

Capitalism and Computers in the Era of A.I.

MCM 0903E

Fall 2024

Tuesdays 4pm-6.30pm

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Office: **135 Thayer St, 2nd floor**

Office hours: **10.30AM-11.30AM Tuesday**, or by appointment

Prerequisites: N/A

What is the relation between capital and the computer? To answer this question, this course attends to the particulars of the computer as a mathematical proposition, to its claim to legitimacy as a logic of superior military and political organization, and to its elaboration as something of a natural philosophy in scientific practice. In doing so, we will formulate a conceptual basis to critically assess the glittery promises of current discourse invoking Artificial Intelligence (A.I), which sees near-total automation as inevitable and the threat of sentient Artificial General Intelligence (A.G.I) as nigh. We will establish a critique of the computer as a *structure* (i.e. as a philosophical arrangement with a specific and persistent imagination) to think critically about popular ideologies associated with A.I., often put forward by those with capital stake in its commercial success.

The first half of the course builds an understanding of important concepts in the history of the computer and Marx's critique of political economy. In the second half of the course, we turn to texts that critically assess the state of the relationship between society and the computer, and assess them from the perspective of this understanding.

Upon completion of this course, students will have a basic understanding of debates in the history of science and computing, in Marxist theory, and in digital media studies as they pertain to the relationship between computing and capital. In the first half of this course, we will establish foundations for thinking critically about the relationship between the computer and capital by understanding terms such as computer, cybernetics, capital, and ideology. In the second half, we will read contemporary thinkers theorizing the relationship between the computer and capital to reckon with what, if anything, A.I. developments in the 2020s might have changed.

This course meets once a week for 2 hours and 50 minutes in a seminar format (across 13 sessions, this amounts to 36 hours and 50 minutes in total). Students are expected to complete all readings at least once before seminar, and reading texts multiple times is recommended for best understanding. While there are no specific prerequisites, the readings in this course are theoretically complex. Preparation for seminar in the form of reading, re-reading, and summary writing (see below) is expected to take 10 hours each week (across 11 weeks with reading and no paper due, this amounts to 110 hours in total). Papers 1 and 2 are expected to take 10-12 hours, and paper 3 is expected to take 14-18 hours.

Summary Writing

Each week on which the class meets, students are expected to synthesize one of the week's readings in a summary document. (In weeks where only one reading is assigned, students should select one chapter from the assigned readings.)

Each summary should follow the format:

- One sentence in summary per paragraph in original text (in black). This sentence should directly summarize what you understand to be the main thrust of the paragraph as it contributes to the text's argument.
- Optional additional sentence per paragraph in original text (in blue). This sentence outlines your own additional thoughts and/or response to the text's arguments, i.e. noting connections to other texts, doubting or asking questions about the point, and so on.

Examples of an adequate summary will be made available on the course

website, and instructively discussed during the first seminar.

This summary writing is part of an exercise in close reading that is an instrumental part (and learning goal) of this course. Students will receive feedback on weekly summaries via email from the instructor in order to cultivate a theoretical sophistication and style appropriate to the subject matter.

Summaries are due as a PDF sent via email to the instructor by **12PM midday on the day prior to seminar** (Monday). Summaries submitted after this deadline will be counted for partial credit up until 12PM the day of seminar (Tuesday), but will receive no instructor feedback unless submitted before 12PM midday, Monday. No summaries will be expected on weeks in which papers are due.

Papers / Grading

The course consists of three paper deadlines:

Paper 1: 2-3 pages, explaining a concept with reference to two texts.

Paper 2: 2-3 pages, sketch of final paper.

Paper 3: 10 pages, final paper.

The grading breakdown for the course is as follows:

Paper 1	10%
Paper 2	15%
Paper 3	40%
Summaries	20%
Participation	15%

All papers will be returned with a letter grade and feedback. Participation will be evaluated holistically with respect to each student's attendance of weekly seminar, involvement in class learning, engagement during office hours, and correspondence with instructor in email.

Learning Goals

- A basic understanding of the contours of 'Marxist critique' in its philosophical, economic, and literary guises.

- A familiarity with the critical use of the concepts **computer**, **cybernetics**, **capital**, and **ideology** in past and contemporary debates.
- A non-exhaustive survey of approaches in the contemporary critique of the computer in society.
- Practice in the art of methodical and rigorous comprehension of a text. The readings for this course are complex yet (often) succinct. Students will learn to synthesize content by thoroughly (re-)reading a text in order to map its argument in a critical landscape.
- Clear and concise writing that is grounded in a basic understanding of the debates and discourses in/against which one is writing.

Course materials

All readings will be made available as PDFs on the course site after the first class. In other words, there is no requirement that students purchase any text to take this course: it can be taken at no cost provided that you have a comfortable way of reading digital PDFs.

Attendance policies and late work

Students are expected to attend all seminars in person. Except in extenuating circumstances (such as a mandate by University policy), a remote attendance option will *not* be provided.

Late work will suffer a deduction of 5% per day late. Late days will be rounded *up*: i.e. if a paper is submitted one hour late, it will be marked as one full day late. If a paper is more than three days late, it will suffer a full grade point deduction (i.e. from A to B). The only exception to such deductions will be if the instructor grants an extension. Please note that an extension is not considered granted until you have received explicit approval from the instructor.

