The Committee on Conceptual and Historical Studies of Science (CHSS) is an interdisciplinary graduate program dedicated to advancing social, historical, and philosophical perspectives on science. Its areas of interest are broad, extending across the sciences and from the ancient world to the present day. Its faculty derive from many departments in the University, but particularly from History, Sociology, Anthropology, and Philosophy. We currently have major strengths in the study of evolutionary biology, psychology, and medicine, and in issues of the social activity of science, such as those relating to scientific authority, credibility, communication, and intellectual property. Students in the Ph.D. program have an opportunity to investigate such aspects of the scientific enterprise in depth, within its many rich historical, social, and philosophical contexts. They are also encouraged to grapple with the practices and approaches of science itself.

A brief description of the Committee’s degree requirements is provided below, along with a representative list of courses that have been taught in recent years. For more complete information, you are encouraged to consult the website at http://chss.uchicago.edu/. This site contains an up to date description of faculty research interests, a complete statement of degree requirements, descriptions of individual courses being taught this year, a calendar of events (including meetings of the Committee’s regular Workshop in the History, Philosophy, and Sociology of Science), a list of students who have received Ph.D.s from the Committee with the titles of their dissertations, and more.

Those with questions about the Committee should write to the Administrative Assistant, The Committee on Conceptual and Historical Studies of Science, The University of Chicago, 1126 East 59th Street, Chicago, IL 60637 (bethcalderon@uchicago.edu (bhmackev@uchicago.edu)).

APPLICATION

New students are admitted to the Committee through the Division of the Social Sciences. Applicants will be expected to submit undergraduate transcripts, scores from the general Graduate Record Examination, three
letters of recommendation, short descriptions of their interests and/or reasons for wanting to study in CHSS, and a writing sample.

The application process for admission and financial aid for all Social Sciences graduate programs is administered through the divisional Office of the Dean of Students. The Application for Admission and Financial Aid, with instructions, deadlines and department specific information is available online at: https://apply-ssd.uchicago.edu/apply/. Questions pertaining to admissions and aid should be directed to ssd-admissions@uchicago.edu or (773) 702-8415.

Our application process is now entirely online (paperless). All supporting material - including letters of recommendation, transcripts, and writing samples (if required by a specific department) - must be submitted electronically through the online application.

More information about applying to programs in the University of Chicago’s Division of the Social Sciences can be found at https://socialsciences.uchicago.edu/admissions/how-to-apply (https://socialsciences.uchicago.edu/admissions/how-to-apply/).

**DEGREE REQUIREMENTS**

Every new student in CHSS is assigned an adviser, with whom he or she designs an individual program of study. Because the interests of students within CHSS vary widely, so too do these programs. Yet all students are expected to fulfill certain common requirements. Full and up to date details are given on the website, but the main elements are described here.

Students choose one of the following options:

1. **SCIENCE OPTION:** The student may earn a master’s degree in a science (here understood to include mathematics, statistics, and social science).
2. **PHILOSOPHY OPTION:** The student may earn a master’s degree in philosophy.
3. **HISTORY OPTION:** The student may earn a master’s degree in history.

All students must complete a total of at least eighteen courses at the University for a grade of B or better, including at least seven CHSS courses. They must maintain at least a B+ average every quarter. Students must take a coherent series of six courses in a scientific area at the University, approved by the Committee, at a level appropriate to their preparation and of an appropriately advanced nature. (The term science here includes social sciences as represented in the University’s Division of the Social Sciences.) This will normally mean that students must take at least some portion of their science work at a graduate level. Note that if a student enters the program with a master’s degree in an appropriate area, the committee determines what level of credit is given for it.

The expected timetable is that students entering with a master’s degree will complete coursework by the end of the second year, and those entering without will complete it by the end of year three (see the website for this and other details of the expected timetable).

Among the coursework of the first two years, students should take three courses offered by the committee:

- Philosophy of Science, History of Science, and Introduction to Science Studies.

Students must then pass two oral examinations. Each student has the option of taking the exams in history of science, philosophy of science, sociology of science, or anthropology of science; but at least one of the exams must be in either history of science or philosophy of science. These exams are, in part, designed by the students themselves.

