and” between the adjectives. If adding “and” between the adjective does not change the meaning of your sentence, then the adjectives coordinate. Adjectives describing color, number, or size usually cannot be made coordinate.

Incorrect: The noisy longhaired cat had several, distinguishable cries.

Test 1: Changing the order to “longhair noisy” does not change the meaning of the sentence; however, “distinguishable several” does not make sense—thus, the last two adjectives are not coordinate.

Test 2: Adding “and” between “longhair” and “noisy” does not change the meaning of the sentence; however, “several and distinguishable” does not make sense—thus, the last two adjectives are not coordinate.

Correct: The noisy, longhaired cat had several distinguishable cries.

5.1.4 Transitions

Use commas to set off a transition or transitional expression; however, use a semicolon or a period before a conjunctive adverb or transitional expression that connects two independent clauses. Exception: when the transition is not being used as an intensifier or for emphasis, and blends smoothly with the sentence, needing little or no pause in reading, a comma does not need to come after it.

Correct: In addition, the VASIMR[®] engine's lack of electrodes means greater reliability.

Correct: JPL is involved with missions other than planetary exploration; for example, its Airborne Snow Observatory is an Earth-based mission designed to collect data on the snowmelt flowing out of major water basins in the western United States.

The transition “however” is always set off with commas (or a semicolon and a comma). Exception: when “however” is used with the meaning “no matter how” it does not need a comma.

Correct: Mars is at opposition on May 22, 2016; however, Mars will be closer to the Earth when it is at opposition on July 27, 2018.

Correct: However many times the team tried, they could not win the DARPA Robotics Challenge. (“However” in this instance means “no matter how.”)

The conjunction “**while**” is preceded by a comma only when it means “whereas¹⁴” (even though, in spite of the fact that). In general, when comparing two things, use a comma.

Correct: The Viking 1 lander touched down on the western slope of Chryse Planitia, while the Viking 2 lander touched down at Utopia Planitia.

However, “while” does not require a comma when it means “at the same time that.”

Correct: I watched Neil Armstrong walk on the moon while I ate my TV dinner.

A final conjunction is used to join a clause that draws a conclusion or inference from a preceding clause. Final conjunctions include the following:

As a consequence	Hence	So then
Consequently	So	Thus
For	So that	Therefore

“For” and “so” are also often used as coordinating conjunctions (Fanboys: *For, and, nor, but, or, yet, and so*); however, they are punctuated differently when used as final conjunctions. Final conjunctions do not connect two independent sentences like coordinating conjunctions do. Connect the conclusion or inference clause to the main clause by making the clause beginning with the final conjunction a separate sentence, using a semicolon before the conjunction and a comma after, or adding a coordinating conjunction before the final conjunction.

Incorrect: The robot was constructed at the corporate lab where I work, therefore, it is owned by the corporation.

Correct: The robot was constructed at the corporate lab where I work. Therefore, it is owned by the corporation.

Correct: The robot was constructed at the corporate lab where I work; therefore, it is owned by the corporation.

Correct: The robot was constructed at the corporate lab where I work; it is, therefore, owned by the corporation.

Correct: The robot was constructed at the corporate lab where I work, and therefore it is owned by the corporation.

Final conjunctions sometimes introduce phrases within sentences.

Correct: Robots constructed in a corporate lab are considered corporate property, hence the robot I built is owned by the corporation, and therefore I cannot publish the details of its construction on my DIY robotics blog.

¹⁴ In legal documents “whereas” means “it being the fact that” or “accounting for the fact that.”

5.1.5 Compound Predicate

A predicate is the part of a sentence that consists of a verb and any of its complements. The predicate tells the reader what the subject is doing or what is being done to the subject. A compound predicate is when one subject has two or more predicates where the subject is not repeated.

Incorrect: I meant to buy tickets for the magic show, but ran out of time.

Correct: I meant to buy tickets for the magic show but ran out of time.

When the subject is repeated, then the sentence becomes a compound sentence, which does use a comma:

Incorrect: I meant to buy tickets for the magic show but I ran out of time.

Correct: I meant to buy tickets for the magic show, but I ran out of time.

