

METAPHYSICS

<u>Professor</u>	<u>Teaching Assistants</u>
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Summary

Metaphysics aims to understand the world and our relation to it at the most basic level. In this course, we consider the following questions. Why is metaphysics (as opposed to, say, physics) necessary? How do our minds refer to the world? What is logic? Does quantum mechanics show that it must be non-classical? Do the paradoxes of set theory? What is existence? Does our language (including scientific) systematically mislead us as to which things really exist? What is the nature of space and time? How do we persist through time? What if the ‘many worlds’ interpretation of quantum mechanics is true? Does the relativity of simultaneity

undercut our claim to freedom? What is mathematics? Does infinity make physical sense? How could the world have been different? How do 'No-Go' results limit what we can consistently say about what would have happened had causally isolated events been the same? Does the 'underdetermination of theory by evidence' undercut the meaningfulness of all such questions?

Meeting Details

The class meets on **TR 6:10pm-7:25pm** in **313 Fayerweather**.

Requirements

Participation will constitute **20%** of your grade. This involves completing the assigned reading ahead of class, and participating in discussion during your TA sessions and in class. There are no course prerequisites. But a willingness to wrestle with abstract philosophical, logical, physical and mathematical concepts is indispensable. Metaphysics is fascinating, but it can be difficult!

Two exams, a midterm (distributed on **October 12**) and a final (distributed on **December 7**), will together constitute **40%** of your grade (each contributing **20%**). These are meant to ensure that you have completed the readings, and can think clearly about the problems that they raise.

Two 6-page papers (due **November 2** and **December 11**) will together constitute **40%** of your grade. The first paper will constitute **15%** of your grade, and the second will constitute **25%**. Topics will be distributed ahead of time.

Resources

All of the readings will be available in pdf on Courseworks.

In addition, there are a number of free online philosophy resources that we recommend you utilize. They include:

- My [Outline of Relativity and Quantum Mechanics](#)
- [The Stanford Encyclopedia of Philosophy](#)
- [The Internet Encyclopedia of Philosophy](#)
- [PhilPapers](#)
- Jim Pryor's Guide to [Writing](#) and [Reading](#) Philosophy, and his guide to [Philosophical Terms and Methods](#)
- Dustin Locke's '[The Levels System](#)' for analytical writing.
- James Lenman's [How to Write a Crap Philosophy Essay: A Brief Guide for Students](#)
- Greg Restall's [Lectures on Logic](#) (including elementary, mathematical and non-classical)

Schedule of Readings

September 5 – The Inevitability of Metaphysics: Underdetermination

Quine, ‘Two Dogmas of Empiricism’

Mind and World

September 7 - Logical Background

MacFarlane, *Philosophical Logic* (selections)

Further Reading: Haack, *Philosophy of Logics*

September 12 - Aboutness

Brentano, *Psychology from an Empirical Standpoint* (selections)

Further Reading: Antony, ‘Thinking’ / Jacob, ‘[Intensionality](#)’ / Mendelovici & Bourget, ‘Facing up to the Problem of Intentionality’ / Pryor, ‘[Intensional and Intentional](#)’

September 14 - Explaining Reference

Field, ‘Tarski’s Theory of Truth’

Further Reading: Devett & Sterelny, *Language and Reality*

September 19 - Deflationism about Semantic Relations

Horwich, *Meaning*, Ch. 5

Further Reading: Horwich, *Truth*

Logic and Elementary Particles

September 21 - Quantum Mechanics Background

Coleman, 'Quantum Mechanics in Your Face'

Further Reading: Allday, *Quantum Reality: Theory & Philosophy* / Ismael, '[Quantum Mechanics](#)' / Picarillo, *Introduction to the Mathematics and Physics of Quantum Mechanics*

September 26 - Bell's Theorem

Mermin, 'Quantum Mysteries for Anyone'

Further Reading: Bell, *Speakable and Unsayable in Quantum Mechanics* / Brody, *Quantum Entanglement* / Maudlin, *Quantum Non-Locality and Relativity*,

September 28 - Responding to Bell's Theorem

Wessels, 'The Way the World Isn't: What the Bell Theorems Force us to Give Up'

Further Reading: Albert, *Quantum Mechanics and Experience* / Maudlin, *Philosophy of Physics: Quantum Theory*

[FIRST PAPER TOPICS DISTRIBUTED]

October 3 - Quantum Logic

Putnam, '[The Logic of Quantum Mechanics](#)'

Further Reading: Birkoff & von Neumann, '[The Logic of Quantum Mechanics](#)'

October 5 – Putnam Contd.

