

Grammar & Mechanics Lesson 4

PARALLEL STRUCTURE (PARALLELISM)

1. Objectives

By the end of this unit, you should be able to

- recognize grammatically incorrect sentences that have faulty parallelism, meaning they combine phrases and lists without similar parts of speech
- create parallel structures in lists and sentences so your writing is more effective
- revise the use of “as well as” to create more effective sentences.

2. What is parallel structure? Why is it important?

Civil engineers frequently describe processes and attributes of a system or site. Such writing inherently contains many sentences that join thoughts and list terms and phrases. For example, when listing steps to solve a problem or describing existing and site conditions, your writing contains many similar items and possibly bulleted lists.

To create clear and concise writing, these types of sentences must be symmetric and parallel, meaning similar parts of speech begin each phrase in a list. In algebra, you must join like terms, and with fractions, you must find common denominators. Similarly, in writing, you must create parallel structure, or parallelism, to achieve order. Your reader will understand your writing more easily if it is organized this way.

A. Phrases Joined by a Conjunction (*and, or, but*)

Correct Examples	Explanation
<p><i>These three examples express the same meaning but are set up three different [correct] ways to show what parallelism means.</i></p> <p>1. We recommend that you remove the existing roofing system and install new, ½” high density protection board.</p> <p>2. We recommend removing the existing roofing system and installing new, ½” high density protection board.</p> <p>3. We recommend removal of the existing roofing system and installation of a new, ½” high density protection board.</p>	<p>Two <u>phrases</u> are combined by and in these three example sentences.</p> <p>1. Both <u>phrases</u> begin with a verb in its base form (no prefix or suffix added to the verb).</p> <p>2. Both <u>phrases</u> begin with -ing verb forms.</p> <p>3. Both <u>phrases</u> begin with a noun (removal = the act of removing and installation = the act of installing).</p>
Incorrect Example	Explanation
<p>We recommend removing the existing roofing system and installation of a new, ½” high density protection board.</p>	<p>The <u>phrases</u> don’t begin with matching parts of speech, so the sentence is grammatically incorrect. The first part starts with an -ing verb form and the second part with a noun.</p>

Additional Correct Examples	Explanation
<p><i>These sentences share the same meaning but are shown two ways.</i></p> <p>1. Revitalizing the ecoroof will require that you <u>remove</u> the invasive grass and <u>replant</u> sedum.</p> <p>2. Revitalizing the ecoroof will require <u>removing</u> the invasive grass and <u>replanting</u> sedum.</p>	<p>Two phrases are combined by and in these two example sentences.</p> <p>1. Both phrases begin with base form verbs.</p> <p>2. Both <u>phrases</u> begin with -ing verb forms.</p>
Incorrect Example	Explanation
<p>Revitalizing the ecoroof will require that you <u>remove</u> the invasive grass and <u>replanting</u> sedum</p>	<p>The <u>phrases</u> don't begin with matching parts of speech so the sentence is grammatically incorrect. The first part starts with a base form verb and the second part with an -ing form verb.</p>

Now that you are getting the hang of creating parallel structures, here are some quick **YES/NO** examples.:

YES: To make stormwater improvements, our group proposes remediation of the existing lot by decreasing stormwater runoff and making efficient use of vacant land for the benefit of the surrounding community.

NO: To make stormwater improvements, our group proposes remediation of the existing lot by decreasing stormwater runoff and to make efficient use of vacant land for the benefit of the surrounding community.

YES: Transportation engineers have a multitude of sustainable solutions available to them, such as building bio-swailes to treat runoff or installing geo-fabrics to treat soil erosion.

NO: Transportation engineers have a multitude of sustainable solutions available to them such as to build bio-swailes to treat runoff or installation of geo-fabrics to treat soil erosion.

B. Avoid "as well as"



Avoid using *as well as* when combining phrases or listing items. It often causes ungrammatical sentences. Even when the sentence is grammatical, readers are left wondering if the *as well as* item was mentioned before, was an after-thought, or is somehow different than the other items.

