Logical Fallacies:

- Logicians have developed several types of logical errors.
- Most of these could be seen as faulty induction or deduction; however, it is good to become familiar with these widely used terms for common logical flaws.
- Even if one cannot recognize the specific type of fallacy, one should be able to point out flaws in reasoning.
- One uses this to refute the opposition, and one should avoid such flaws in his or her own writing.
False (Weak) Analogy:

- An analogy is an extended comparison. An argument by analogy is only as strong as the comparison on which it rests.
- A weak analogy is committed when the comparison is not strong enough.
- Since no two things are exactly the same, one’s opposition will likely be able to refute part of the analogy.
- Analogies work to reinforce a position that has facts, stats, etc. to back it up.
Examples:

- We will likely wake up from death because death is like falling to sleep in that you lose consciousness in both, and we wake up from sleep.
Examples - Analogies

- We gave half the members of the hiking club Durell hiking boots and the other half good-quality tennis shoes. After three months of hiking, you can see for yourself that Durell lasted longer. You, too, should use Durell when you need hiking boots.
Examples - Analogies

- The book *Investing for Dummies* really helped me understand my finances better. The book *Chess for Dummies* was written by the same author, was published by the same press, and costs about the same amount. So, this chess book would probably help me understand my finances.
Begging the question (arguing in a circle):

- One assumes something that is his responsibility to prove (the **circular argument** repeats the claim in different words or with synonyms) – there is only one premise and no evidence is given, so it is only accepted by those who already favor it.
Begging examples

- How can you approve of slaughtering babies? (Begs – assumes abortion is murder)
- How do you know that flying saucers haven’t been visiting the earth for centuries? (Begs the questions because no proof is given)
- Of course he is guilty. He would not be in jail if he was not a criminal (Circular)
- It is only fair to pay your fair share of taxes (Circular).
- We need a leader that wrote *The Art of the Deal*.
- (Circular) Trump = Trump.
Post Hoc Ergo Proctor Hoc

- (Latin – “After this, therefore because of this”): The author infers that because one event follows another, the first event caused the second (assumes a cause and consequence relationship). The two events may be coincidental, or the first may be only one, and an insignificant one, of many causes that produced the second event.

- Post Hoc ignores more complex possibilities.
Post Hoc

- A month after A-bomb tests are concluded, tornadoes damage the area where the tests were held.
- During the full moon, ice cream sales increase by 75% in Des Moines, IA.
- A student rubs his lucky rabbit’s foot before the test, and he aces the test.
- The baseball player grows a mustache and his batting average increases by 100 points.
- This product cures the common cold; my cold went away by the sixth day that I used it.
Non Sequitur

- (Latin – “It does not follow.”): This is stating a conclusion that does not follow from the premise or premises (poor deductive form or logic).
- Almost any form of fallacious argument is non sequitur, so it overlaps with many of the other examples in this lesson. Still, it is a popular term.
Non Sequitur

- Donald Trump suggested that we do not want those from poor background to become president. It does not follow that people from lower socioeconomic backgrounds cannot decide matters of the state.
- This car has a noisy engine; therefore, it must produce a lot of pollution.
- Some of the candidates, they went in and didn't know the air conditioner didn't work and sweated like dogs, and they didn't know the room was too big because they didn't have anybody there. How are they going to beat ISIS?
- I do not know why Professor Smith is such a hard grader. He is always late for class.
Scare Tactics: Using fear to manipulate

- **Slippery slope:** Falsely assumes that one thing must lead to another. The arguer predicts that taking a first step must lead to a second (undesirable) step.
- If abortion is legal, then euthanasia or assisted suicide is soon to follow.
- If you buy a Green Day album, you will become an intoxicated punk rocker.
- If we ban handguns, the next thing you know we will ban rifles and hunting weapons.
- If we allow gay marriage, then we will have to legalize polygamy. Next, we’ll allow incest and bestiality.
Hasty Generalization:

- Insufficient data/Leap to a generalization/Poor inductive reasoning

- “Men aren’t sensitive enough to run a daycare center.”
- “Because my Honda broke down, all Hondas are junk.”
- Two jet planes crashed this year; therefore, air travel is not safe anymore.
- When Mexico sends its people, they're not sending their best. They're sending people that have lots of problems. They're bringing drugs. They're bringing crime. They're rapists. (Trump)
Either – or / False dilemma / Bifurcation / Black – White fallacy

- One is given only two options when at least one other option is available. The arguer claims only two alternatives exist: his and something undesirable.

- If you are not part of the solution, then you are part of the problem.

- Why do we spend millions of dollars on sending a spacecraft to Mars? We could use that money to improve public schools (this is a false dilemma because we do not know where they would spend the money).

- Either we stop the construction of the new airport, or the surrounding suburbs will become ghost towns.

- How can you be against the bill to build a wall along our southern border? Either you are for protecting the border or against it.
Ignoring the Question: Leaves the central issue

- **Ad Hominem** (Latin “to the man” or “against the man”) this attacks the arguer rather than the issue at hand. One should logically attack issues rather than “mudsling” at people.
- The governor wants to eliminate soda machines in schools but he does not know what he is talking about.
- Your plan to provide universal health care is interesting. I’m sure Marx would agree with you.
- Free trade is terrible. Free trade can be wonderful if you have smart people. But we have stupid people. (Trump)
Red Herring (Distraction) Latin “Ignorance of Refutation” (Ignoratio Elenchi)/

- Debate tactic/Divert)/Debate tactic/Divert arguer & talk about something else (new topic)/Avoids weak position on a topic
Examples

- “I should not pay a fine for reckless driving. There are actual dangerous criminals on the street, and the police should chase them instead of me.” (The issue of “worse” criminals is a secondary issue)

- “The president’s tax policies may be popular, but I suspect him of having an affair, so the media should investigate that!” (The president’s affair has nothing to do with his knowledge of the tax system).

- How can we trust Barack Obama with matters of national security when we know his dad was Muslim?
Straw Man:

- This argument misrepresents a position in order to make it appear weaker than it actually is, refutes the misrepresentation, and concludes that the real position has been refuted. In other words, it is an attack on a similar view but not the issue at hand (the “straw man” is easier to knock down than the real man).
Examples

- Bill argues that we must regulate genetically engineered crops better & Sue replies that people will starve to death if we take away farmers’ ability to grow crops (a straw man and not the same issue as more regulations).

- Ted suggests that the government should raise fuel efficiency standards because it would help with global warming & Joe responds that cities are built to drive cars and your idea will kill the economy (a straw man – regulation and elimination are two different things).
Real Life Straw Man

- Part of Obamacare (the Affordable Care Act) suggested that we have end of life counseling for those in hospitals (a common practice for terminally ill people). Republicans said that a “death panel” would be created if Obamacare were to be implemented (a straw man – of course people oppose death panels)
  - Side note – in states where euthanasia is legal, health insurance companies have pushed for euthanasia over treatment since treatment is more costly.