



# E 303: TECHNICAL WRITING

School of Literature and Languages  
Louisiana Tech University



## Interoffice Memo

**To:** Mr. Merchant's English 303 students  
**From:** Mr. David M. Merchant, English Instructor  
**Re:** Call for an extended technical definition or description  
**Date:** April 6, 2020

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This memo is a call for an extended definition or description related to your proposal topic.

### Summary

Submit a memo *only to me* where you give an extended definition or description of a term or process related to your proposal topic. You may want to define or describe how something is made, or how it works, or one of its major components. You may also discover that you need to explain certain basics first; for example,

- in a report on the benefits of drip irrigation, you would need to write an extended definition of drip irrigation, explaining how it works and what equipment is used;
- in a report on sickle cell anemia treatments, you would need to first define the disease;
- in a report showing small businesses how to weather economic recessions, an extended definition of the term economic recession would be needed first.
- and in a report proposing a change in a curriculum, an extended definition discussing the current state of the curriculum, including what a curriculum is, in general, and then the specifics of the particular curriculum you are focused on—are there requirements before entering the program, what courses are required, what elective choices exist, what order should classes be taken, what minimal grades needed, how many students are enrolled (and is this number increasing or decreasing over the last few years), etc.

Make use of Chapter 14 and 8 in your textbook as well as Moodle resources. **Do not** make any arguments or recommendations—objectively define or describe. Keep two **audiences** in mind: an educated but nonspecialist audience (your primary audience) and subject-matter experts (your secondary audience). Your **purpose** is to describe exactly what your term or thing is.

### Formatting

See the *Merchant's Style Guide* for how to format a memo to the my standards and expectations. However, do not include a summary as your introduction is essentially a summary.

### Memo Sections

The following discusses what to include in each major memo section.

## Memo's Heading Segment

- Replace "Memo" with "Extended Definition Memo" (without the quote marks).
- **To:** Mr. David M. Merchant, Intern Coordinator
- *No* CC: or Through field in the heading segment (delete that line, do not leave blank)
- **From:** [your name]. For example: **From:** Alice Liddell
- A specific subject line ("extended definition assignment" is too general)

## Memo's Purpose Statement

Begin with a one-sentence purpose statement: for example, "The purpose of this memo is to define Alzheimer's Disease so that readers will understand the types, demographics, process, effects, and causes."

## Memo Introduction

The formal sentence definition *must* be the first or second sentence of your introduction; it establishes the focus for the rest of the memo's discussion. Use the formula: **the term = the category + the distinguishing characteristics or qualities.**

Include an overview of what will be covered. For instance, an introduction for an extended definition of sickle cell anemia may look something like the following:

Sickle cell anemia is a congenital, hereditary hemolytic anemia where a mutated form of hemoglobin distorts red blood cells into a crescent shape, causing the cells to quickly degrade, reducing oxygen levels and which occurs primarily in those of African descent. The condition results from a defective hemoglobin molecule (hemoglobin S) which causes red blood cells (RBCs) to roughen and become sickle-shaped. Such cells degrade quickly as well as impair circulation, resulting in chronic ill health (fatigue, dyspnea on exertion, and swollen joints), periodic crises, long-term complications, and premature death. A blood test can detect sickle cell disease (SCD). At present, only symptomatic treatment is available. Half of such patients die by their early 20s; few live to middle age.

The first sentence is a formal sentence definition of sickle cell anemia. The remaining sentences give an overview of what will be covered: causes, incidence, and a description (second sentence), symptoms and types (third sentence), diagnosis (fourth sentence), treatment (fifth sentence), and a conclusion.