Sometimes, however, a comma is needed in a compound predicate to help with clarity:

The engineer saw her colleague had entered the lab and turned on the test equipment.

The engineer saw her colleague had entered the lab, and turned on the test equipment.

This subject is “engineer” and the compound predicate is “saw...and turned”; however, because the first object also has a verb phrase “had entered,” the reader can become confused and think that the compound predicate is “had entered ... and turned on” when the compound predicate is actually “saw ... and turned on.” Without the comma, the sentence can easily be misread as the colleague being the one that turned on the test equipment. With the comma, the engineer is the one who turned on the test equipment. Though you probably should rewrite the sentence to make it even clearer (remember, your readers can be skimming or scanning).

The engineer waited to turn on the test equipment until she saw her colleague enter the lab.

5.1.6 Introductory Phrases

Commas are usually used after an introductory participial phrase; however, if an adverbial infinitive phrase is the subject of the sentence, do not use a comma between the phrase and its verb.

Correct: After checking the instruments, the technician left the lab.

Correct: To test the robot, we need to power it up first.

Incorrect: To always proofread your writing, is a smart habit.

Correct: To always proofread your writing is a smart habit.

Use a comma after an introductory adverbial phrase. The comma lets the reader know they are at the end of the introductory phrase.

Correct: Although the robot was thoroughly tested, it failed on the first day of the DARPA Robotics Challenge.

Commas are usually used after an introductory prepositional phrase longer than three words; however, use a comma for a short phrase to emphasize the phrase or to prevent the sentence from being misread.

Correct: After the robot was built, the technicians took a day off.

Incorrect: Once inside the robot was ready to run.

Correct: Once inside, the robot was ready to run.

Correct: Between 1066 and 1087, the Saxons repeatedly organized rebellions against William the Conqueror.

Correct: In 1066 Duke William of Normandy defeated King Harold II at Hastings.

Correct: In 1972, the last Apollo mission landed on the Moon.

(Here the comma is added to emphasize how long ago the last landing was.)

When an absolute phrase or an adverb modifies the entire sentence, use a comma.

Incorrect: The clouds clearing away for the first time in three days we were finally able to view Saturn's rings through the telescope.

Correct: The clouds clearing away for the first time in three days, we were finally able to view Saturn's rings through the telescope.

Incorrect: Finally the experimental robot was completed.

Correct: Finally, the experimental robot was completed.

5.1.7 Commas for Nonessential (Nonrestrictive) Material

Nonessential, or nonrestrictive, materials add more information without changing the basic meaning of the sentence; if removed the sentence will still make sense.

Use commas to set off clauses or phrases that are nonessential.

The movie "Killer Snails," which cost 26 million dollars to make, is not worth a five-dollar ticket.

American farmers, according to U.S. government figures, export more wheat than they sell at home.

Use commas with nonessential appositives. An appositive is a word or group of words that renames the noun or noun group preceding it.

John, who is an idiot, videotaped himself dancing to "Hips Don't Lie." (No offense to people named John.)

While most appositives are nonessential, in some cases appositives are essential and are not set off with commas:

The 17th century Venetian Elena Piscopia was the first woman to receive a doctoral degree.

The appositive *Elena Piscopia* is essential in identifying which 17th-century Venetian from among all 17th-century Venetian residents.

Words of direct address are set off by commas.

Your contribution, Theodore, to the Planetary Society will help fund the next Solar Sail mission.

5.1.8 Commas With Lists

If the list items are syntactically part of the sentence, use appropriate sentence punctuation: separate items in the list by commas or semicolons, as appropriate, and end with a period:

To successfully complete the assignment, students must

- read the assignment sheet,
- start the assignment early, and
- go to the Writing Center as needed.

If each item in a list is a complete sentence, end each item with a period.

5.1.8 Commas With Quoted Words

Use a comma to set off quoted words from short explanations (used to integrate the quote) in the same sentence:

In Confessions of an Alien Hunter, Seth Shostak adds, “given that two-way interstellar conversation will be slower than molasses in Greenland, we’d have a strong incentive to say everything at once” (242).

“I love no love,” proclaimed poet Mary Coleridge, “but thee.”

