

Course Title: HL4028 Science and Literature

Instructor: Celia Xu (yinzhi.xu@ntu.edu.sg, Office: HSSC-03-57)

Driven by rapid scientific, technological, and social changes, uncertainty became a defining feature of twentieth-century culture. This course studies "uncertainty" as a dynamic, interdisciplinary discourse, where scientists and poets borrowed insights from each other to explore what knowing and living could mean at a time when both our abstract imagination of the world and our lived experiences of space and time were relativized. Themes in this course cluster around three major scientific advancements—relativity, quantum mechanics, and cybernetics. Through comparing writings by major poets, literary critics, and scientists of the twentieth century, we will explore how these developments initiated a reappraisal of established traditions and methodologies in literature and science. Besides anglophone writers, we will study a few international authors (in translation) to foster a comparative perspective.

Learning Objectives:

By interpreting texts of various genres, students will engage with challenging and canonical works in poetry and science from the past century. They will gain familiarity with various poetic forms and rhetorical strategies, while honing their close reading skills through class discussions and writing assignments. They will be encouraged to reflect on how the cases examined in this course can inspire fruitful conversation between literature and science in contemporary contexts. Assignments include weekly reading responses and a final eight-to-ten-page research paper on a writer covered in this course.

Note: This is a poetry course, and the theme for Autumn Semester, 2026 is “uncertainty.”

Textbook Requirements: Please purchase Anne Carson, *Plainwater: Essay and Poetry* (Vintage, 1995). All other texts will be provided in PDFs on NTULearn.

Assessment:

Participation: 20%

400-word Weekly Response (due 24 hours before class; starting from Week 3): 40%

Final Paper Proposal: 5%

Final Paper: 35%

Weekly Schedule (this schedule is subject to change)

Week 1: No Class, National Day

Week 2: Comparability of Uncertainty

Course introduction; Marshall Berman, *All That is Solid Melts into Air* (1982), ch1

Kostas Kampourakis and Kevin McCain, *Uncertainty: How It Makes Science Advance*, ch3

Week 3: Subjective Tools

Ian Hacking, "Do We See through a Microscope?" (1981); Hannah Arendt, *The Human Condition* (1958), VI 35-39; Emily Dickinson, Fr404; Rainer Maria Rilke, "Primal Sound" (1919), *Sonnets to Orpheus* (1922)

Week 4: Vision

P.A.M. Dirac, "The Evolution of the Physicist's Picture of Nature", P. D. Ouspensky, *Tertium Organum* (1922), ch4-6
Hart Crane, "Modern Poetry", *The Bridge* (1930)

Week 5: Skepticism

Simon Blackburn, *Truth* (1999), ch7; Robert Frost, "Education by Poetry", "On Making Certain Anything Has Happened", "A Wish to Comply", "The Most of It"
Archibald MacLeish, "Why Do We Teach Poetry", "Signature for Tempo", "Einstein", "Epistle to be Left in the Earth", "Brave New World"

Week 6: Reconceiving Commitments

I.A. Richards, *Poetries and Sciences* (1935); James McAllister, *Beauty and Revolution in Science* (1999), ch6; Veronica Forrest-Thomson, "Atomic Disintegration", "Subatomic Symphony", "Group Theory"

Week 7: Fields

William Carlos Williams, "The Poem as a Field of Action", *Spring and All* (1923)
Charles Olson, "Projective Verse" (1950)

Recess Week

Week 8: Collapsed Dualism

Robert Duncan, "Towards an Open Universe" (1982); Wallace Stevens, "The Noble Rider"; Wallace Stevens, "An Ordinary Evening in New Haven" (1950)
(recommend: Erwin Schrödinger, *Science and the Human Temperament*, ch 1,5&7; Paul Celan, "Stretto" (1959))

Week 9: Randomization and Determinism

Raymond Queneau, "The Foundations of Literature" (1976), excerpt from *Exercises in Style* (1947)
Ron Silliman, "The New Sentence" (1977); Lyn Hejinian, excerpt from *My Life* (1980 first publication)

Week 10: Vulnerable Bodies

Muriel Rukeyser, "The Book of the Dead" (1938)
Yu Jian, "File 0" (1994)
(recommend: Muriel Rukeyser, *The Life of Poetry*)

Week 11: Malleable Feelings in a Cybernetic World

Brian Rotman, *Becoming Beside Ourselves: The Alphabet, Ghosts, and Distributed Human Being* (2008), ch 3-5
Italo Calvino, "Cybernetics and Ghosts" (1967); Selected artistic works and statements from the 1968 exhibition "Cybernetic Serendipity"

Week 12: Ethics in Uncertainty

Angus Fletcher, *The Topological Imagination* (2016), Introduction and ch1

A.R. Ammons, "Corsons Inlet" (1986); Anne Carson, *Plainwater* (1995), "The Anthropology of Water"

Week 13: No Class, Deepavali

Final Research Paper (3,000-3,500 words) Due by the End of November 10th