

**Contemporary Metaphysics II: Modality without Worlds**  
Philosophy 3660/7170  
Winter 2012

Instructor: Chris Tillman  
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**Course Description**

This is a course about modality: modes of things and (in case this amounts to something different) modes of truth. These are ways things can or must be, as well as what can or must be the case. Modality was a subject of rather intense philosophical scrutiny for at least two thousand years until anti-realists about modality began to be taken seriously.<sup>1</sup> Certain influential early twentieth century philosophers found modality obscure or worse.<sup>2</sup> Some brave souls turned their attention to modality as a possible source of solutions to problems with conditional statements.<sup>3,4</sup> Meanwhile, others persisted in finding modality obscure or worse.<sup>5</sup> Modality found a surer footing in the work of Ruth Barcan Marcus and Saul Kripke.<sup>6</sup> Their discovery, elaboration and defence of possible world semantics constitutes a sustained endeavor to understand modes of truth (what can be or has to be the case) in terms of quantification over possible worlds: what has to be the case is what is true in all possible worlds, and what can be the case is true in some possible worlds. But almost immediately Ruth Barcan Marcus discovered trouble: according to possible worlds semantics, it is a logical truth that everything that exists has to exist! And, worse, that this itself has to be the case!!<sup>7</sup> Kripke showed how to avoid the result using Kripke models.<sup>8</sup> In the ensuing decades there were zillions of attempts to understand the nature of possible worlds, since these are what Kripke models quantify over under the intended interpretation.<sup>9</sup> But this entire research program is predicated on the proposition that Kripke models adequately model logical consequence in modal cases. Unfortunately, it is clear that they do not. This pushes us back to Marcus's theorem and requires that we face her result squarely. There are two paths before us: find some way to live with her result that necessarily, everything necessarily exists. Or raze the structure and re-think logical consequence in modal cases without understanding modes of truth in terms of quantification over possible worlds.

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<sup>1</sup> Hume.

<sup>2</sup> Positivists. Quine.

<sup>3</sup> C. I. Lewis.

<sup>4</sup> [http://en.wikipedia.org/wiki/Paradoxes\\_of\\_material\\_implication](http://en.wikipedia.org/wiki/Paradoxes_of_material_implication)

<sup>5</sup> Positivists. Quine.

<sup>6</sup> See especially Marcus (1946a), (1946b), (1947) and Kripke (1959), (1963a), and (1963b).

<sup>7</sup> Marcus (*ibids.*)

<sup>8</sup> Kripke (1963a, b).

<sup>9</sup> See e.g. Divers (2002).

Marks for this class are primarily based on an exam on the logic and a final paper. I will distribute problem sets that are intended to help familiarize you with modal logic. These will be unmarked and you are encouraged to work together to find solutions. These questions are also practice questions for the modal logic exam that will occur later in the term. We will begin with logical issues but we will move on to those that are more properly philosophical. I intend for the philosophical issues to be discussion-driven, rather than lecture. So come prepared to talk about the relevant issues. (This is the main factor in your participation mark.) Finally, there will be a term paper due at the end of the exam period. Details are forthcoming, but the paper should include a careful presentation, explanation, and evaluation of an argument related to, but not identical to, the arguments we will focus on in class. Final paper topics *must* be approved in advance by me, and it's never too early to start thinking about one. (As in: I will not accept a final paper on a topic that I have not approved.) Finally, you are required to present your final paper. Paper presentations will likely not only occur in class. The goal of the presentation is to give you practice in communicating your ideas in a friendly environment in which you will receive helpful feedback. (Presentees: This is the other factor in your participation mark.)

### Course Requirements

1. Modal Logic Exam (30%)
2. Final Paper (50%)
3. Class Presentation (10%)
4. Participation (10%)

### Course Schedule

#### 1. Relational Predicate Logic

Required Readings: Chris Tillman (ms) "Relational Predicate Logic", Stewart Shapiro (2009) "Classical Logic" *Stanford Encyclopedia of Philosophy* <http://plato.stanford.edu/entries/logic-classical/>. Sections 1-4.