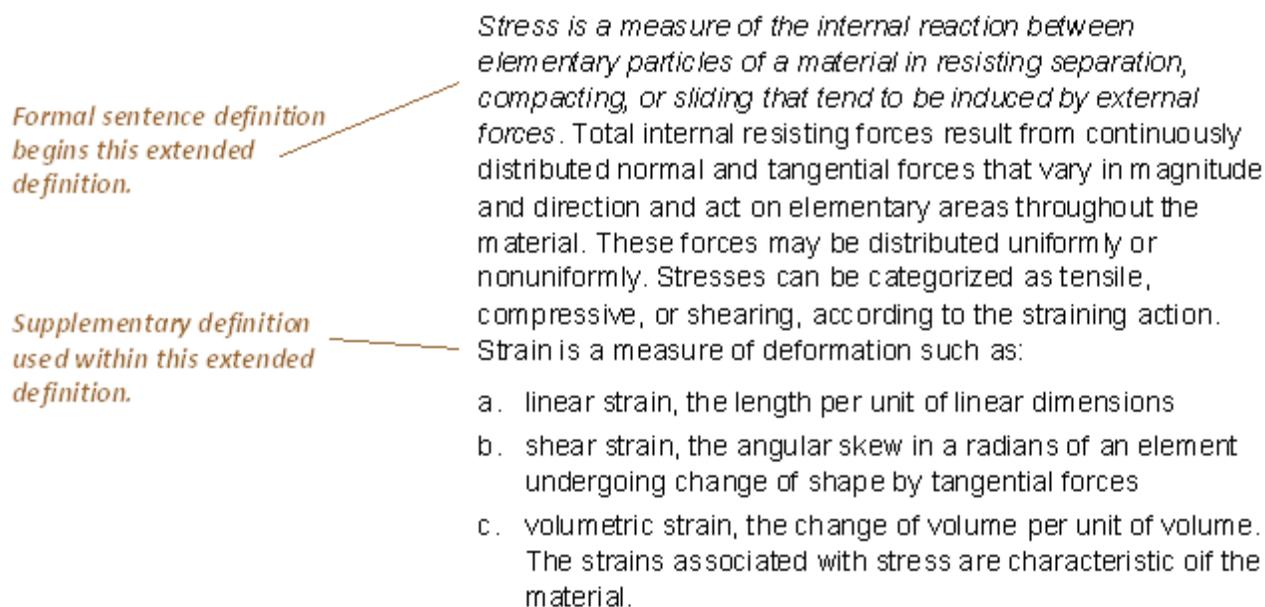
**Writing Formal Sentence Definitions.** Below is another example where the term being defined is **highlighted**, the class to which the term belongs is in **boldface**, and its distinguishing characteristics in *italics*. **Note:** *the highlighting, bolding, and italicizing in the examples below are for instructional emphasis—do not emphasize the elements of your sentence definition in your definition/description memo.*

Influenza, commonly called the flu, is **an acute highly contagious viral infection of the respiratory tract** which *causes catarrh, fever, and severe aching, and occurs sporadically or in epidemics and that lasts up to a month.*

A thumb drive, or flash drive, is a **data storage medium** that is a *small, inexpensive solid-state drive that connects to a device through a USB port.*

The class sets up a larger frame of reference or context, giving readers something familiar to associate with the term. Avoid vague references to the class the term belongs to: for example, instead of calling a concussion an "injury" or botulism a "medical problem," call them something more specific like "a serious head injury" and "a severe form of food poisoning," respectively. Give specific details in the characteristics part of the formal sentence definition. Readers need these details to begin forming their own understanding of the term you are defining.

Make comparisons between something your reader knows to explain things they might not know. However, avoid analogies your audience may not know or may find offensive (stay away from religious and sports analogies, for example). If your sentence definition contains other potentially unfamiliar terms, like *catarrh* in the influenza sentence definition above, consider explaining them as well (*Catarrh* is an excessive discharge or buildup of mucus in the nose or throat); see Figure 1 below for an annotated example.



**Figure 1. Annotated Example of a Formal Sentence Definition**

Source: McMurrey, David. "Extended Definition: How can you define it?" *Online Technical Writing*. Prismnet.com. 2013. [www.prismnet.com/~hcexres/textbook/](http://www.prismnet.com/~hcexres/textbook/).

