

# English 122: Composition II

## An Introduction to Logic and Syllogisms

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### Logic and Fallacy

**Logic** must be used to build a valid argument. Logic is not persuasive on its own; rather, it is factual evidence and builds the foundation for the paper's logos, or logical appeal. It is an effective tool for creating legitimacy and adding credibility to the argument based on fact and clear, sequential thinking.

Flawed logic, however, can crumble the foundation of the paper's logos. Errors in logical reasoning are called **fallacies** and they should be avoided in all academic writing. Many students write fallacies unintentionally. They are not aware that their argument has irrelevant points, lacks evidence, or contains invalid conclusions.

Review the following common fallacies and ensure you have not used them in your assignment. Double-check each claim and associated conclusions/analyses for strong logic and address any fallacies right away. This is a very small list of fallacies found in arguments. Use logic to avoid any flawed thinking, misuse of logos, or loss of credibility in your work.

- **Slippery Slope:** This fallacy occurs when the writer concludes that something bad will definitely happen if one small thing is allowed to occur.
  - **Example:** If we allow children of undocumented workers to attend public schools, there will soon be amnesty for all and terrorists will be able to enter the country freely and destroy America.
  - **Discussion:** In truth, allowing children from other nations to attend our schools does not actually lead to terrorists destroying America. This example jumps a lot of steps to draw this conclusion. Since it not a logical sequence, it is a fallacious statement.
- **Hasty Generalization:** This fallacy occurs when the writer makes a conclusion regarding a large group based upon the analysis of a small, non-representational segment of the group.
  - **Example:** People who are overweight are just lazy and don't want to exercise.
  - **Discussion:** Well, it's possible that an overweight person is lazy and does not want to exercise. However, it is also possible that an overweight person has thyroid disease or a metabolic disorder. The person may have terrible arthritis and cannot physically exercise. People who have received organ transplants take high doses of medications to fight transplant rejection and those medications cause a lot of weight gain. Sometimes, overweight people work hard and exercise a lot but have other dietary issues preventing weight loss. It is not proper to assume that all people with weight problems are to blame for their condition. Therefore, it is fallacious to say that all people with weight problems are lazy and do not want to exercise.

- **Post hoc ergo Propter hoc:** This is Latin for “after this, therefore, because of this.” This fallacy occurs when the writer assumes that an earlier occurrence is the cause of a later occurrence. Superstitions are common post hoc fallacies.
  - **Example:** Tony will only wear his blue BVDs to play football home games. He wore the blue BVDs last year during Homecoming and they won 13-0.
  - **Discussion:** Tony’s choice of undergarment cannot cause a team to win a game. Logic states that player preparation and performance can indicate odds of winning. Just because he wore those briefs and won once there is no evidence that they caused the win or will cause other wins in the future. This is a fallacy.
- **Either/or:** This fallacy occurs when the writer presents a multisided issue in an oversimplified way, offering only two sides or choices.
  - **Example:** We can either live off the grid or cause the destruction of the earth.
  - **Discussion:** There are more options available to people than living “off the grid” or being responsible for the destruction of the earth. For instance, people can plant trees in areas destroyed by wildfire, use little electricity, recycle rainwater, use a bicycle instead of a car, and replace old appliances with energy-efficient models to avoid harm to the environment. Boycotting the energy companies is not the only other option. The overly-simple presentation of choices is fallacious.
- **Ad hominem:** This fallacy occurs when the writer attacks the person or organization presenting the argument rather than addressing the argument itself.
  - **Example:** I don’t support Barak Obama’s position on healthcare. He’s a socialist idiot.
  - **Discussion:** Well, suppose the president is a member of the socialist party (he is not) with a very low IQ (he does not). Even if that were true, his party affiliation and intelligence level do not impact the policies put forth by his administration directly. It would be logical to oppose healthcare policy based upon research, budget, industry data, and other facts. It is fallacious, however, to refute the argument by attacking the president’s social position or intelligence.
- **Ad populum:** This fallacy occurs when the writer appeals to popular sentiment rather than logic to prove a point.
  - **Example:** Of course Beyoncé is an amazing songwriter. She’s broken dozens of album sales records.
  - **Discussion:** The fact that a performer is popular does not make them a talented artist. Selling records is not the same task as writing songs. In fact, many of Beyoncé’s “co-writing” credits are questionable within the industry. It is fallacious to say that something is “good,” “new,” or otherwise described simply because it is popular.
- **Red Herring:** This fallacy occurs when the writer strays off topic during the essay, drawing the reader away from the actual argument. This fallacy is commonly used in political debates and was made quite popular by the 1985 cult film *Clue*.
  - **Example:** I understand that many people have concerns about my voting record in Congress. These same people are more concerned about my

opponent's DUI charge and suspicion of infidelity. After all, how can someone run a country if their own life is so out of control? My opponent has spent millions of dollars trying to attack me rather than taking the time and money to get help for his own vices. His character has been proven time and time again and I'm sure that's not what we want in the White House.

