Essentials of Formal Logic
with Joelle Hodge

Lesson 28, Chapter 8.1

Outline:

Chapter 8, Lesson 8.1

- Determining the Validity of Syllogisms
- Validity and the Counterexample Method
- Points to Remember
    - **Valid syllogisms** are syllogisms that are structured properly.
    - **True syllogisms** are syllogisms that are factually accurate and correct.
    - **Sound syllogisms** are syllogisms that are both true and valid.
    - It is possible to have a syllogism that is valid but not true.
    - It is possible to have a syllogism that is true but not valid.
    - To construct a sound syllogism, make sure that your premises are true and that the syllogism is structured validly.
    - The **counterexample method** is one method used to examine the validity of a syllogism.
- Schema, counterexample, Venn diagram, Aristotelian rules for testing for validity
- Valid syllogisms, true syllogisms, and sound syllogisms are not synonyms.
- Is it enough for you to just be right, or do you also want a sound argument?
- Not all of faith can be reconciled with fact. Not everything can be put through the filter of logic. Logic is a good tool to help us make sense of things.
- We need to give consideration to the construction of our arguments so that we can give sound arguments.
- When you use the counterexample method to determine if a syllogism is valid (invalid).
    - You construct another syllogism with the same exact schema as the syllogism that you are examining. However, when you construct the counterexample that is in the same schema as the first syllogism, you must construct a syllogism that has true premises that lead to a false conclusion.

- This highlights the idea that a validly constructed argument, if given true premises will always produce a true conclusion. If your argument is true and valid you should be able to put in an analogous set of terms (into the syllogism) and it should produce a true conclusion.
- It takes a couple of tries to come up with a counterexample with true premises and a false conclusion.
- You should know that you have to be careful with the counterexample method because sometimes when you are trying to come up with a counterexample to a syllogism, you first come up with several more syllogisms that have true premises and conclusions before you find one that has true premises and a false conclusion.