“Bring me no reports,” begins Macbeth.

When a quote ends with an exclamation point or a question mark, keep that punctuation even if explanatory words follow:

“What’s the boy Malcolm? Was he not born of woman?” continued Macbeth as he tries to calm his fears.

However, when explanatory words have “that” just before the quoted words, do not use a comma after that:

Shaw quipped that “Love is a gross exaggeration of the difference between one person and everybody else.”

5.1.9 Commas in Names and Addresses

- Between a name and a suffix (abbreviated title):

Bubba Johnson, PhD., sat in the living room watching football.

- When inverting a person's name: Johnson, Bubba.

- Between a city and a state:

Bubba Johnson, PhD., lived in Ruston, Louisiana, for most of his life.

- To separate all the items (except for the zip code) of a complete address used in a sentence:

Bubba Johnson, PhD., lived on Texas Avenue, Ruston, Louisiana 71270 for most of his life.

- For the opening (salutation) of an informal letter (formal letters require a colon):

Dear Bubba,

- For the close of a letter:

Best regards,

5.1.10 Numbers

Refer to 4.2 for guidelines in using commas in numbers.

5.1.11 Subjects

With rare exceptions, do not separate a subject from its verb with a comma. This mistake often happens with complex sentences, especially those with a list of items that require commas.

Incorrect: Visiting Japan, China, Taiwan, and Australia, was a great way to spend my year after graduation.

Correct: Visiting Japan, China, Taiwan, and Australia was a great way to spend my year after graduation.

5.2 Spacing After Sentence Closing Periods

Use one space after the closing period of a sentence. In other words, put only one space between the closing period of a sentence and the start of the next sentence.

5.3 Hyphens, En Dashes, and Em Dashes

The use of dashes, especially hyphens, is in a state of flux. Major dictionaries conflict on the hyphenation of many words. For consistency, use the guidelines below.

5.3.1 Hyphens

Hyphens (-) are the shortest of the dashes and are used to connect two words that function as a single concept or as a joint modifier. Do not surround the hyphen with spaces:

Incorrect: thirty - five years ago

Correct: thirty-five years ago

Exception: hanging hyphens will have a space after them (but not before): “nineteenth- and twentieth-century literature.”

Hyphens can also be used as a syllable break for words that do not fit on a line. Do not use syllable breaks; reword the sentence or put the word on the next line.

Sometimes hyphens can be used to help differentiate between two words that are spelled the same but have different meanings. For example, “resent” can be a verb that means “to feel bitter or indignant about” or it can be a verb that means “sent again.” They are pronounced differently depending on the meaning, but are spelled the same and can cause miscommunication:

You say I never sent you the contract? I resent that!

Does the writer feel bitter or indignant about what was said or does the writer mean to say they had sent the contract more than once?

You say I never sent you the contract? I re-sent that!

Putting in the hyphen makes it clear that the writer means the “resent” where the “re” is a prefix (“re” meaning “again”) and not the complete word “resent” where “re” is not a prefix.

5.3.2 En dashes

En dashes (–) are used to connect things related to each other by a range, replacing “through” or “to.” For clarity, however, you should usually use the word “to” when discussing value ranges or scores instead of the en dash; for example, the iron oxide content ranges from 3 to 5 percent. Do not surround the en dash with spaces

En dashes are also used as substitutes for “versus”: the Clinton–Sanders debate. En dashes can also be used to show a pairing where both parts are equal. For example, the China–Peru Free Trade Agreement. Note that a hyphen would change the meaning: China-Peru is one (nonexistent) country, while China–Peru is a pairing between the two countries, China and Peru.

5.3.3 Em dashes

Em dashes (—) are the longest dashes and can be used as a replacement for parentheses or commas when setting apart parenthetical phrases or clauses in a sentence. Do not surround the em dash with spaces. Em dashes tend to emphasize the parenthetical phase more than parentheses or commas. Em dashes are particularly useful when the parenthetical clause contains one or more internal commas and thus would be confusing if the clause was enclosed by commas. Em dashes can also show an interruption in thought or a change in thought.