Further Reading: Clarke-Doane, '[What is Logical Monism?](#)' / Russell, '[Logical Pluralism](#)' / Wilce, '[Quantum Logic and Probability Theory](#)' / Domenech et al., '[Quantum Logic in Historical and Philosophical Perspective](#)'

October 10 - No Individuals

Dasgupta, 'Individuals: An Essay on Revisionary Metaphysics'

Further Reading: Burgess, 'Being Explained Away' / Cover & O'Leary-Hawthorne 'A World of Universals' / Quine, 'Algebraic Logic and Predicate Functors'

October 12 - REVIEW

[MIDTERM DISTRIBUTED]

Time, Identity and Relativity

October 17 - Special and General Relativity Background

Carroll, *The Biggest Ideas in the Universe, Vol. 1: Space, Time & Motion* (selections)

Further Reading: Taylor & Wheeler, *Spacetime Physics* and Misner, Thorne & Wheeler, *Gravitation*

October 19 - NO CLASS [Optional [Heyman Center Event](#)]

October 24 - Free Will

van Inwagen, 'The Consequence Argument'

Further Reading: Strawson, 'Freedom and Resentment' / Lewis, 'Are we Free to Break the Laws?' / Watson, 'Free Agency' / Wolf, 'Sanity and the Metaphysics of Responsibility'

October 26 – Relativistic Fatalism

Penrose, *The Emperor's New Mind* (selections)

Further Reading: Putnam, 'Time and Physical Geometry' / Rietdijk, 'A Rigorous Proof of Determinism Derived from the Special Theory of Relativity' / Stein, 'On Relativity Theory and the Openness of the Future'

October 31 - Personal Identity

Parfit, 'Divided Minds and the Nature of Persons' & Wallace, *The Emergent Multiverse* (selections)

Further Reading: Swinburne, 'Personal Identity: The Dualist Theory' / Williams, 'The Self and the Future' / Thomson, 'Persons and Their Bodies'

Mathematics and Modality

November 2 - Foundations of ZFC Set Theory

(No reading)

Optional Reading: Gödel, 'What is Cantor's Continuum Problem?' / Maddy, '[Believing the Axioms I & II](#)' / Putnam, 'Philosophy of Mathematics: Why Nothing Works' / Tegmark, *Our Mathematical Universe*

[FIRST PAPERS DUE]

November 7 - NO CLASS (University Holiday)

November 9 - Mathematical Knowledge

Benacerraf, '[Mathematical Truth](#)'

Further Reading: Nelson, '[Warning Signs of a Possible Collapse of Contemporary Mathematics](#)' / Zeilberger, '[Real Analysis as a Degenerate Case of Discrete Analysis](#)'

November 14 - Zeno's Paradoxes – Continuity

Salmon, *Space, Time & Motion: A Philosophical Introduction* (in the van Inwagen and Zimmerman anthology)

Further Reading: Gomes, 'Back to Parmenides'

November 16 - Zeno's Paradoxes – Discreteness

Salmon, *Space, Time & Motion: A Philosophical Introduction* (in the van Inwagen and Zimmerman anthology)

Further Reading: Crouse & Skufka, [‘On the Nature of Discrete Space-Time Part 1: The Distance Formula, Relativistic Time Dilation and Length Contraction in Discrete Space-Time’](#)

[SECOND PAPER TOPICS DISTRIBUTED]

November 21 - The Mind-Body Problem

Chalmers, *The Conscious Mind* (selections)

Further Reading: Balog, ‘Conceivability, Possibility, and the Mind-Body Problem’ / Blackmore, ‘What is it like to be...?’ / Kind, ‘Chalmers’ Zombie Argument’ / Kripke, *Naming and Necessity* / Nagel, ‘What is it Like to be a Bat?’

November 23 - NO CLASS [Thanksgiving Break]

November 28 - Chalmers Contd.

November 30 - Boundaries of Possibility

Mortensen, ‘Anything is Possible’

Further Reading: Bacon, ‘The Broadest Possibility’ / Clarke-Doane, ‘Modal Objectivity’

December 5 – Undetermination Revisited: Indeterminacy of Translation

Quine, *World and Object* (Chapter 2)

Further Reading: Putnam, *Reason, Truth and History* (Ch. 2) / Bays, [‘Skolem’s Paradox’](#)

December 7: Pluralism, Pragmatism & Review

Clarke-Doane, *Morality and Mathematics* (selections)

Further Reading: Carnap, 'Empiricism, Semantics and Ontology' / Goodman, *Fact, Fiction and Forecast*

[SECOND PAPERS DUE DECEMBER 11]

[FINAL EXAM DISTRIBUTED – DUE DECEMBER 20]

Academic Integrity

Please familiarize yourself with Columbia University's policies on academic integrity at:
<http://www.college.columbia.edu/academics/academicintegrity>

Please also familiarize yourself with Columbia University's honor code at:
<https://www.college.columbia.edu/ccschonorcode>

Failure to comply with Columbia's policies can result in serious disciplinary action.