Ineffective Examples	Effective Examples
<p>1. We obtained our seismic design values from the USGS website based on our site location coordinates, as well as our seismic design category.</p> <p>2. The work will include the pipe, manhole, drain and swale installation, as well as cleaning the ditch.</p> <p>3. The grade and water table changes in the Firestone to Florence section may be due to faults so further assessment of this area is needed, as well as the Cypress to Garden Grove section.</p>	<p>Replace as well as with and, making sure you use parallel structures:</p> <p>1. We obtained our seismic design values from the USGS website based on our site location coordinates and seismic design category.</p> <p>2a. The work will include installing the pipe, manhole, drain and swale, and cleaning the ditch.</p> <p>2b. The work will include the pipe, manhole, drain and swale installation, and the ditch cleaning.</p> <p>3. The grade and water table changes in the Firestone to Florence section and the Cypress to Garden Grove section may be due to faults, so further assessment of these areas is needed.</p>

Below are some quick **YES/NO** examples:

YES: The transit center design accommodates all routes currently servicing the campus and provides capacity for future expansion from additional bus agencies.

NO: The transit center design accommodates all routes currently servicing the campus, as well as provides capacity for future expansion from additional bus agencies.

YES: This option attenuates the project’s stormwater impacts by planting vegetation along the roadside and planting trees in other portions of the watershed that are currently denuded.

NO: This option attenuates the project’s stormwater impacts by planting vegetation along the roadside, as well as planting trees in other portions of the watershed that are currently denuded.

C. Bulleted Lists

Correct Examples	Explanation
<p>1. We recommend the following remediation:</p> <ul style="list-style-type: none"> • remove the existing roofing system, • match new rigid installation, • install new ½” high density protection board, and • replace 60 mil fully-adhered EPDM membrane. <p>2. FPM would like the ecoroof to function as it did in 2004. This would require the following actions:</p> <ul style="list-style-type: none"> • removing the invasive grass and replanting sedum, • fixing monitoring and irrigation systems, and • creating a feasible maintenance plan. 	<p>1. Each item in the list begins with a verb in its base form. Note that there are no –ing verbs, nouns, or “to” before verbs.</p> <p>2. All requirements listed begin with an -ing verb form.</p>

Incorrect Example	Explanation
<p>FPM would like the ecoroof to function as it did in 2004. This would require the following actions:</p> <ul style="list-style-type: none"> • in order to replant sedum, the invasive grass would have to be removed • to fix monitoring and irrigation systems • creating a feasible maintenance plan. 	<p>The list does not have parallel structure because</p> <ul style="list-style-type: none"> • the first item is a dependent clause + sentence • the second item is to + verb • the third item is an -ing verb.

D. Listing a Series of Items in a Sentence

Correct Examples	Explanation
<p>The fourth alternative defines the maximum attainable roadway improvement without impacting the existing Napa River Bridge, compromising roadway design standards, or changing adjacent land uses.</p>	<p>This sentence is parallel because each part of the list begins with an -ing verb form.</p>

Below are some quick **YES/NO** examples:

YES: The transit center design includes seven bus loading bays, accommodates all routes currently servicing the campus, and provides capacity for future expansion from additional bus agencies.

NO: The transit center design includes seven bus loading bays, accommodating all routes currently servicing the campus, as well as provides capacity for future expansion from additional bus agencies.

YES: The water quality facility consists of the following: a stormwater detention basin, a stormwater inlet pipe, a split-flow manhole, and a pond outlet control device.

NO: The water quality facility consists of a stormwater detention basin, a stormwater inlet pipe, and a split-flow manhole, as well as a pond outlet control device.

YES: This option attenuates the project's stormwater impacts by planting trees, shrubs, and grasses along the roadside and planting trees in other portions of the watershed that are currently denuded.

NO: This option attenuates the project's stormwater impacts by planting trees and shrubs, as well as grasses, along the roadside and planting trees in other portions of the watershed that are currently denuded.