At this point the student writes a dissertation proposal, and defends it at a hearing before his or her dissertation committee. He or she is then considered to have advanced to Ph.D. candidacy, and proceeds to write the dissertation itself.

**COURSES**

The department website offers descriptions of representative courses offered in recent years: https://chss.uchicago.edu/content/courses (https://chss.uchicago.edu/content/courses/)

**CONCEPTUAL AND HISTORICAL STUDIES OF SCIENCE COURSES**

**CHSS 30924. Science, Modernity, and Anti-Modernity. 100 Units.**
Equivalent Course(s): SCTH 30924, HIST 49005

**CHSS 30925. The Humanities as a Way of Knowing. 100 Units.**

Despite intertwined histories and many shared practices, the contemporary humanities and sciences stand in relationships of contrast and opposition to one another. The perceived fissure between the "Two Cultures" has been deepened by the fact that the bulk of all history and philosophy of science has been devoted to the natural sciences. This seminar addresses the history and epistemology of what in the nineteenth century came to be called the "sciences" and the "humanities" since the Renaissance from an integrated perspective. The historical sources will focus on shared practices in, among others, philology, natural history, astronomy, and history. The philosophical source will develop an epistemology of the humanities: how humanists know what they know.
CHSS 30927. Knowledge as a Platter: Comparative Perspectives on Knowledge Texts in the Ancient World. 100 Units.
In various ancient cultures, sages created the new ways of systematizing what was known in fields as diverse as medicine, politics, sex, dreams, and mathematics. These texts did more than present what was known; they exemplified what it means to know - and also why reflective, systematic knowledge should be valued more highly than the knowledge gained from common sense or experience. Drawing on texts from Ancient India, Greece, Rome, and the Near East, this course will explore these early templates for the highest form of knowledge and compare their ways of creating fields of inquiry: the first disciplines. Texts include the Arthashastra, the Hippocratic corpus, Deuteronomy, the Kama Sutra, and Aristotle’s Parva naturalia.
Equivalent Course(s): PHIL 30925, SCTH 30925, CLAS 37316, HIST 39517, HIST 29517, KNOW 40303, PHIL 20925

CHSS 30928. Thinking the Present through the Past: Classic Works of History since 1750. 100 Units.
As proudly empirical as the sciences, as interpretive as the humanities, and as analytical as the social sciences, history as the pursuit of knowledge about the past resists classification. Because all history is written through the lens of the present, most works of history cease to be read after a generation, especially during the modern period, as the pace of change accelerated. In this seminar we will read some of the exceptions, including works by Kant, Tocqueville, Michelet, cCassirer, Huizinga, Lovejoy, and Frances Yates, to understand how powerful vision of the past can transcend its own present.
Instructor(s): Lorraine Daston Terms Offered: Spring. This course will be taught spring 2019.
Prerequisite(s): Seminar - primarily graduate students; all students require the permission of the instructor.
Equivalent Course(s): KNOW 30928, SCTH 30928, HIST 45002

CHSS 30929. The Strange World of Francis Bacon. 100 Units.
Attention confers value - aesthetic, moral, epistemic, and now monetary value - upon whatever it singles out from the stream of experience. This seminar explores the long history of the theories and practices of attention in philosophy, religion, science, psychology, and the arts. Guiding questions include what objects are deemed worthy of attention and why, extreme states of attention such as religious contemplation or scientific observation, the schooling of attention through practices such as reading and web-surfing, theories of how attention works, and pathologies of attention.
Instructor(s): R. Richards Terms Offered: Autumn
Note(s): German would be helpful, but it is not required.
Equivalent Course(s): HIST 25304, PHIL 20610, KNOW 31302, GRMN 35304, PHIL 30610, GRMN 25304, HIPS 26701, FNDL 25315, HIST 35304

