Assignment # 4: Technical Definition and Description

Technical professionals are often required to define or describe a technical object, concept, or process to someone who has little knowledge or experience with the subject at hand. For example, an engineering firm might write a proposal to bid on a contract to develop a helicopter for the Defense Department; one section of the proposal would be a detailed description of the product the company proposes to develop. Technical descriptions are used before products and processes are developed (as part of proposals and planning documents), during development (in progress reports, for instance), and afterwards (as part of marketing and promotional literature and technical support documents).

This assignment asks you to select a product or process and write a description of it. It's a good idea to select something with which you are already familiar, so you can focus on learning how to write the description rather than focusing on both learning how to write the description and learning about the product or process. There are two different kinds of technical descriptions to consider. Choose whichever one is appropriate, depending on your topic.

A product description explains the features of a specific device, like a scientific instrument or computer program. Possible topics include devices that are specific to your field, or devices you use in everyday life:

* + - Manual grass clippers
		- Fuel cell
		- Battery
		- Catalytic converter
		- Manual can opener
		- Your favorite computer or video game
		- A specific car model

A process description explains how a complex event occurs, including a mechanical process (i.e. how donuts are made) or natural event (i.e. how lightning is produced). You can choose a process that is specific to your field, or one that people may be curious about:

* + - How a specific drug works
		- How steel is made
		- How fuel cells work
		- How a computer compiles and executes a program
		- How your microwave works
		- How food products are irradiated

It is important to note that a product or process description is not an instruction set. An instruction set provides steps a user would take in order to complete a task (for example, steps to change oil in a car). In contrast, product and process descriptions describe how something works (for example, how oil functions to cool an engine). The contrast is between how to use something and how that thing works (e.g. how to use a microwave versus how the microwave heats food). For this assignment, you should focus on how things work, not how to use them. The next assignment will ask you to focus on instructions.

**Audience and Purpose**
Select an audience that would be interested in learning about the process or product you explain. For example, you could assume an audience of students reading about your topic in a textbook. You could write a marketing document to persuade people to buy a product. Or, you could write a description that would be part of a proposal being sent to a potential client. In the assignment you should assume that the description is crucial to the work of your audience.

**Gathering Information**
Take time to learn about the product or process you select. This might require you to read background information or otherwise inform yourself about the topic.

**Contents**
For product descriptions, start with a sentence definition of the product and its various parts. This could become an extended definition if you think your audience needs more introductory information. Next, describe each part of the product in more detail, including its dimensions, materials, function, and relation to other parts. Conclude with a description of one complete operating cycle for the product.

For process descriptions, start with a definition of the process and the different steps it involves. Again, this could become an extended definition if you think your audience needs more introductory information. Next, describe each step in more detail. Conclude with a summary of one complete cycle in the process.

In either case, though, remember to choose contents based on the audience's level of interest, experience, and knowledge about the topic.

**Format**
Include design features to help the reader locate information and understand the product or process better: diagrams, headers, bulleted lists and other technical communication conventions you've learned about. The final paper should be at least 1000 words and should be single-spaced.

**Visuals**
You have two options here. First, you can develop your own visuals (a rough sketch is fine if you don't know how to prepare one with a computer program). Second, you can use a "reference visual," which is a copy of a published image. If you use a published image, be sure to cite the source and discuss any modification that image needs to fit your context. (For example, if you're describing how a snowblower engine works, you might use an image from the manufacturer's website rather than drawing your own. And if you can't find the exact image you need, you could use a similar image and discuss how your ideal image might be different.)