

# Early 20<sup>th</sup> Century Analytic Philosophy (Hum075): The Vienna Circle

Humanities and Social Sciences, California Institute of Technology  
Winter semester, 2022-23

## Course Instructor

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**Office hours:** Mondays 2-3pm, or by appointment.

You can find me at the [Einstein Papers Project](#) on the east edge of campus (363 South Hill Ave). My office is 204B, up the stairs and around the corner.

## Course Description

In the beginning of the twentieth century, a small group of intellectuals—the members of the “Vienna Circle”—founded a movement that became known as logical empiricism. Some of these figures saw themselves as at the vanguard of a new enlightenment, aspiring to shape the world according to rational principles. Perhaps inevitably, they also found themselves targeted, and nearly annihilated, by the rising tide of fascism sweeping through Europe. This course will begin with an introduction to the foundational shifts in logic, geometry, and physics that inspired logical empiricism. We will then study leading figures of the movement, including Moritz Schlick, Rudolf Carnap, and Otto Neurath, and consider their novel approach to the philosophy of language as well as their attacks on traditional forms of metaphysics. Finally, we will turn to the internal and external pressures that led to the unravelling of the Vienna Circle, including the murder of Schlick and the flight of the remaining logical empiricists across the globe.

## Learning Objectives

This course is designed as an introduction to philosophy via a study of a particular episode in the subject’s history. By the end of this course you will become acquainted with the central figures of the Vienna Circle, some of the key ideas and arguments that they propounded, and some of the main influences on their work.

The major learning objective of this course is that you cultivate the skills to engage in constructive philosophical dialogue, especially in your written work. More specifically, by the end of this course you will have demonstrated your ability to:

- express complicated ideas in a clear way;
- reconstruct philosophical arguments accurately, clearly, and charitably;
- evaluate philosophical arguments by weighing up reasons for and against at least one of their premises;
- create arguments of your own, and communicate them persuasively.

# Assessment Rubric

|                                |            |
|--------------------------------|------------|
| Participation:                 | 10%*       |
| Introductory writing exercise: | 20%        |
| Midterm essay:                 | 25 - 35%** |
| Final essay:                   | 35 - 45%** |

\* The first half of your participation grade will be based on your punctual attendance at class meetings. If you need to miss a class for any reason, please notify me via email in advance (or as soon as possible) to avoid an impact on your grade. The second half of your participation grade will be based on the work you do as part of a group presentation on “conceptions of ethics” towards the end of the semester (see the Schedule below).

\*\* Your midterm and final will be “weighted” so as to allow for progress during the semester. In particular, if you perform better in the final than in the midterm, the final will count for a larger proportion of your overall grade.

## Late Policy

For each 24 hour period after a deadline has passed, an assessment will be penalized by one third of a letter grade. (For example, an assessment that would otherwise be a A- will become a B+; an assessment that would otherwise be a B+ will become a B, and so on.) This will extend up to a maximum of three days, i.e. 72 hours, after the initial deadline. Assessments submitted more than 72 hours after the deadline has passed will be given an F grade.

## Texts

For a number of class meetings we will read chapters from “**Exact Thinking in Demented Times**” by Karl Sigmund. I have used the acronym “ETiDT” in the Schedule (below) to refer to chapters from this book. A complete electronic copy of ETiDT, as well as electronic copies of all the other required and recommended readings for this course, will be made available on Canvas.

## Schedule

*\*\* Please note that **this schedule may be updated** as the semester progresses. \*\*  
Any such updates will be announced in class and online, and the latest version of this syllabus will always be available on Canvas.*

| Date                | Topic        | Reading   | Assignments |
|---------------------|--------------|---|-------------|
| Thursday<br>5th Jan | Introduction | 1. Optional: Excerpt from Edmonds (2020), “The Murder of Professor Schlick”<br>2. <b>Supplemental: youtube discussion of Moritz Schlick, [link]</b> |             |