Recommended: Ernest Lepore and Sam Cumming (2009) *Meaning and Argument: An Introduction to Logic through Language*. Oxford: Blackwell. Chapter 1-16. Theodore Sider (2010) *Logic for Philosophy*, Oxford: OUP Chapters 2, 4, 5. Or any comparably good introduction to first order quantified relational predicate logic with identity (preferably including model theory).

#### 2. Quantified Modal Logic

Required Reading: James Garson (2009) "Modal Logic" *Stanford Encyclopedia of Philosophy* <http://plato.stanford.edu/entries/logic-modal/>; Ruth Barcan Marcus (1946a) "A Functional Calculus of First Order Based on Strict Implication." *Journal of Symbolic Logic* 11(1): 1-16; Ruth Barcan Marcus (1946b) "The Deduction Theorem in a Functional Calculus of First Order Based on Strict Implication." *Journal of Symbolic Logic* 11(4): 115-118; Ruth Barcan Marcus (1947) "The Identity of Individuals in a Strict Functional Calculus of Second Order." *Journal of Symbolic Logic* 12(1): 12-15; Saul Kripke (1959) "A Completeness Theorem in Modal Logic." *Journal of Symbolic Logic* 24(1):1-14; Saul Kripke (1963a) "Semantical Considerations on Modal Logic." *Acta Philosophica Fennica* 16:83-94; Saul Kripke (1963b) "Semantical Analysis of Modal Logic I:

Normal Modal Propositional Calculi." *Zeitschrift für Mathematische Logik und Grundlagen der Mathematik* 9:67–96.

Recommended Reading: Theodore Sider (2010) *Logic for Philosophy*, Oxford: OUP Chapters 6, 9. John McCarthy (1996) "Modal Logic." <http://www-formal.stanford.edu/jmc/mcchay69/node22.html>. Or any comparably good introduction to modal logic (in particular, quantified modal logic with identity).

### 3. Fine's Challenges to Kripke Models

Required Readings: Kit Fine (1994) "Essence and Modality." *Philosophical Perspectives* 8 (ed. J. Tomberlin), pp. 1–16; Kit Fine (2003) "The Problem of Possibilia." *Oxford Handbook of Metaphysics*. Oxford: OUP. Also in Fine (2005) *Modality and Tense: Philosophical Papers*. Lloyd Humberstone (2007) "Modal Logic for Other-World Agnostics: Neutrality and Halldén Incompleteness", *Journal of Philosophical Logic* 36, 1–32.

### 4. Williamson's Challenges to Kripke Models

Readings: Timothy Williamson (1998) "Bare Possibilia." *Erkenntnis* 48(2-3): 257-273; Williamson (2000) "Existence and Contingency." *Proceedings of the Aristotelian Society* 100(1): 117-139; Williamson (2002) "Necessary Existents." In A. O'Hear, ed., *Logic, Thought and Language*, Cambridge: Cambridge University Press, 2002, pp. 233-251; Williamson (forthcoming) "Barcan Formulas in Second-Order Modal Logic." in M. Frauchiger and W.K. Essler, eds., *Themes from Barcan Marcus* (Lauener Library of Analytical Philosophy, vol. 3), Frankfurt, Paris: Ebikon, Lancaster, New Brunswick: ontos verlag; Williamson (2010) "Necessitism, Contingentism and Plural Quantification." *Mind* 119 (475): 657-748; Theodore Sider (2009) "Williamson's Many Necessary Existents." *Analysis* 69: 50-58; Gabriel Uzquiano and John Hawthorne (2011) "How Many Angels Can Dance on the Point of a Needle? Transcendental Theology Meets Modal Metaphysics." *Mind* 120 (477): 53-81.