Accessibility

Brown University is committed to full inclusion of all students. Please inform me early in the term if you may require accommodations or modification of

any of course procedures. You may speak with me after class, during office hours, or by appointment. If you need accommodations around online learning or in classroom accommodations, please be sure to reach out to Student Accessibility Services (SAS) for their assistance (sas@brown.edu, 401-863-9588). Undergraduates in need of short-term academic advice or support can contact an academic dean in the College by emailing college@brown.edu. Graduate students may contact one of the deans in the Graduate School by emailing graduate_school@brown.edu.

Academic Integrity

A student's name on any exercise (e.g., a theme, report, notebook, performance, computer program, course paper, quiz, or examination) is regarded as assurance that the exercise is the result of the student's own thoughts and study, stated in their own words, and produced without assistance, except as quotation marks, references, and footnotes acknowledge the use of printed sources or other outside help. If you use language generation, spell-checking, or text generation tools, you must acknowledge these appropriately in all submitted work. If you are unsure about the legitimacy of any tool or process, please confirm directly with the instructor before using it.

Schedule

09/10: Introduction

09/17: The Computer

- Copeland, B. J. (2004). Computable Numbers: A Guide - The Computer. In *The Essential Turing: Seminal Writings in Computing, Logic, Philosophy, Artificial Intelligence, and Artificial Life plus The Secrets of Enigma* (pp. 5–32). Clarendon Press.
- Turing, A. M. (2004). Computing Machinery and Intelligence (1950). In B. J. Copeland (Ed.), *The Essential Turing: Seminal Writings in Computing, Logic, Philosophy, Artificial Intelligence, and Artificial Life plus The Secrets of Enigma* (pp. 441–473). Clarendon Press.

09/24: The Calculating Engine

- Babbage, C. (1832). *On the economy of machinery and manufactures*. Charles Knight. pp. 1–61.
- Schaffer, S. (1994). Babbage’s intelligence: Calculating engines and the factory system. *Critical Inquiry*, 21(1), 203–227.

10/01: Cybernetics

- Mahoney, M. S. (2020). Cybernetics and information technology. In *Companion to the history of modern science* (pp. 537–553). Routledge.
- Galison, P. (1994). The ontology of the enemy: Norbert Wiener and the cybernetic vision. *Critical Inquiry*, 21(1), 228–266.

10/08: Marx(ism)

- Kornbluh, A. (2019). *Marxist film theory and fight club*. Bloomsbury Publishing USA. pp. 13–64, 87–96.
- Dyer-Witheford, N. (1999). *Cyber-Marx: Cycles and circuits of struggle in high-technology capitalism*. University of Illinois Press. pp. 26–64.

10/15: Capital

- Heinrich, M. (2012). *An Introduction to the Three Volumes of Karl Marx's Capital*. NYU Press. pp. 13–99.

PAPER 1 DUE

10/22: Labour

- Holloway, J. (1995). From Scream of Refusal to Scream of Power: The Centrality of Work. In W. Bonefeld, R. Gunn, & K. Psychopedis (Eds.), *Open Marxism: Emancipating Marx* (Vol. 3). Pluto Press.
- Huws, U. (1999). Material world: The myth of the weightless economy. *Socialist Register*, 35.

10/29: Ideology

- Žižek, S. (2009). *The Sublime Object of Ideology* (Second Edition). Verso. pp. 3–30.
- Johnston, A., Nedoh, B., & Zupančič, A. (2022). Introduction: Beyond the Nominalism-Realism Divide: Objective Fictions from Bentham through Marx to Lacan. In *Objective Fictions: Philosophy, Psychoanalysis, Marxism*.

11/05: Control?

- Deleuze, G. (1992). Postscript on the Societies of Control. *October*, 59, 3–7. <https://www.jstor.org/stable/778828>
- Morozov, E. (2022). Critique of Techno-Feudal Reason. *New Left Review*, 133/134, 89–126.

11/12: Change?

- Dean, J. (2022). Same As It Ever Was? *NLR/Sidecar*.
- Pasquinelli, M. (2023). The Origins of Marx's General Intellect. In *The Eye of the Master* (pp. 95–120). Verso Books.

11/19: History?

- Beller, J. (2017). Alan Turing's Self-Defense: On Not Castrating the Machines. In *The Message is Murder: Substrates of Computational Capital*. Pluto Press.
- Kermode, L. (2024). Capital and the Computer. *IWM Spring Fellows Conference*.

PAPER 2 DUE

11/26: Statistics?

- Joque, J. (2022). *Revolutionary mathematics: Artificial intelligence, statistics and the logic of capitalism*. Verso Books.

12/03: Psychoanalysis?

- Johnston, A. (2023). Preface: Self-Destructive Selfishness: Devouring Its Own Children. In *Infinite Greed: Money, Marxism, Psychoanalysis*.
- Millar, I. (2023). The Stupidity of Intelligence. In *The Psychoanalysis of Artificial Intelligence* (pp. 15–45). Palgrave Macmillan.

12/13: [no class]

FINAL PAPER DUE