305 Lecture 1.1 - Getting Started

Brian Weatherson

Aim of Course

Introductory survey of some formal methods that are of broad philosophical use.

Three Sections

1. Propositional Logic

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2. Probability and Statistical Reasoning

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2. Probability and Statistical Reasoning
3. Modal Logic and Conditionals

Propositional Logic

- This is the logic of sentences that can be true or false, and that can combine to form longer sentences.
- So as well as looking at simple sentences, like Nadia sings, we will look at sentences that are built from simple sentences.
- Examples of such sentences are Nadia doesn't sing, Nadia sings and Bethany dances, and If Nadia sings, Simone sleeps.

Probability and Statistical Reasoning

- Sometimes we can’t infer that a conclusion is definitely true, but we can infer that it is probably true.

Probability and Statistical Reasoning

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- We will look at some tools for regimenting how and when we make such inference.

Modal Logic

This is the logic of ‘must’ and ‘might’. It has as many applications as there are interpretations of ‘must’ and ‘might’. The primary interpretations we’ll look at are:

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- Metaphysical
- Epistemological
- Moral

Textbooks

There are three - all of them available through Canvas.

1. forall x: Calgary Edition by P. D. Magnus, Tim Button, J. Robert Loftis, Robert Trueman, Aaron Thomas-Bolduc and Richard Zach.
2. Odds and Ends by Jonathan Weisberg
3. Boxes and Diamonds, Ann Arbor remix, writted by Richard Zach and edited by me.

The three books are for the three parts of the course.

forall x
CALGARY

An Introduction to Formal Logic

http://forallx.openlogicproject.org

Registering with Carnap

- To turn in the work for this part of the course, you have to register with a service called Carnap.
- You'll find it at http://carnap.io.

Register for the Right Course

Our course is called

> University of Michigan - W22 - Phil305 University of Michigan Winter Term 2022 Philosophy 305 Introduction to Formal Methods

Odds & Ends

Introducing Probability & Decision with a Visual Emphasis

Jonathan Weisberg

Preface

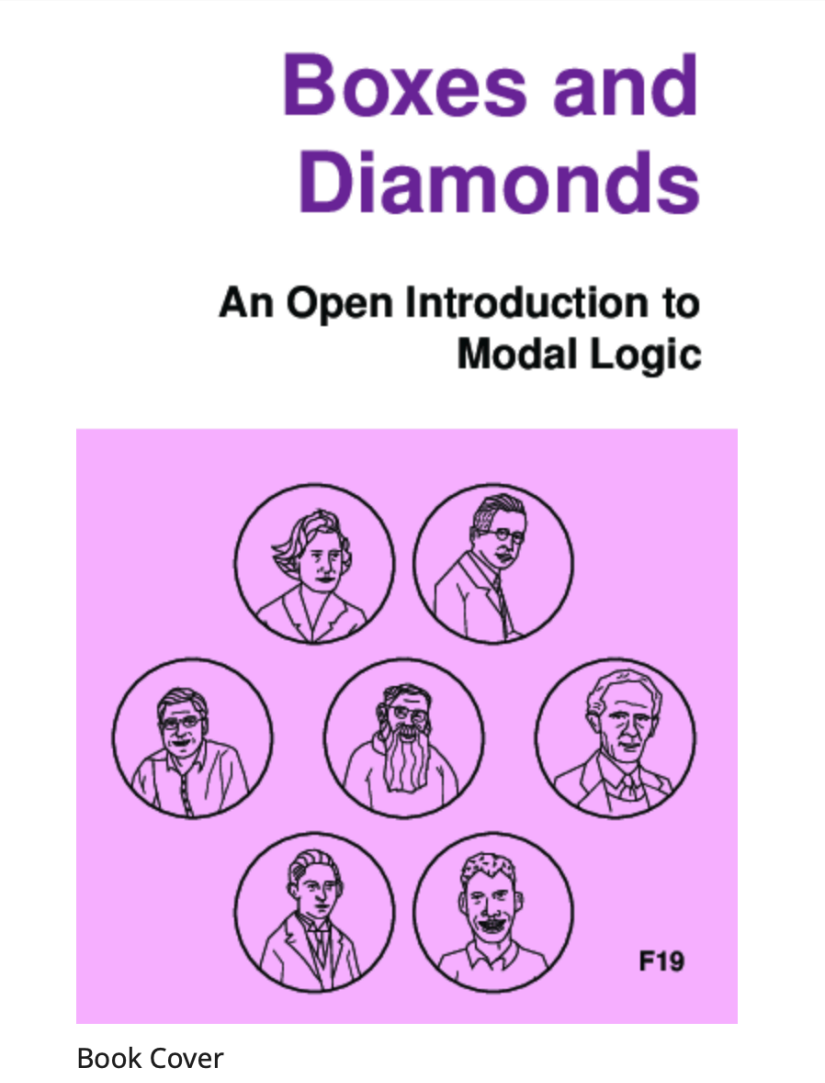
THIS textbook is for introductory philosophy courses on probability and inductive logic. It is based on a typical such course I teach at the University of Toronto, where we offer "Probability & Inductive Logic" in the second year, alongside the usual deductive logic intro.