CHSS 31404. Britain in the Age of Steam 1783-1914. 100 Units.
In this lecture-discussion course, we will examine the relationship between science and society during the Industrial Revolution, with a special focus on the role of the Victorians in shaping the modern world. The course will explore the impact of steam technology on every aspect of Victorian society, from politics and religion to industry and the arts. We will also examine the scientific work of prominent Victorian scientists, such as Charles Darwin and Alfred Russel Wallace, and consider the ways in which their ideas and discoveries shaped the modern world. The course will also explore the cultural and social implications of the Industrial Revolution, including the effects of the factory system on workers and the development of the middle class. Finally, we will consider the ways in which the Industrial Revolution continues to shape our world today. Equivalent Course(s): HIST 21404, LLSO 21404, ENST 21404, HIST 31404, HIPS 21404

CHSS 31413. Sex and Enlightenment Science. 100 Units.
What do a lifelike wax woman, a birthing dummy, and a hermaphrodite have in common? This interdisciplinary course seeks answers to this question by exploring how eighteenth-century scientific and medical ideas, technologies, and practices interacted with and influenced contemporary notions of sex, sexuality, and gender. In our course, the terms “sex,” “Enlightenment,” and “science” will be problematized in their historic contexts using a variety of primary and secondary sources. Through these texts, as well as images and objects, we will see how emerging scientific theories about sex, sexuality, and gender contributed to new understandings of the human, especially female, body. We will also see how the liberating potential of Enlightenment thought gave way to sexual and racial theories that insisted on fundamental human difference. Topics to be covered include theories of generation, childbirth, homosexuality, monstrosities, race and procreation, and hermaphrodites and questions about the “sex” of the enlightened scientist and the gendering of scientific practices.
Equivalent Course(s): HIST 22218, KNOW 21413, HIPS 21413, GNSE 21413
CHSS 31502. Sciences of Memory in the Twentieth Century. 100 Units.
This course will examine a series of episodes in the history of the understanding of autobiographical memory, beginning with the emergence of academic psychology, and also psychoanalysis in the late nineteenth century and ending with the "memory wars" of the 1980s and '90s. The course will include an examination of the yoked history of beliefs about individual and "collective" memory: the impact of memory therapies during the First and Second World Wars, the impact of innovations in brain surgery on beliefs about the physiological memory record and the neurophysiology of remembering, and the impact of the rise of forensic psychology on the popular, scientific, and legal understanding of memory.
Instructor(s): A. Winter Terms Offered: Spring
Equivalent Course(s): HIST 35505, HIPS 28002, HIST 25510

CHSS 32000. Introduction to Science Studies. 100 Units.
This course provides an introduction to the interdisciplinary study of science, medicine, and technology. During the twentieth century, sociologists, historians, philosophers, and anthropologists raised original, interesting, and consequential questions about the sciences. Often their work drew on and responded to each other, and, taken together, their various approaches came to constitute a field, "science studies." The course furnishes an initial guide to this field. Students will not only encounter some of its principal concepts, approaches and findings, but will also get a chance to apply science-studies perspectives themselves by performing a fieldwork project. Among the topics we may examine are: the sociology of scientific knowledge and its applications; actor-network theories of science; constructivism and the history of science; and efforts to apply science studies approaches beyond the sciences themselves.
Instructor(s): Michael Paul Rossi Terms Offered: Autumn. Offered in Autumn 2020
Equivalent Course(s): SOCI 40137, KNOW 31408, ANTH 32011, HIPS 22001, HIST 35505

CHSS 32011. Data: History and Literature. 100 Units.
Data is a notion that seems to characterize our contemporary world. Digital revolutions, artificial intelligence, and new forms of management and governance all claim to be data-driven. This course traces the origins of these trends to the nineteenth century, when new statistical knowledges and literacy traditions emerged. Moving across disciplinary boundaries, we will analyze the ways in which practices of observation and calculation produced data on populations, crime, and economies. Likewise, the literature of this period reflected the ways that data shaped subjective experience and cultural life: the rise of the detective novel transformed the world into a set of signs and data points to interpret, while Balzac's Human Comedy classified individuals into types. Drawing on these historical and humanistic perspectives, students will have the opportunity to measure and analyze their own lives in terms of data as well as think critically about the effects of these knowledge practices.
Instructor(s): Alexander Campolo, Anastasia Klimchynskya Terms Offered: Autumn
Note(s): undergrads permitted with permission of instructors
Equivalent Course(s): SOCI 20518, STAT 36711, DIGS 30016, PPHA 32011, KNOW 22011, HIPS 22011, SOCI 30518, SCTH 32011, KNOW 32011, ENGL 32011