### **Memo's Discussion Section**

This level-1 section can use a more informative title than "Discussion" and will have multiple level-2 subsections that may have level-3 subsections (see Figure 2 for an example). Give adequate and appropriate detail in a logical flow to support your extended definition. Include relevant visuals as appropriate to help your audience understand your definition or description.

**Choosing the Kinds of Extended Definition/Description Discussions.** Use the following checklist to select the kinds of discussion to include in your extended definitions; choose the ones that help you define or describe your term.

<input type="checkbox"/> Additional definitions	Do unfamiliar terms also need to be defined?
<input type="checkbox"/> Advantages, disadvantages	Are there advantages and disadvantages related to the term that can be discussed?
<input type="checkbox"/> Analogy	Is there a comparison between something your reader knows that can explain something they might not know?
<input type="checkbox"/> Cause, causes	Does the reader need to know about causes related to the term?
<input type="checkbox"/> Categories, classes, types	Are there categories that the term can be divided into? Does it belong to a certain category?
<input type="checkbox"/> Compare/Contrast	Is the term similar to or different from something else?
<input type="checkbox"/> Description	Does anything related to the term need to be described?
<input type="checkbox"/> Effects, results	Does the reader need to know about the effects related to the term?
<input type="checkbox"/> Examples	Would examples help define the term?
<input type="checkbox"/> Function	What do you do with it?
<input type="checkbox"/> Historical background	Is there some history or key individuals related to the term that discussing would help define the term? Would explaining where it came from help define the term?
<input type="checkbox"/> Negatives	Would explaining what the term is not, what it does not refer to, or what it is confused with help?
<input type="checkbox"/> Opportunities	Does the term represent a new opportunity or innovation that creates a new business, development, field, or type?
<input type="checkbox"/> Partition, analysis of parts	Does the term need to be dividing into its essential parts, into more understandable pieces?
<input type="checkbox"/> Problem, solution, opportunity	Does the term represent a problem, solution, or opportunity?
<input type="checkbox"/> Process narration, principle of operation	Is there a process or operation associated with the term that needs its key phases discussed?
<input type="checkbox"/> Statistics	Should you discuss numerical data related to the term—Percentages or amounts, for example?
<input type="checkbox"/> Uses, applications	Would it help to discuss uses or applications related to the term?
<input type="checkbox"/> Word origins (etymology)	Would an understanding of the roots of the word help define it?

Multiple definition types can be used in an extended definition. Figure 2 below is an annotated outline illustrating how different types are used in an extended definition of Alzheimer's disease (note: you will not annotate the outline you submit for your extended definition outline assignment).

1. Introduction *Includes sentence definition.*
2. Alzheimer's Disease: Overview of Current Knowledge
  - A. Two Main Types of Alzheimer's Disease *Classification: the two main classes of the disease are discussed.*
    - I. Early On-set Alzheimer's (Pre-65)
    - II. Alzheimer's Disease (Post-65)
  - B. Other Dementias *Compare/Contrast: compare Alzheimer's to other types of dementias*
    - I. Most Common Types
    - II. Mixed-Dementia
  - C. Demography of Alzheimer's Disease *Description: demographic statistics are used in this definition.*
    - I. Age Distribution
    - II. Gender Distribution
    - III. Other Demographics
  - D. Process and Characteristics of Alzheimer's Disease *Process: the stages of the disease are identified along with the effects of the disease at each stage.*
    - I. Forgetfulness
    - II. Speech Disorders
    - III. Difficulty Calculating
    - IV. Visual Disorientation
    - V. Abnormal Judgment and Social Behavior
  - E. Brain Pathology of Alzheimer's Disease Victims *Effects: clinical effects of the disease.*
    - I. Reduced Brain Size
    - II. Neurofibrillary Tangles
    - III. Neuritic Plaques
    - IV. Loss of Specific Population of Nerve Cells
  - F. Etiology of Alzheimer's Disease *Causes: various possible causes of the disease.*
    - I. Aging
    - II. Health and Lifestyle
    - III. Inheritance
    - IV. Infectious Agents and Toxins
3. Alzheimer's Disease: Current Treatments and Research *Conclusion: brief discussions.*
4. Closing
5. References

**Figure 2. Annotated Outline of a Report That Uses Extended Definition**

**Adapted from:** McMurrey, David. "Extended Definition: How can you define it?" *Online Technical Writing*. Prismnet.com. 2013. [www.prismnet.com/~hcexres/textbook/](http://www.prismnet.com/~hcexres/textbook/).