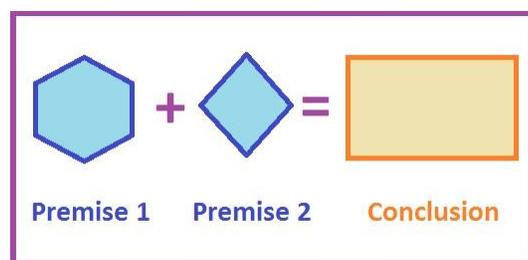
- **Discussion:** Notice how the question of a voting record strayed completely off course until the original topic was completely abandoned? This form of fallacy is used to redirect the audience and avoid addressing the counterargument. There is no logical reason to move from one's voting record to the moral character of another person.
- **Straw Man:** This fallacy occurs when the writer oversimplifies the counterargument and, therefore, provides an overly-simple or shallow rebuttal.
  - **Example:** Republicans only care about money. Our country was built on a foundation of every person's right life, liberty, and the pursuit of happiness. Our country is not a nation of money and the haves and have-nots.
  - **Discussion:** It's easy to say that a political party has one single agenda, and then attack that simple agenda item. Anyone interested in politics knows, however, that each political party has a rich identity with positions on fiscal, social, international, and other issues. A logical rebuttal will address many issues within the counterargument, not just the easy ones.

## Using Syllogisms to Build Logical Conclusions

### *The Language of Logic*

Logic uses the same concepts as argument but with slightly different vocabulary. Review the following terms to understand how the structure of logic relates to the structure of argument you've already learned.

- **Premise:** this is the proposition (the claim you are making and the evidence you use to support it) used in an argument
- **Conclusion:** this is the logical result of the analysis of premises. In short, this is the natural result that readers will reach based on the evidence and claims you have presented.
- **Argument:** this is the entire statement of a conclusion based upon logical premises
- **Syllogism:** Aristotle's simple formula for developing logical premises and conclusions
- **Induction:** this is the process through which premises provide the basis for the conclusion—but it's not a slam dunk argument. In short, you want readers to make connections between your premises and conclusion and agree that the conclusion very likely to be true.
- **Deduction:** this is the process through which premises provide conclusive proof for the conclusion. In short, this *is* a slam dunk argument.



Claims, evidence, rebuttals, and analysis must be presented logically to create a successful argument. Pre-writing exercises can help you write a logical sequence for your ideas before composing a draft. By planning for logical sequence early, you can avoid mistakenly writing fallacious statements that undermine your entire paper.

## Syllogisms

The Greek philosopher Aristotle developed a simple formula for creating a logical sequence, called a **syllogism**. In this formula, the writer will take two premises (claims with supporting evidence) and draw a logical conclusion. Each premise provides half of the story. Added together, they logically combine to create a solid and logical conclusion. Sometimes two premises are not enough. It is appropriate to present multiple premises to logically lead to a solid conclusion. Remember, each premise will be comprised of a claim and its supporting evidence. If your conclusions are not comprised of premises that include a clear claim and scholarly evidence, it may be illogical or invalid.

**Premise 1:** All students have access to Microsoft Word.

**Premise 2:** Microsoft Word contains Times New Roman font.

**Conclusion:** Therefore, Times New Roman font is accessible to all students.

This simple formula takes two valid statements and creates a third statement that relies upon the factual nature of the others. To make this logical conclusion in your paper, provide the claims and evidence for each premise, then lead into the conclusion.

**Premise 1:** The IRS prohibits partisan politics' involvement in non-profit religious organizations.

**Premise 2:** Partisan politics' involvement in non-profit religious organizations would cause ethnocentric values to enter government.

**Conclusion:** Therefore, the IRS prohibits ethnocentric values to enter government.

**Premise 1:** School uniforms are less expensive than other clothing options.

**Premise 2:** Other clothing options can lead to gang affiliations, bullying, and sexual harassment.

**Conclusion:** Gang affiliations, bully, and sexual harassment can be lessened by school uniforms.

Remember! Each premise must be credible and valid to be used in your paper. This means the claim should be clear and concise and evidence must be cited and used to support each claim. Logic and research should work together to create a credible and valid argument. One cannot replace the other. Use research to create your claim and evidence. Use the claim and evidence to develop a premise. Use syllogisms to build logical conclusions in your assignment.