The book assumes no deductive logic. The early chapters introduce the little that's used. In fact almost no formal background is presumed, only very simple high school algebra.

Several well known predecessors inspired and shaped this book. Brian Skyrms' *Choice & Chance* and Ian Hacking's *An Introduction to Probability and Inductive Logic* were especially influential. Both texts are widely used with good reason—they are excellent. I've taught both myself many times, with great success. But this book blends my favourite aspects of each, organizing them in the sequence and style I prefer.

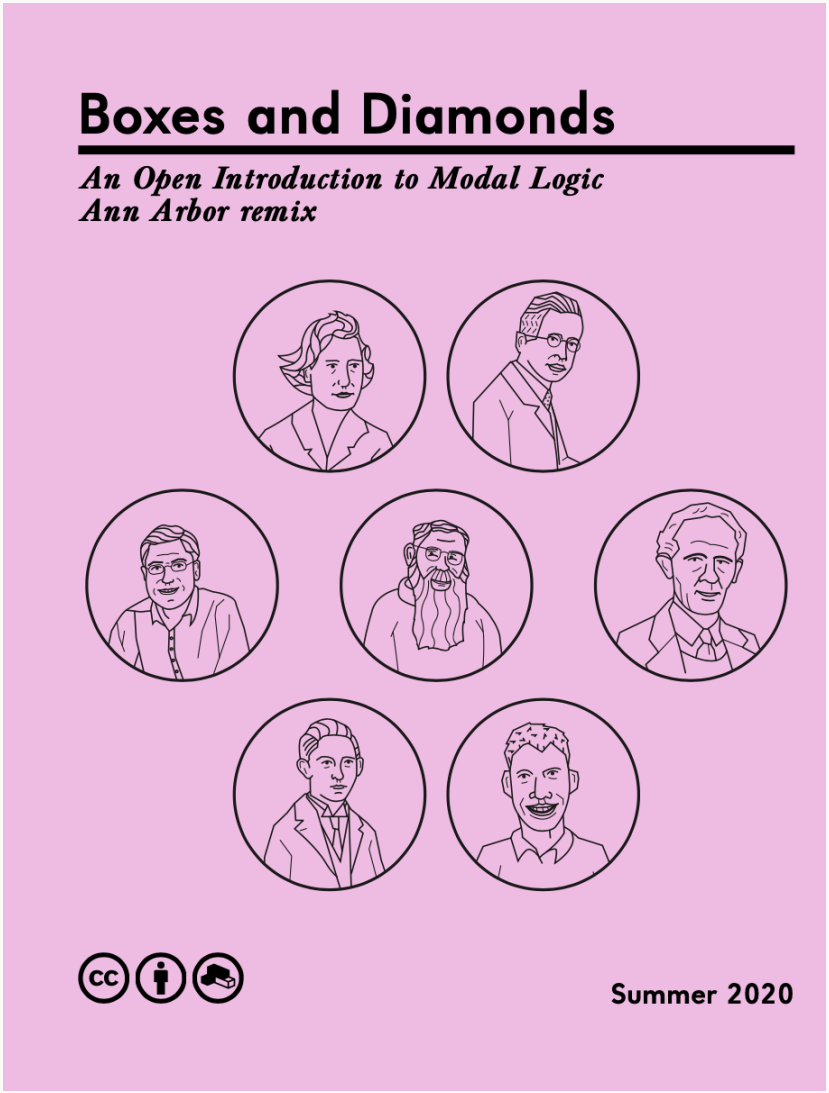
https://jonathanweisberg.org/vip/

Boxes and Diamonds



Book Cover

https://bd.openlogicproject.org



Boxes and Diamonds - Ann Arbor

Logistics

- These lectures are going to be very short.
- That's in part because it's really hard to retain focus through a long logic video, and in part because it's easier to manage uploads and downloads with smaller files.
- So we'll typically have somewhere between 6 and 10 'lectures' each week, though each will be 5 to 15 minutes.

Access

- The slides will be captioned.
- The captions are produced automatically and they aren’t always perfect.
- So if they can’t be used.
- Access is important, and it’s harder to get right for a course like this than for other philosophy courses, so you should hold me to a higher standard.

Assessment

- The primary assessment will be weekly assignments, most of which will be administered through Canvas.
- Some of them, especially in the early weeks, will be on Carnap.
- These are already all posted, and they will be due each week on Friday at 5pm.
- There are exceptions for this week, the week of the mid-term break, and the last week of term.
- There will also be an end of term exam, also through Canvas.

Syllabus

- The syllabus is available on Canvas. Indeed, it is the first thing that comes up when you load Canvas.
- Read it closely!!
- It will tell you what we're covering each week, and where you should be at over time.

For Next Time

We'll start on saying what arguments are, in the special sense we're interested in.