The above outline is showing the roadmap, the logical organization, for the entire definition as well as secondary roadmaps for development techniques for specific sections of the definition; in the example, the ordered list numerals and letters themselves would not be in the memo; that is,

“1. Introduction” in the outline will be just “Introduction” (without the quotation marks and formatted as a level-1 heading) in the definition memo.

Notice that the Discussion section (also a level 1) in the outline is titled “Alzheimer’s Disease: Overview of Current Knowledge.” Like this example, you do not have to use “Discussion” as your heading; instead, you can use a more descriptive heading title. The subsections are level-2 (for example, “Two Main Types of Alzheimer’s Disease”) and level-3 sections (for example, “Early On-set Alzheimer’s (Pre-65)”). Remember that you need text between headings, even if just one sentence between them.

**Adding Short Definitions.** Sometimes in writing an extended definition, you must also define other terms. Short definitions—a sentence, clause, or phrase—typically will suffice. Notice how many are added to the "after" version in the following example. Depending upon your audience, you may not need to give as many. Too many short definitions can make your extended definition more difficult to read; try to use simpler language where you can; where you must use technical terms then, depending upon your audience, interpret those terms with short definitions.

#### Before Translation

Measles is an acute, highly infectious disease, with cough, fever, and maculopapular rash. It has worldwide endemicity. The infective particle is an RNA virus about 100-150 nm in diameter, measured by ultrafiltration, but the active core is only about 65 nm as measured by inactivation after electron irradiation. Negative staining in the electron microscope shows the virus to have the helical structure of a paramyxovirus with the helix being 18 nm in diameter.

#### After Translation

Measles is an acute, highly infectious disease caused by a virus. The illness is characterized by a cough, fever, and **maculopapular (raised red)** rash. It has **worldwide endemicity—that is, people throughout the world are vulnerable to the disease**. The **infective particle (organism causing the disease)** is a virus about 100-150 **nm (a nanometer being  $10^{-9}$  meter)** in diameter and contains **RNA (ribonucleic acid)** as its genetic material rather than **DNA (deoxyribonucleic acid)**. The size of the measles virus as measured by **ultrafiltration, in which filters with extremely small pore are used**. The **active core, or actual genetic material (RNA)**, is only 65 nm, as measured by electron irradiation which inactivates the core. **Negative staining, a shadowing technique used with an electron microscope**, shows the virus to have a specific helical structure common to a group of viruses known as paramyxoviruses. The **helix, a spiral around a core (similar to a winding staircase)** is 18 nm in diameter.

#### Figure 3. Extended Definitions Often Need Additional Definitions

Adapted from: McMurrey, David. “Extended Definition: How can you define it?” *Online Technical Writing*. Prismnet.com. 2013. [www.prismnet.com/~hcexres/textbook/](http://www.prismnet.com/~hcexres/textbook/).

This process, shown above, of supplying short definitions is important for non-specialists. Notice how many short definitions are in the first two sentences. This is an extreme example to illustrate the point; depending upon your audience, you may not need to give as many. Obviously, the passage is almost tripled in length—but that's the price for a thorough explanation and clarity.

If your **primary** audiences are non-specialists, you should write your definitions with as little specialized language, or jargon, as possible, replacing specialized words with simpler words or short definitions such that the definition does not need “translation”; for example, the first two sentences of the definition in Figure 3 above could have been originally written as follows.

Measles is an acute, highly infectious disease caused by a virus. The illness is characterized by a cough, fever, and raised red rash. People throughout the world are vulnerable to the disease.

**If** your primary audiences are subject-matter experts or specialists, then you do not need to “translate” the definition.

