

TENTATIVE SYLLABUS

All readings are online. You only need to read the pages listed in the table below (although many readings have additional pages).

Date	Topic	Readings (it is advised to do them in the given order)	# of pages
Sep 5	Multiple- vs single- universe time travel	Heinlein 1941/1980: 100–48.	49
Part I: SINGLE-UNIVERSE TIME TRAVEL			
I.A: The Physics of Time Travel			
I.A.1: Time Travel in Prerelativistic Physics			
Sep 12	Definitions and kinds of time travel	(1) MacBeath 1982: 397–428; (2) Lewis 1976: 145–52; (3) Vranas 2008: 1–5.	45
Sep 19	Time slides	(1) Le Poidevin 2005: 336–51; (2) Bernstein 2015: 158–68; (3) Richmond 2018: 5037–54.	45
I.A.2: Time Travel in Relativity Theory			
Sep 26	Time travel in Special Relativity	Taylor & Wheeler 1992: (1) 1–7, 9–13, 15–8; (2) 121–31; (3) 137–53.	45
Oct 3	Time travel in General Relativity	(1) Malament 1985: 91–5; (2) Thorne 1994: 483–90 & 498–521.	37
Oct 10	Consistency constraints	Arntzenius & Maudlin 2000/2013: 1–45.	45
I.B: The Metaphysics of Time Travel			
Oct 17	Time travel and changing the past	(1) Nahin 1999: 259–75; (2) Vranas 2005: 370–80; (3) Forward 1992: 148–64.	45
Oct 24	Time travel and theories of time	(1) Markosian 2002/2016: 1–23; (2) Keller & Nelson 2001: 333–45; (3) Sider 2005: 329–35.	43
Oct 31	Time travel and free will	(1) Vihvelin 1996: 315–30; (2) Vranas 2010: 115–21 & Wasserman 2018: 120–4; (3) Vihvelin 2020: 312–27.	44
I.C: The Paradoxes of Time Travel			
Nov 7	Probability paradoxes	(1) Smith 1997: 363–82; (2) Ismael 2003: 305–14; (3) Smith 2017: 153–67.	45
Nov 14	Bootstrap paradoxes	(1) Hanley 2004: 123–43; (2) Monton 2009: 54–67; (3) Miller 2017: 131–40.	45
Part II: MULTIPLE-UNIVERSE TIME TRAVEL			
Nov 21	Quantum Mechanics and multiple universes	(1) Albert 1992: 17–38, 73–9, 112–5; (2) Deutsch & Lockwood 1994: 50–6; (3) Abbruzzese 2001: 36–8.	43
Dec 5	Time travel in multiple universes	(1) Sell 1938/1965: 72–91; (2) Wasserman 2018: 78–106. [Optional: Effingham 2012: 375–85.]	49
REFERENCES Philosophy of Science Association			

REFERENCES

Abbruzzese, John (2001). On using the multiverse to avoid the paradoxes of time travel. *Analysis*, 61, 36–38. Albert, David Z. (1992). *Quantum mechanics and experience*. Cambridge, MA: Harvard University Press.

Arntzenius, Frank, & Maudlin, Tim (2013). Time travel and modern physics. In *The Stanford Encyclopedia of Philosophy (Winter 2013 Edition)*. URL = http://plato.stanford.edu/archives/win2013/entries/time-travel-phys/. (Originally published 2000.)

Bernstein, Sara (2015). Nowhere man: Time travel and spatial location. *Midwest Studies in Philosophy*, 39, 158-

Deutsch, David, & Lockwood, Michael (1994). The quantum physics of time travel. Scientific American, 270(3), 50-56

Effingham, Nikk (2012). An unwelcome consequence of the multiverse thesis. Synthese, 184, 375-386.

Forward, Robert L. (1992). Timemaster. New York: Tom Doherty Associates.

Hanley, Richard (2004). No end in sight: Causal loops in philosophy, physics and fiction. Synthese, 141, 123-152.

Heinlein, Robert A. (1980). By His Bootstraps. In R. Silverberg & M. H. Greenberg (Eds.), *The Arbor House treasury of great science fiction short novels* (pp. 100–148). New York: Arbor House. (Originally published 1941.) Ismael, Jenann (2003). Closed causal loops and the bilking argument. *Synthese*, *136*, 305–320.

Keller, Simon, & Nelson, Michael (2001). Presentists should believe in time-travel. Australasian Journal of Philosophy, 79, 333–345.

Le Poidevin, Robin (2005). The Cheshire Cat problem and other spatial obstacles to backwards time travel. *The Monist*, 88, 336–352.

Lewis, David (1976). The paradoxes of time travel. American Philosophical Quarterly, 13, 145-152.

MacBeath, Murray (1982). Who was Dr Who's father? Synthese, 51, 397-430.

Malament, David B. (1985). "Time travel" in the Gödel universe. In P. D. Asquith & P. Kitcher (Eds.), Proceedings of the 1984 biennial meeting of the Philosophy of Science Association (Vol. 2, pp. 91–100). East Lansing, MI:

Philosophy of Science Association.

Markosian, Ned (2016). Time. In *The Stanford Encyclopedia of Philosophy (Fall 2016 Edition)*. URL = http://plato.stanford.edu/archives/fall2016/entries/time/. (Originally published 2002.)

Miller, Kristie (2017). Is some backwards time travel inexplicable? *American Philosophical Quarterly*, 54, 131–140. Monton, Bradley (2009). Time travel without causal loops. *The Philosophical Quarterly*, 59, 54–67.

Nahin, Paul J. (1999). Time machines: Time travel in physics, metaphysics, and science fiction (2nd ed.). New York: Springer.

Richmond, Alasdair (2018). Time travel, hyperspace and Cheshire cats. Synthese, 195, 5037-5058.

Sell, William (1965). Other tracks. In G. Conkl (Ed.), Science fiction adventures in dimension (pp. 72–91). New York: Berkley Publishing Corporation. (Originally published 1938.)

Sider, Theodore (2005). Traveling in A- and B- time. The Monist, 88, 329-335.

Smith, Nicholas J. J. (1997). Bananas enough for time travel? British Journal for the Philosophy of Science, 48, 363-389

Smith, Nicholas J. J. (2017). I'd do anything to change the past (but I can't do "that"). American Philosophical Quarterly, 54, 153–168.

Taylor, Edwin F., & Wheeler, John Archibald (1992). Spacetime physics: Introduction to Special Relativity (2nd ed.). New York: Freeman.

Thorne, Kip S. (1994). Black holes and time warps: Einstein's outrageous legacy. New York: Norton.

Vihvelin, Kadri (1996). What time travelers cannot do. Philosophical Studies, 81, 315-330.

Vihvelin, Kadri (2020). Killing time again. The Monist, 183, 312-327.

Vranas, Peter B. M. (2005). Do cry over spilt milk: Possibly you can change the past. The Monist, 88, 370–387.

Vranas, Peter B. M. (2008). Time travel: Processes, presuppositions, paradoxes. Unpublished.

Vranas, Peter B. M. (2010). What time travelers may be able to do. Philosophical Studies, 150, 115-121.

Wasserman, Ryan (2018). Paradoxes of time travel. New York: Oxford University Press.