PHILOSOPHY 562:
TIME TRAVEL

PETER B. M. VRANAS
MWF 11:00-11:50, FALL 2023

# TENTATIVE SYLLABUS

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

| Date | Class topic | Assignment (to be completed *before* class) |
|---|---|---|
| W 6 Sep | Introduction to the course | Vranas 2018 (video) |
| **Part I: SINGLE-UNIVERSE TIME TRAVEL** | | |
| **I.A: Time Jumps and Time Slides** | | |
| F 8 Sep | Introduction to time travel | Heinlein 1941/1980: 100-148 |
| M 11 Sep | Defining time travel I | Vranas 2008: 1-5 |
| W 13 Sep | Defining time travel II | Lewis 1976: 145-149 |
| F 15 Sep | Time jumps | MacBeath 1982: 397-428 |
| M 18 Sep | Time slides I | Le Poidevin 2005: 336-351 |
| W 20 Sep | Time slides II | Bernstein 2015: 158-168 |
| **I.B: The Physics of Time Travel** | | |
| F 22 Sep | Time travel in Special Relativity I | Taylor & Wheeler 1992: 1-18 |
| M 25 Sep | Time travel in Special Relativity II | Taylor & Wheeler 1992: 137-157 |
| W 27 Sep | Time travel in Special Relativity III | Taylor & Wheeler 1992: 121-134 |
| F 29 Sept | Time travel in General Relativity I | Malament 1981: 91-95 |
| M 2 Oct | Time travel in General Relativity II | Thorne 1994: 483-490, 498-521 |
| W 4 Oct | Time travel in General Relativity III | Arntzenius & Maudlin 2000/2013: 12-24, 29-38 |
| **I.C: The Metaphysics of Time Travel** | | |
| F 6 Oct | Time travel and changing the past I | Nahin 1999: 259-275 |
| M 9 Oct | Time travel and changing the past II | Vranas 2005: 370-380 |
| W 11 Oct | Time travel and changing the past III | Forward 1992: 148-164 |
| F 13 Oct | Time travel and theories of time I | Markosian 2002/2016: 1-23 |
| M 16 Oct | Time travel and theories of time II | Keller & Nelson 2001: 333-345 |
| W 18 Oct | Time travel and theories of time III | Wasserman 2018: 23-31, 39-55 |
| F 20 Oct | **Exam #1** | Review all readings so far |
| M 23 Oct | Time travel and theories of persistence I | Wasserman 2018: 183-196 |
| W 25 Oct | Time travel and theories of persistence II | Wasserman 2018: 197-209 |
| F 27 Oct | Time travel and theories of persistence III | Wasserman 2018: 209-224 |
| M 30 Oct | Time travel and free will I | Vihvelin 1996: 315-330 |
| W 1 Nov | Time travel and free will II | Vranas 2010: 115-121; Wasserman 2018: 120-124 |
| F 3 Nov | Time travel and free will III | Lewis 1076: 149-152; Vranas 2009: 520-531 |
| **I.D: The Paradoxes of Time Travel** | | |
| M 6 Nov | Probability paradoxes I | Horwich 1987: 111-128 |
| W 8 Nov | Probability paradoxes II | Smith 1997: 363-388 |
| F 10 Nov | Probability paradoxes III | Smith 2017: 153-167 |
| M 13 Nov | Mechanical paradoxes | Ismael 2003: 305-3 |
| W 15 Nov | Bootstrap paradoxes I | Nahin 1999: 304-323 |
| F 17 Nov | Bootstrap paradoxes II | Hanley 2004: 123-148 |
| **Part II: MULTIPLE-UNIVERSE TIME TRAVEL** | | |
| M 20 Nov | Time travel in Quantum Mechanics I | Albert 1992: 17-38 |
| W 22 Nov | Time travel in Quantum Mechanics II | Albert 1992: 73-79, 112-115 |
| M 27 Nov | Fragmented vs branching multiverses I | Barrett 1999: 149-162 |
| W 29 Nov | Fragmented vs branching multiverses II | Deutsch & Lockwood 1994: 50-56 |
| F 1 Dec | Time travel in a fragmented multiverse I | Abbruzzesse 2001: 36-38 |
| M 4 Dec | Time travel in a fragmented multiverse II | Wasserman 2018: 78-90 |
| W 6 Dec | Time travel in a branching multiverse I | Sell 1938/1965: 72-91 |
| F 8 Dec | Time travel in a branching multiverse II | Wasserman 2018: 90-106 |
| M 11 Dec | Time travel in a branching multiverse III | Effingham 2012: 375-385 |
| W 13 Dec | **Exam #2** | Review all readings after Exam #1 |