### **Memo's Conclusion Section**

Title this level-1 section appropriately (for example, Current Treatments or Future Developments). See Figure 2 above for an example.

The extended definition is essentially an essay (think Freshman English). You have a thesis, a discussion supporting the thesis, and a conclusion that answers the “so what,” “why should I care,” or “where do we go from here” questions for the reader. **Do not** use phrases like “in conclusion,” “in summary,” or “in closing.”

You may want to give, as appropriate, an overview of how all the parts fit and work together (helps the reader to refocus on the whole thing). If you are defining a specific part of a larger thing, your conclusion should show how the part works in the context of the larger thing. For example, in the definition for the mast camera for the Mars Science Laboratory rover, or Curiosity, after describing the components of the camera and how it works, the concluding paragraph discusses how the camera supports rover operations and navigation ([msl-scicorner.jpl.nasa.gov/Instruments/Mastcam/](http://msl-scicorner.jpl.nasa.gov/Instruments/Mastcam/)).

Depending upon your topic, you may need to discuss **briefly** treatments for or future developments of your defined item. Or, as appropriate, your conclusion may point to broader implications of the item defined.

### **Memo's Closing Section**

Close the memo with a level-1 heading following the guidelines in the *Style Guide*.

### **Memo's Reference Section**

A references section in the correct MLA 8 format must appear as the last level-1 section of the memo. You may use the reference material in Prescott Memorial Library including the Oxford English Dictionary, your textbooks or lecture notes, government websites, and reputable websites related to your field. However, do not include dictionaries in your references section. You do not need to say “according to XYZ dictionary,” in your definition if you are taking the definition from a general (non-specialist) dictionary.

Use only reputable, professional, or academic references; thus, **do not use sources such as About.com, HowStuffWorks.com, or Wikipedia**—these should only be used as points of entry for your research. For example, you can use Wikipedia to help you find good sources (check the references section of the Wikipedia article but make sure the reference you use is a reputable one). You can, though, use Wikipedia Commons for your visuals (cite them, of course).

## Choosing Visuals

Visuals are important in technical writing, especially for helping nonspecialists to follow and understand your discussion. Recall that visuals include charts, diagrams, drawings, graphs, photographs, and tables. Choose a visual that clearly and logically sets out the features of the idea, object, process, or term being discussed (do not include visuals to be cute or decorative). Use visuals from reputable sources. While Wikipedia cannot be used as a source for your text, as mentioned above, you are allowed to use good visuals from Wikipedia Commons. Make sure you check the visual's information/data to get the source information correct. Also, make sure you pick the best visual (not a thumbnail or preview, but a clear, clean visual). For a process or item that will be broken down into parts, consider using a graphic in the introduction that shows the entire thing being defined or described. In the discussion section, use graphics for individual parts as they are discussed.

## Integrating Visuals

Each visual must be introduced before it is discussed; you can introduce it and then discuss it before showing the visual or you can introduce it, show the visual, and then continue discussion it. Remember to discuss all the important features of the visual. Write your definition as if your audience is blind and using a text reader—what important information will they miss from your visual? Your textbook discusses using visuals.

## Formatting Visuals

Each visual needs a label (**Figure 1. Figure's Title; Table 1. Table's Title**) and a source line giving the MLA citation (the word "source:" is boldfaced, the rest of the reference is not, put in size-10 Times New Roman). Refer to the *Style Guide* for other stylistic requirements.

## Closing

I look forward to reading your definitions. If you have questions, please contact me via email or the course Moodle page (forum or messaging service). Do not forget to do your assigned readings. Again, *Merchant's Style Guide* and *Merchant's English Usage Guide for Technical Writers* are located at [davidmmerchant.com/](http://davidmmerchant.com/).

## Reference

McMurrey, David. "Extended Definition: How can you define it?" *Online Technical Writing*. Prismnet.com. 2013. [www.prismnet.com/~hcexres/textbook/](http://www.prismnet.com/~hcexres/textbook/).