Do not overuse em dashes for the same reason you should not overuse any emphasis: too many emphases dilutes the emphases.

5.3.4 Typing Dashes

Do not surround dashes with spaces. Computer keyboards lack individual keys that display en or em dashes. (The symbol above the hyphen is an underline, not a dash.) Most word processors will automatically turn two hyphens into an em dash if you leave no spaces before or after them.

You can also choose en and em dashes from the word processors' symbols menu. In Microsoft Word, for example, go to "Insert," click on "Symbol," and go to the "Special Character" window. The en and em dashes appear at the top. You can also use Word shortcut keys as well as ISO character codes (the latter used by most software programs that handle text):

Table 18. Typing Dashes

Character	Word Shortcut Key	Windows Alt Code	Macintosh Option Code
–	En Dash	Ctrl+Num -	Option+-
—	Em Dash	Alt+Ctrl+Num -	Shift+Option+-

For the Word shortcut keys, "Num -" means the minus sign on the numeric keypad. For example, to use the en dash shortcut key, press and hold the Ctrl key and then press the minus sign key on the numeric keypad. Release both keys.

For Windows alt codes, you must use the numeric keypad for typing the numbers. While pressing the Alt key, type the four-digit code on the numeric keypad. For keyboards where the numeric keypad has a dual function (numbers or arrows), make sure the Num Lock is on (the Num Lock light on the keyboard should be lit).

For the Macintosh option code for the en dash, press and hold the Option key and then press the minus key. For the em dash, press and hold both the Shift key and the Option key, and then press the minus key.

5.3.5 Adjective-Noun Strings (Phrasal Adjectives)

Generally, you should avoid adjective, noun, or adjective-noun strings. For example, a non-hyphenated noun phrase used as an adjective can be misread as being used as a noun, only for the reader to discover that the phrase is actually being used as an adjective when they reach the true noun. However, sometimes a phrasal adjective is required. If you must use one, hyphenate the words that are used as a single adjective if used *before* (not after) the noun to aid comprehension.

Incorrect: The planetary probe performs high precision experiments.

Correct: The planetary probe performs high-precision experiments.

Correct: The planetary probe's experiments are high precision.

“High-precision” is hyphenated in the first correct example above because “high” modifies “precision” and not “experiments.” The experiments are not “high” experiments. But in the second correct example, “precision” is a noun with “high” modifying it. The hyphen changes the meaning of a sentence.

The light-bending machine was fixed.
The light bending machine was fixed.

In the first sentence, the machine is one that refracts, or bends, light and was broken but is now fixed. “Light” modifies “machine.” In the second sentence, a bending machine (a forming machine tool that bends a workpiece, like the famous cartoon robot, Bender) that is light in weight was broken but is now fixed. In this sentence, both “light” and “bending” modify “machine.”

Hyphenate the words that are used as a single adjective if the phrasal adjective is composed of a noun modifying a participle¹⁵.

Phrasal adjective formed from a noun and a participle: man-eating lion
Phrasal adjective formed from a noun and a participle: fatigue-induced damage

However, note that a hyphen is not used after an adverb ending in -ly in a phrasal adjective.

Incorrect: the newly-installed Linux-based server
Correct: the newly installed Linux-based server

Incorrect: rapidly-accelerating rocket
Correct: rapidly accelerating rocket

There is, though, an exception. Use hyphens when the -ly ending adverb is part of a long phrasal adjective.

Incorrect: The already out-of-date newly installed Linux server
Correct: The already-out-of-date-newly-installed Linux server

Otherwise, rewrite the string; often reversing the string and inserting appropriate prepositions and articles greatly clarify a string:

Bad style: A virus-infections-source-location method
Better style: A method for locating the source of virus infections

5.3.6 Numbers

Use a hyphen for spelled out fractions and whole numbers twenty-one and above: three-quarters, twenty-four.

¹⁵ A non-finite form of the verb; it used adjectivally and to form compound tenses

Hyphens are used when age is an adjective phrase that comes before the noun or pronoun it is modifying, or when it is a noun. When age is part of an adjective phrase after the noun it is modifying, do not hyphenate.