CHSS 32708. Planetary Britain, 1600-1900. 100 Units.
What were the causes behind Britain's Industrial Revolution? In the vast scholarship on this problem, one particularly heated debate has focused on the imperial origins of industrialization. How much did colonial resources and markets contribute to economic growth and technological innovation in the metropole? The second part of the course will consider the global effects of British industrialization. To what extent can we trace anthropogenic climate change and other planetary crises back to the environmental transformation wrought by the British Empire? Topics include ecological imperialism, metabolic rift, the sugar revolution, the slave trade, naval construction and forestry, the East India Company, free trade and agriculture, energy use and climate change.
Equivalent Course(s): ENST 22708, HIST 22708, KNOW 32808, HIPS 22708, KNOW 22708, HIST 32708

CHSS 32900. History of Statistics. 100 Units.
This course covers topics in the history of statistics, from the eleventh century to the middle of the twentieth century. We focus on the period from 1650 to 1950, with an emphasis on the mathematical developments in the theory of probability and how they came to be used in the sciences. Our goals are both to quantify uncertainty in observational data and to develop a conceptual framework for scientific theories. This course includes broad views of the development of the subject and closer looks at specific people and investigations, including reanalyses of historical data.
Instructor(s): S. Stigler Terms Offered: Spring
Prerequisite(s): Prior statistics course
Equivalent Course(s): HIPS 25600, STAT 26700, STAT 36700

CHSS 33300. Introduction to Philosophy of Science. 100 Units.
We will begin by trying to explicate the manner in which science is a rational response to observational facts. This will involve a discussion of inductivism, Popper's deductivism, Lakatos and Kuhn. After this, we will briefly survey some other important topics in the philosophy of science, including underdetermination, theories of evidence, Bayesianism, the problem of induction, explanation, and laws of nature. (B) (II)
Instructor(s): T. Pashby Terms Offered: Autumn
Equivalent Course(s): HIPS 22000, PHIL 22000, HIST 25109, HIST 35109, PHIL 32000
CHSS 33500. Elementary Logic. 100 Units.
An introduction to the concepts and principles of symbolic logic. We learn the syntax and semantics of truth-functional and first-order quantification logic, and apply the resultant conceptual framework to the analysis of valid and invalid arguments, the structure of formal languages, and logical relations among sentences of ordinary discourse. Occasionally we will venture into topics in philosophy of language and philosophical logic, but our primary focus is on acquiring a facility with symbolic logic as such.
Instructor(s): Autumn 2020: G. Schultheis; Winter 2021: M. Kremer Terms Offered: Autumn Winter
Equivalent Course(s): PHIL 20100, HIPS 20700, PHIL 30000, LING 20102

CHSS 33600. Intermediate Logic. 100 Units.
This course provides a first introduction to mathematical logic for students of philosophy. In this course we will prove the soundness and completeness of deductive systems for both propositional and first-order predicate logic. (B) (II)
Instructor(s): A. Vasudevan Terms Offered: Winter
Prerequisite(s): Elementary Logic (PHIL 20100) or its equivalent.
Equivalent Course(s): PHIL 29400, HIPS 20500, PHIL 39600

CHSS 34903. Victorian Science. 100 Units.
This course examines how Victorians sought to understand the natural world, and how their scientific work helped develop modern intellectual conventions, social relations, and institutions. We will study a wide range of topics from the 1830s through the beginning of the twentieth century in order to develop a kind of panorama of scientific life and to determine when key features of modern science came into being.
Instructor(s): A. Winter Terms Offered: Winter
Equivalent Course(s): HIPS 24913, HIST 24913, HIST 34913

