**Induction: Cause, Choice and Chance**

**Philosophy 3232**

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**Professor Matthew Moore**

In most introductory logic courses one studies deductive logic, in which the central concept is deductive validity: a deductively valid argument is one whose premises, if true, guarantee the truth of its conclusion. The premises of an *inductive* argument, by contrast, give us (more or less) good reason to believe the conclusion, but do not guarantee its truth. Inductive arguments play an indispensable role in our commonsense reasoning, and also in science: we use inductive methods to discover causal connections, to confirm hypotheses, and to make judgments about probability. Yet though we clearly cannot get along without induction, it is not so easy to answer certain fundamental questions about it, questions such as: *what exactly is induction?* and *why are we justified in relying on induction?* These problems are so challenging, and soimportant, that one philosopher called induction the “lock on thedoor of philosophy.” In this course we will study the logic and thephilosophy of induction. Topics to be covered will include: thedefinition and justification of induction, causal reasoning (Mill’sMethods), lawlike generalizations, probability and decision making.This course has much to offer anyone with an interest in logic, thetheory of knowledge or the methods of the sciences. No prior study oflogic will be presumed.