The 23-year-old student graduated.¹⁶

(Here age is an adjective phrase coming before the noun “student.”)

He is a 23-year-old student.

(Here is another example of age as an adjective phrase coming before the noun “student.”)

That 23-year-old is a student.

(Here age is a noun.)

He is 23 years old.

(Here age is modifying “he” and is an adjective phrase coming after the pronoun.)

5.3.7 Prefixes

A *prefix* is a syllable or word added to the beginning of another word to change its meaning. Most prefixes should be combined as one unhyphenated word.

There are, of course, exceptions. The prefixes *self-*, *ex-*, *great-*, and *quasi-* usually require a hyphen when they are added to words. For example:

- *ex-convict*
- *great-aunt*
- *quasi-scientific*
- *self-serve* (when *self* is added to a suffix, there is no hyphen: *selfless*)

Other exceptions are when omitting the hyphen would cause a misreading (“re-sign,” for signing again, as opposed to “resign,” to voluntarily leave a position), or when the prefix is added to a proper noun (pro-Louisiana).

5.4 Parentheses

Nest parentheses as follows: first (), then [], and finally { }. This helps the reader navigate through the nested information—the levels of subordination are easily distinguished.

Parenthetical text that is a complete sentence should not be contained within another sentence. Include the closing punctuation within the parentheses. For example:

Graphene possesses a crystalline structure with a hexagonal lattice, giving it a honeycomb appearance. (Appendix D contains a detailed description of the graphene's crystalline structure.)

¹⁶ Except when beginning a sentence, ages should be expressed as numerals.

5.5 Punctuation in Equations and Formulae

Use correct mathematical symbols using Word's Insert|Symbol menu or by using the appropriate Alt code. For instance, do not use the hyphen to represent the minus or negative sign or the lowercase *x* to represent the multiplication symbol. For the minus sign, insert using Word's Insert|Symbol menu or by holding down the Alt key and typing in 0150 on the numeric keypad. For the multiplication operator, use Word's Insert|Symbol menu or by holding down the Alt key and typing in 0215 on the numeric keypad.

Use spacing on both sides of mathematical operators, such as the multiplication operator or the equal sign.

Put simple equations in the text unless there is a special need not to. Space and punctuate inline equations and formulae as regular words: "The graph of $y = -1/x$ has diagonal symmetry."

When defining variables in the text, use "is" rather than "="; for example, "where t is the temperature," not "where $t =$ the temperature."

Treat complicated equations like illustrations: separated by text with a double space above and below, centered, with one equation per line. While they do not need a title or figure designation, they should be numbered. Number equations starting with the first numbered equation. Place the number in parentheses and align vertically with the center of the equation, and horizontally with the right margin. For example:

The electric field \mathbf{E} at the origin due to a point charge q at a distance r is given by

$$\mathbf{E} = \frac{|q|}{4\pi\epsilon_0 r^2} \hat{\mathbf{r}}, \quad (\text{eq. 1})$$

← Note the comma.

where $\hat{\mathbf{r}}$ is the position vector of the point charge.

As with the simple equation, treat the displayed equation as part of the text; it is incorporated into the sentence's structure.

Put a space between a number and its unit, except for a number and the angular degree, angular minute, angular second, or percent symbols, for example: 90°, 15', 4" and 35%. For degrees of temperature, major engineering and scientific organizations and standards bodies differ on whether to place a space between the number and the degree symbol (90°C versus 90° C, for example). An angular measurement of 90° is actually "90° of angular arc" or "a 90° angle" but the "of angular arc" or "angle" is left off. With degrees of temperature, however, leaving off the temperature scale is usually not recommended unless the temperature scale is given beforehand and no other scales are used.

Because angular degrees are written with no space between the numeral and the degree symbol, and because temperature degrees without the temperature scale are also written with no space

between the numeral and the degree symbol, then for consistency write all temperature measurements with no space between the numeral and the degree symbol.

When discussing a difference in degrees, the degree symbol is not used: “The temperature rose 1.5 degrees” or “the temperature rose three degrees.” Use of the degree symbol to refer to temperatures measured in kelvins (symbol: K) was abolished in 1967 by the 13th General Conference on Weights and Measures. Therefore, the triple point of water, for instance, is correctly written simply as 273.16 K. The name, as determined by the International System of Units, is now "kelvin" (note the lower case), and not "degrees Kelvin."