| Date                 | Topic   | Reading  | Assignments   |
|----------------------|---|--|---|
| Tuesday<br>10th Jan  | Mach and Boltzmann                              | 1. ETiDT §2, “A Tale of Two Thinkers”  |   |
| Thursday<br>12th Jan | “The first Vienna Circle”                       | 1. Mach (1893), “The Science of Mechanics,” pp. 222-226<br>2. ETiDT §3, “A Trial Run for the Vienna Circle” (up to “The Viennese Modern Age and Other Sensations”)   | Introductory writing exercise assigned                                    |
| Tuesday<br>17th Jan  | Geometry and Logic                              | 1. Torretti (2016), “Nineteenth Century Geometry,” §4: <a href="https://plato.stanford.edu/entries/geometry-19th/#AxiPer">https://plato.stanford.edu/entries/geometry-19th/#AxiPer</a><br>2. Irvine (2020), “Bertrand Russell,” §4: <a href="https://plato.stanford.edu/entries/russell/#RTDD">https://plato.stanford.edu/entries/russell/#RTDD</a>                  |   |
| Thursday<br>19th Jan | Hahn, Neurath and Schlick                       | 1. Einstein (1905), “On the Electrodynamics of Moving Bodies,” pp.1-5<br>2. ETiDT §4, “The Circle Starts Rolling”  | <b>Introductory writing exercise submitted;</b><br>Midterm essay assigned |
| Tuesday<br>24th Jan  | Wittgenstein                                    | 1. ETiDT §5, “The Turn of the Circle”<br>2. McGuinness (ed.) (1979), “Ludwig Wittgenstein and the Vienna Circle,” editor’s preface, pp.12-21<br>3. Optional: McGuinness (2005), “Wittgenstein and the Vienna Circle”<br>4. <b>Supplemental: Uebel (2017), “Wittgenstein and the Vienna Circle”</b> (from Glock and Hyman (eds), <i>A Companion to Wittgenstein</i> ) |   |
| Thursday<br>26th Jan | <b>Writing workshop at Hixon Writing Center</b> | < no new reading >   | <b>(Bring midterm drafts to Hixon Writing Center)</b>                     |
| Tuesday<br>31st Jan  | The manifesto of the Vienna Circle              | 1. Hahn, Neurath, Carnap (1929), “The Scientific Conception of the World”<br>2. Optional: ETiDT §6, “The Circle Makes a Name for Itself”   |   |
| Thursday<br>2nd Feb  | The turning point in philosophy                 | 1. Schlick (1930), “The Turning Point in Philosophy”   | <b>Midterm essay submitted</b>  |
| Tuesday<br>7th Feb   | Carnap’s <i>Aufbau</i>                          | 1. Friedman, “Carnap’s <i>Aufbau</i> Reconsidered,” part I<br>2. Carnap (1928), “The Logical Structure of the World”, preface to the first edition, pp.xv-xviii<br>3. Optional: SEP entry on the <i>Aufbau</i> , <a href="https://plato.stanford.edu/entries/carnap/aufbau.html">https://plato.stanford.edu/entries/carnap/aufbau.html</a>                           |   |

| Date                  | Topic   | Reading   | Assignments   |
|-----------------------|---|---|---|
| Thursday<br>9th Feb   | Against the metaphysicians                            | 1. Carnap (1932), "The Elimination of Metaphysics through the Logical Analysis of Language"   | (First preview of final essay)                                |
| Tuesday<br>14th Feb   | Neurath's isotypes                                    | 1. ETiDT §7, "Tangents" (up to "The Discreet Charm of the Twentieth Century")<br>2. Optional: Stadler (1991), "Otto Neurath: Encyclopedist, Adult Educationalist and School Reformer" (in Uebel (ed.), "Rediscovering the Forgotten Vienna Circle")<br>3. Supplemental: Cartwright et al (1996), "Otto Neurath: Philosophy Between Science and Politics," §1.4.1 (pp.56-72) |   |
| Thursday<br>16th Feb  | Logical empiricism and feminist philosophy of science | 1. Okruhlic (2004), "Logical Empiricism, Feminism, and Neurath's Auxiliary Motive"<br>2. Optional: Longino (1987), "Can There Be a Feminist Science?"<br><b>3. Supplemental: Longino (1990), "Feminism and Philosophy of Science"</b>   | (Second preview of final essay)                               |
| Tuesday<br>21st Feb   | Logical empiricism and race                           | 1. Bright (2017), "Logical Empiricists on Race"   |   |
| Thursday<br>23rd Feb  | Conceptions of ethics                                 | 1. Rutte (1991), "Ethics and the Problem of Value in the Vienna Circle"<br>2. For group 1: Schlick (1930), "Problems of Ethics," preface and §I (§VIII recommended as well)<br>3. For group 2: Neurath (1931) "Sociology in the Framework of Physicalism," especially §6<br>4. For group 3: Wittgenstein (1929), "Lecture on Ethics"  | (Group meetings for ethics presentations)                     |
| Tuesday<br>28th Feb   | <b>Ethics presentations</b>                           | < no new reading >  | <b>In-class group presentations;<br/>Final essay assigned</b> |
| Thursday<br>2nd March | The fall of the circle                                | 1. ETiDT §11, "The Circle's End"<br>2. Optional: Frank (1949), "Modern Science and its Philosophy," §1  |   |
| Tuesday<br>7th March  | Karl Popper   | 1. Popper (1934), "The Logic of Scientific Discovery," §1   |   |
| Thursday<br>9th March | TBD   | TBD   | <b>Final essay deadline:<br/>Friday 10th March</b>            |

## Wellness Policy & Students with Documented Disabilities

This course is supposed to be challenging but it should not be overwhelming. Health and well-being should be a top priority for all of us. If you are encountering undue stress during the semester, I welcome and encourage you to chat with me about it. Please also take note of the Additional Resources listed at the end of this syllabus.

