

## Course Content

When asked what college students should get out of their four (or five, or six) years, people always tend to say something such as, "the ability to think critically." Philosophy 106: Reasoning is the only course in the curriculum, however, which explicitly attempts to teach this. The course focuses on the giving of rational arguments, and reasons, for points of view, and how to differentiate good reasons and arguments from bad ones.

Countless times, both in college, but especially after you graduate, you will be formulating reasons for certain activities, presenting them, and criticizing the reasons of others. Reasoning, or critical thinking, covers the correct and incorrect ways to form arguments and reasons, good and bad ways to present them, and a myriad of ways to criticize them.

Certain mistakes in reasoning occur again and again - these mistakes are known as **fallacies**. We will examine over 20 of them, and discuss why such mistakes tend to get made and how to correct them. We will also focus on clearly distinguishing one fallacy from another.

We increasingly are called upon to evaluate **scientific reasoning**, for instance, if you have high blood pressure, you may hear about a study on a new medication for high blood pressure. But how exactly do you tell how significant the study is, whether it is likely to be overturned, or even whether its claims are likely to be true. There are also pseudosciences around: systems of thought which claim to be scientific but are not, such as astrology, for instance. How exactly one decides whether something is a pseudoscience or a real science, is a question we will try to answer.

**Deductive systems**, such as categorical logic and sentential logic, show that certain parts of reasoning can be as exact as mathematics. We will examine the nature of deduction, as compared with induction, as well as the distinction between the two. We will study categorical logic in depth, as well as the Venn diagram techniques which augment it.

What we might call **critical cognition** is a new field which attempts to apply new findings about the brain to the study of reasoning. If we fully understand the way we do reason, this can help us get from there to the way we should reason. Certain types of brain damage can selectively affect different of our reasoning capacities, for instance, short term memory, language use, and the ability to be critical itself, for instance.

The ability to critically use the **Internet** is becoming increasingly important. There is a huge amount of information on the Internet, but there is also a great deal of false claims and insignificant detail. This class will cover techniques, both for ensuring that what you get off the Internet is correct, and for checking it using the Internet itself as well as other sources.