When using a space between a number and its unit(s), use non-breaking spaces (Ctrl+Shift+Spacebar) so that the number and its unit(s) do not end up on separate lines.

To show a unit is a product of units, place a space or a dot (*not* a period) between the units.

Incorrect: $v = 325 \text{ ms}^{-1}$

Correct: $v = 325 \text{ m}\cdot\text{s}^{-1}$

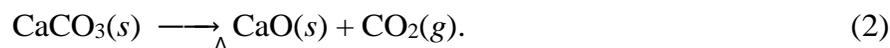
A “solidus” (the oblique stroke “/”) may be used to indicate division, but it may not be repeated.

Incorrect: $F = 325 \text{ kg m/s/s}$.

Correct: $F = 325 \text{ kg m/s}^2$

Chemical equations are treated the same as mathematical equations. For example:

Calcium carbonate, upon heating, decomposes into calcium oxide and carbon dioxide as



5.6 Punctuation in Quotes

Periods and commas go inside quotes except when the quote is something a user types (such as a line of code) or if the quotes are enclosing a title (for example, the title of a journal article).

Do not use quotation marks to emphasize a word since that can be misinterpreted as being sarcastic or ironic. Such quotes are called scare quotes or sneer quotes. However, you can use quotation marks for words you want to refer to (so that the word is not used for its meaning in the sentence).

Section 6: Tips

The Find feature in Word can help you find errors that spellcheck cannot or does not always find. In Word, the keyboard shortcut of Ctrl+F on a PC, or cmd+F on a Mac, will open the Find search box (usually opens in the Navigation sidebar). I do not recommend using Find and Replace, especially using Replace All as there can be exceptions to what is normally an error. You can end up correcting some errors and creating others. For example, in the decimal 3.5, there is no space after the period. A search for periods with no space after them (an error when the period is a full stop, a closing period for a sentence) will find the decimal and if you use Replace All, you will end up with a space before the numeral 5, which is an error.

Do run spellcheck and grammar checks, just realize they will not catch everything. Writing is hard work.

To do a global search in your document for the error of having no space before an opening parenthesis, type the following in the find search textbox.

`^$ (`

To do a global search for no space between a period and the next character (letter, punctuation, etc.), type the following in the find search textbox.

`.^$`

Remember that sometimes no space between a period and the next character is correct (decimals, certain abbreviations, period before closing parenthesis for sentences enclosed in parentheses, etc.).

To do a global search for an extra space after an opening parenthesis type in the search box an opening parenthesis and then a blank space (using the keyboard space bar to insert a space).

To do a global search for an extra space before a comma, period, or closing parenthesis, in the search box use the keyboard space bar to insert a blank space and then type in a comma or a period.

To do a global search for two spaces after a period, in the search box hit the space bar twice (to insert two spaces) and then type in a period.

You can also search for words and phrases that are common in speech, informal writing, or creative writing but are not appropriate for technical writing such as fancy diction, wordy phrases, or correctly spelled but misused words. These include homonyms (for example, “there” instead of “their” or “lead” instead of “led”) and incorrect word choices (for example, “than” instead of “then,” “affect” instead of “effect,” or “that” instead of “which”).

Search for “and” and then for “however” to make sure you are punctuating them correctly.

If you are writing for an international audience, search for “billion” and “trillion” as those numbers are different depending upon the scale a country is using. See Section 4 above.

Check that you are not overusing em dashes.