Students who may need an academic accommodation based on the impact of a disability must initiate the request with Caltech Accessibility Services for Students (CASS). Professional staff will evaluate the request with required documentation, recommend reasonable accommodations, and prepare an Accommodation Letter for faculty dated in the current quarter in which the request is being made. Students should contact CASS as soon as possible, since timely notice is needed to coordinate accommodations. For more information, see <http://cass.caltech.edu> or email [cass@caltech.edu](mailto:cass@caltech.edu).

If you feel you need help in accessing CASS resources, please speak to me.

## Collaboration Policy & Academic Integrity

The major learning objectives for this course are based around the skills of *academic writing*. The art of good writing is of much greater significance than just allowing you to perform well in certain assessments. The skill of writing is also, at the same time, the skill of thinking. On this point, it might be helpful to reflect on the idea that, in mathematics, the process of actually writing down calculations extends what is possible for human beings to think and to do. In this kind of way, you will discover (or you may have already discovered) that being able to write well enhances your ability to think well, not to mention your ability to communicate your ideas to other people. Fundamentally it is for this reason that I urge you to submit your own work, in your own words, citing other people's work in the appropriate way. The only way to really make progress in writing is to do it for yourself. All that said, I also fully encourage you to develop your understanding of the ideas covered in this course by discussing them freely with each other.

If you have any doubts or concerns about what kind of collaboration is allowed, please be sure to check with me. Caltech's Honor Code states that "No member of the Caltech community shall take unfair advantage of any other member of the Caltech community." Plagiarism is the appropriation of another person's ideas, processes, results, or words without giving appropriate credit, and it violates the Caltech's honor code in a fundamental way. For more information on plagiarism in academic writing, and ways to avoid it, see <https://writing.caltech.edu/resources/plagiarism>. All instances of plagiarism or other academic misconduct will be referred to the Board of Control, <https://deans.caltech.edu/HonorCode>. Note that **any** use of automated text generation is strictly prohibited.

## My Status as a "Responsible Employee"

As a faculty member, I am required to notify the Institute's Equity and Title IX Office when I become aware of discrimination, sexual harassment, or sex- or gender-based misconduct involving our community members. If one of my students shares such an experience with me, I can help connect them to support resources. However, as part of fulfilling my responsibility to make sure my students are offered the opportunity to access information and support by the

Institute, I will not be able to keep information about instances of discrimination or harassment to myself. If you have experienced such prohibited conduct and want to report it or speak to a **confidential** resource, consult the [Equity and Title IX Office's webpage on reporting](#) for guidance.

For more information, you can email [equity@caltech.edu](mailto:equity@caltech.edu), go to [equity.caltech.edu](http://equity.caltech.edu), or review the Institute's [Sex- and Gender-Based Misconduct Policy](#).

## Academic Resources for Students

- **Online Learning:** Resources, [iPad Loaner Program](#), FAQs, and more for students learning online; <https://learn.caltech.edu/>
- **Tutoring:** The undergraduate dean's office provides a peer tutoring service; If the course isn't listed, students can talk with the dean's office to arrange for a tutor; <https://deans.caltech.edu/>
- **Writing:** The Hixon Writing Center provides professional writing tutors as well as peer tutors, individual and group writing space, and additional resources; <https://writing.caltech.edu/>
- **Registrar & FERPA:** The registrar can answer questions about degree progress, privacy of student records, and course enrollment procedures; <https://registrar.caltech.edu/>. (The website also lists *Option Representatives* for option-specific advising, policies, and information.)
- **Library:** Borrow books, retrieve journal articles, receive guidance about research; <https://library.caltech.edu/library/home>
- **Dean of Undergraduate Students:** Wide-ranging assistance addressing issues (academic and other) for undergraduates; <https://deans.caltech.edu/>

## Additional Resources for Students

- **Student Wellness Center:** Wide variety of health and wellbeing services; <https://wellness.caltech.edu/>
- **Counseling Services:** Free for all students, regardless of insurance plan; <https://wellness.caltech.edu/counseling>
- **Occupational Therapy:** Individual sessions and consultations on building healthy habits and routines, time management, planning and organization, and more. Free for all students; <https://wellness.caltech.edu/ot>
- **Center for Inclusion and Diversity:** Resources concerning navigating diversity and inclusion, including staff who can speak with students about challenges of harassment and discrimination; <https://diversity.caltech.edu/>
- **Title IX:** Caltech's Title IX Coordinator ([titleix@caltech.edu](mailto:titleix@caltech.edu)) works with students on issues related to sexual harassment, sexual misconduct, and sex discrimination; <https://titleix.caltech.edu/>
- **Caltech Accessibility Services for Students:** The Accessibility Services Specialist works with students with temporary medical conditions, or mental, physical or learning disabilities on accommodation requests and services; <https://cass.caltech.edu/>
- **Residential Support:** Resident Associates (RAs) and Residential Life Coordinators (RLCs) are also resources for TAs and students; <https://residentialexperience.caltech.edu/>
- **Career Advising and Experiential Learning:** Provides resources to help students make career decisions and implement career plans; <https://career.caltech.edu/>