### 5. Linsky and Zalta's Challenges

Readings: Bernard Linsky and Edward Zalta (1996) "In Defense of the Contingently Non-Concrete", *Philosophical Studies* (Special Issue entitled 'Possibilism and Actualism'), 84/2-3 (December 1996): 283-294; Bernard Linsky and Edward Zalta "In Defense of the Simplest Quantified Modal Logic", *Philosophical Perspectives*, 8: 431-458; Karen Bennett (2005) "Two Axes of Actualism." *The Philosophical Review* 114(3); Edward Zalta and Michael Nelson (2009) "Bennett and 'Proxy Actualism'", *Philosophical Studies*, 142/2: 277–292.

### 6. The Fine View

Readings: [Kit Fine](#) (1995). [The Logic of Essence](#). *Journal of Philosophical Logic* 24 (3):241 – 273; [Kit Fine](#) (2000). [Semantics for the Logic of Essence](#). *Journal of Philosophical Logic* 29 (6):543-584; Fabrice Correia (2000) "Propositional Logic of Essence." *Journal of Philosophical Logic* 29(3): 295-313.

## 7. Powers

Readings: Jacobs, J.D. (2010) "A powers theory of modality: or, how I learned to stop worrying and reject possible worlds." *Philosophical Studies* 151. –227–48; Jubien, M. (2007) "Analyzing modality." *Oxford Studies in Metaphysics* 3: 99–139; Mumford, S. (2005) "Kinds, essences, powers." *Ratio* 18: 420–36; Oderberg, D. (2007) *Real Essentialism*. London and New York: Routledge; Pruss, A.R. (2002) "The actual and the possible." In *Blackwell Guide to Metaphysics*, ed. R.M. Gale, 317–33. Oxford: Blackwell; Schrenk, M. (2010) "The powerlessness of necessity." *Nous* 44: 725–39.

## Special Needs

I will accommodate students with special needs whenever possible. Students with special needs should consult me immediately.

## Plagiarism

Plagiarism occurs when someone uses an article, book, or website in his/her work without citing the source in a footnote. Plagiarism is a form of cheating because the plagiarist takes the writing of another and treats it as his/her own. The work of another is stolen. Plagiarism is a serious offense.

To avoid being prosecuted for plagiarism you should be sure that you include a footnote **whenever** you rely on someone else's work. If you are quoting (using someone else's words) you must indicate that the prose is a quotation either by the use of quotation marks, or (for long quotations) by offsetting the quotation from the rest of your text. Each quotation must be followed by a footnote. If you are paraphrasing (i.e., summarizing someone else's text in your own words) the paraphrase must be followed by a footnote. If you do not know how to construct footnotes, you should ask your professor for instructions before you turn in any assignments. There are different forms of acceptable citation. Your professor will indicate which method he/she prefers. Be sure to cite the source on which you relied accurately. If you use a website, you must include the *correct* URL.

If you are suspected of plagiarism, a disciplinary hearing will be conducted by the Philosophy Department. If it is determined that you plagiarized, you will get an F for the assignment, and (in most cases) an F for the course. A note may also be included on your transcript to indicate that the F resulted from plagiarism. If you are suspected a second time, the hearing will be conducted by the Dean's Office and you may be suspended from University. Additionally, some forms of plagiarism constitute criminal acts under Canadian law.

Here are some common excuses for plagiarism which will not reduce your penalty.

- 1) I forgot to cite the source.
- 2) I was in a rush and left out the footnotes.
- 3) I did not understand how to construct footnotes.

If you are rushed for time, make sure *above all else* that you don't plagiarize. A grade of C on a rough but unplagiarized paper is better for you than an F on the course. If you have any questions about when citation is required or about how to cite, be sure to ask your professor.

*Bottom line:* Accidental plagiarism is plagiarism. Plagiarism is considered a very serious breach within the intellectual community and punishment is accordingly severe. It is your responsibility to know what is and what is not an instance of plagiarism. If ever you are in doubt, consult me.