Index

A

Abbreviations, Acronyms, and Initialisms	
A.M./P.M.	43
Equations	33
Latin	34
Latin Abbreviations	37, 38, 39
Punctuation	37
Social Media	35
With Indefinite Articles A and An	39
Absolutes	9
Acknowledgment Versus Acknowledgement	15
Acronym	32, 39
Redundant	27
Social media	35
Active Voice	<i>See</i> Voice
Additional Mechanic and Usage Guidelines	20, 22, 23, 24
Adjective-Noun Strings	52
Adjectives	1
Adverbs	1, 53
Alot	15
Already Versus All Ready	15
Always	9
Among Versus Amongst	15, 16
And/Or	19
Anthropomorphizing machinery	23
Apostrophes	35, 38, 41
Numbers	41
Appositives	48
Articles	39, 53

B

Balance	2
Billion	18, 40

C

Clichés	7
commas	17
Commas	
Comma Splices	44
Compound Predicate	47
Introductory Phrases	47
Multiple Adjectives	45
Numbers	41
Serial Commas	44
Transitions	45
Commas	44
Commas	
In lists	49
Confused Words	14, 15
Conjunctions and Transitional Expressions	3
Conjunctive Adverbs	4
Consecutive Numbers	40

Contraction	33, 35
coordinating conjunctions	46
Copyright	36, 37
Criterion Versus Criteria	16
Currently	31

D

Dangling Modifier	20
Dashes	50
For indicating ranges	43
in adjective or noun strings	52
in numbers	53
in prefixes	54
typing	52
Date Format	42
Dates	42
Datum Versus Data	16
Degrees	36, 55
Dialect	34
Diction	6
Different From Versus Different Than	18
Doubled Words	28

E

e.g	34
Each Versus Every	16
Effect	<i>See</i> Affect Versus Effect
Either	3, 11
Equations and formulae	
numbering	55
punctuation	55
science	56
Et al.	34
etc	34
Every Day Versus Everyday	17
Expletives	25

F

Fanboys	46
FANBOYS conjunctions	3
Fancy words	8
Fewer Versus Less	18
Figurative language	7
final conjunction	46
Foreign Words	34
Forever	9
Fractions	42, 53

G

Gray Versus Grey15

H

herself, himself, and myself11
 however45
 Hyperboles9
 Hyphens41, 52, 53

I

i.e. 34
 Impossible9
 Incorrect Phrases19
 Indefinite Articles39
 Indefinite Quantifiers29
 Initialism33, 39
 Integrating Quotations22
 Introductory Phrases47

K

kelvin56

L

Letter salutation50
 Literally18

M

Metaphors7
 Misplaced Modifier21
 MLA34

N

NB34
 Neither3, 11
 Never9
 Numbers
 Telephone41
 Numbers40
 Ages41
 Apostrophes41
 In dates, formulas, and scores41
 When to always use numerals41
 Numbers
 Dates42
 Numbers

Ranges43
 Numbers53
 Numbers (Inclusive43
 Numbers (Ranges)43
 Numbers (Spelling out40

O

Of the fact28
 Only9
 Orient Versus Orientate17
 Oxford Comma See Commas:Serial Commas

P

Parallelism1
 parentheses54
 Passive Voice See Voice
 Percent37
 Phone number format42
 Phone numbers41
 phrasal adjective53
 Pleonasm See Wordiness
 Prefixes54
 Presently31
 Pronouns
 Agreement10
 It13
 Their10
 This12
 Whose10
 You12
 Punctuation44
 Punctuation in Quotes56

Q

Quotations22, 56

R

Redundant Acronyms27
 Redundant Modifiers26
 Reflexive pronoun13
 Registered Trademark36
 Relative Clauses25, 28, 29
 Restrictive clause17

S

Sexist language7
 Sic34
 Similes7
 Spacing After Sentence Closing Periods50

Spellcheck.....	15
Subjunctive Mood.....	22
Subordinate Conjunctions.....	4
Symbol.....	33
Symbols	36, 41

T

That, Which, and Who.....	17
Then Versus Than.....	18
There is Versus There are	18
Therefore	46
To the fact phrases	28
Toward Versus Towards.....	15
Trademark.....	36, 37
transition	45
Transitional Expressions.....	5
Trillion.....	18, 40

U

Units of Measurement	41
Unnecessary Modifiers.....	25
Unsupported Statements.....	19

V

Vague Phrases	18
Verb Tenses.....	13
Virtually	18
Voice.....	1

W

While.....	46
Who Versus Whom	17
Wordiness.....	25, 29
Wordy Indefinite Quantifiers	29
Worse Versus Worst.....	17