3. Formatting Guidelines for Lists

You may see variation in how firms format bulleted lists. Follow any specific guidelines you are given. Here are the most common conventions:

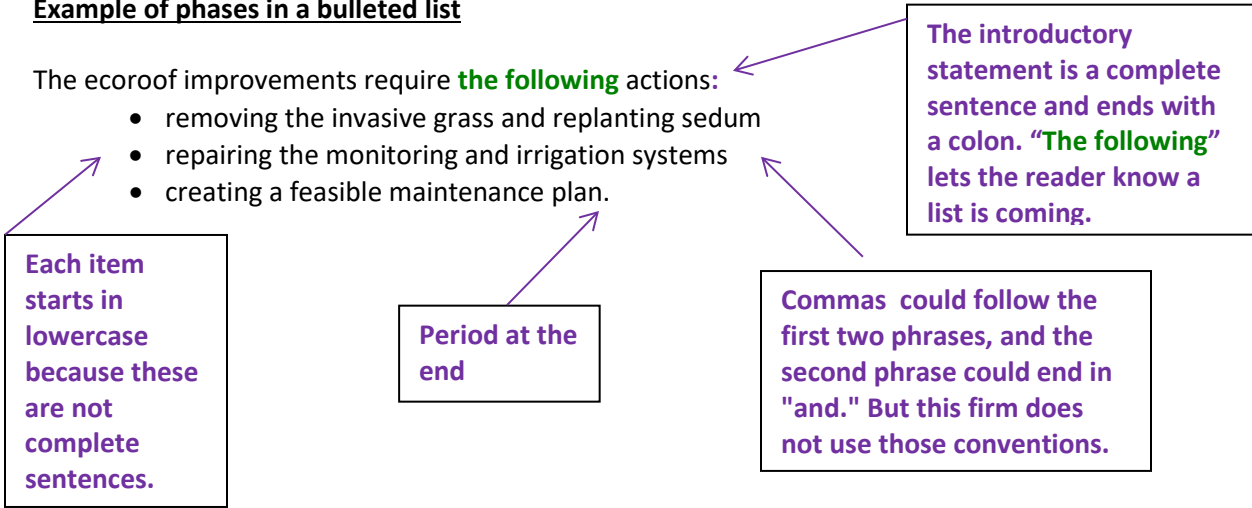
1. The list should be introduced with a complete sentence. The sentence usually refers to "the following" or "as follows" to let readers know what is coming.
2. The sentence introducing the list should end with a colon.

3. If bulleted items are phrases, they are not capitalized. The final item ends with a period. It is grammatically correct for the non-final items to be followed with commas, and the next-to-last item may end with "and." You can see those conventions in section C above. Most engineering firms, however, do not use the commas or "and."
4. If the bulleted items are complete sentences, each one is capitalized and ends in a period.

Example of phases in a bulleted list

The ecoroof improvements require **the following** actions:

- removing the invasive grass and replanting sedum
- repairing the monitoring and irrigation systems
- creating a feasible maintenance plan.



4. Practice

Some of the following sentences lack parallel structure. Identify which sentences need revision and rewrite them so that they use parallel structures. If you find errors in the formatting of lists, correct those errors, too.

1. The firm has completed thousands of geotechnical investigations for a variety of projects including landslides, roadways, bridges, buildings, communication towers, earth embankments, industrial facilities, retaining walls, and wastewater treatment plants.
2. In order to determine yield and tensile strength, we performed the following steps:
 - Prepared a test specimen of at least two feet.
 - Measuring the specimen with calipers at three places and then found the average.
 - Insertion of suitable jaws in the grip and select a suitable load scale on the UTM.
 - Insertion of the specimen in the grip by adjusting the cross heads of the UTM.
3. Therefore, the practices of the engineering profession play a significant role in public safety as well as having a significant role in our global economy.
4. In order to make stormwater improvements, our group proposes remediation of the existing lot by decreasing stormwater runoff and to make efficient use of the vacant land.
5. The goal is to provide the organization with a design that:
 - Utilizes local materials
 - Focuses on constructability
 - Safe and sustainable.

6. The objectives of this lab are to determine yield and tensile strength, to determine the elongation and reduction of cross-sectional area, to find the modulus of elasticity and the rupture strength, and the determination of the relationship between stress and strain.
7. The traffic flow in this area is affected by the following factors: land use, condition of roadway, presence of signaling and connection to main roads, time of day, and gradient. The land uses in this area (i.e., the bars, restaurants and beauty store) are pedestrian generators.
8. The transit center design provides a capacity of seven bus loading bays, accommodates all routes currently servicing the campus, as well as provides capacity for future expansion from additional bus agencies.

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