CHSS 35010. Central Problems in the Philosophy of Biology. 100 Units.
The course will address central issues in philosophy of biology. We will begin by discussing the nature of evolutionary theory, focusing on issues of adaptation, selection vs. drift, units of selection and the concept of species. We shall then look into some central ideas in the philosophy of science-such as reduction and laws-and examine their application in biology. Last, we will discuss causal concepts such as mechanism, function and teleology. The format of the course will be short lectures followed by presentations by students and discussion.
(B)
Instructor(s): C. Bloch Terms Offered: Winter
Equivalent Course(s): PHIL 22705, PHIL 32705, HIPS 22711, HIST 35010, HIST 25010

CHSS 35014. Introduction to Environmental History. 100 Units.
How have humans interacted with the environment over time? This course introduces students to the methods and topics of environmental history by way of classic and recent works in the field: Crosby, Cronon, Worster, Russell, and McNeill, etc. Major topics of investigation include preservationism, ecological imperialism, evolutionary history, forest conservation, organic and industrial agriculture, labor history, the commons and land reform, energy consumption, and climate change. Our scope covers the whole period from 1492 with case studies from European, American, and British imperial history.
Instructor(s): F. Albritton Jonsson Terms Offered: Winter
Equivalent Course(s): PHIL 22705, PHIL 32705, HIPS 22711, HIST 35010, HIST 25010

CHSS 35121. The Brazil-Argentina Nuclear Cooperation Agreement and Thermoelectric Transition in Brazil. 100 Units.
In this course we present a history of Brazil-Argentina nuclear cooperation and how Brazil is planning the transition of its electric matrix from predominantly hydraulic towards a mix with increased share of nuclear power. Proliferation risks are a main concern of international community when nuclear programs expansion is considered. The Brazilian-Argentine Agency for Accounting and Control of Nuclear Materials, created in 1991, has been fundamental in assuring the international community (via the International Atomic Energy Agency) that the nuclear materials and facilities of both countries are being used for peaceful purposes. Domestically, the debate has been environmental in nature, and concerns topics ranging from mining to power generation, and from radioactive materials disposal to radiation effects in living organisms and major accidents. These diplomatic, environmental, social and political issues are in turn dependent on technical details of the thermoelectric generating process, and this nexus of issues provides the topics for the course.
Instructor(s): Ramos, Alexandre Terms Offered: Autumn
Note(s): Tinker Visiting Professor Autumn 2018
Equivalent Course(s): HIPS 25121, PHHA 39921, LACS 25121, LACS 35121

CHSS 35208. Motion Pictures in the Human Sciences. 100 Units.
This course will examine the relationship between moving images, particularly motion-picture films, and the human sciences, broadly construed, from the early days of cinema to the advent of functional magnetic resonance imaging (fMRI). It will use primary source documents alongside screenings to allow students to study what the moving image meant to researchers wishing to develop knowledge of mind and behavior, and what they thought film could do that still photography and unmediated human observation could not. The kinds of motion pictures we will study will vary widely, from infant development studies to psychiatric films, from documentaries to research films, and from films made by scientists or clinicians as part of their laboratory or therapeutic work to experimental films made by seasoned filmmakers. We will explore how people used the recordings they made.
in their own studies, in communications with other scientists, and for didactic and other purposes. We will also discuss how researchers' claims about mental processes-perception, memory, consciousness, and interpersonal influence-drew on their understandings of particular technologies.

Terms Offered: Spring
Equivalent Course(s): CMST 39002, HIST 35208, HIPS 25208, HIST 25208, CMST 29002

CHSS 35307. History and Historiography of Science. 100 Units.

Science poses particular problems of historical understanding because it claims to reveal truths independent of human culture and historical change. Yet scholars have argued for decades that both the enterprise of science and, indeed, scientific knowledge itself can be accounted for historically. Since World War II a thriving discipline has arisen to pursue this objective. It has transformed our understanding of such central topics as the practice of experiment, the social meaning of nature, and the constitution of scientific authority. History and Historiography of Science offers an opportunity to see how historians of science have achieved this. We will read both canonical works and new research, in order to understand how they practice their craft of bringing history to bear on what seems the most unhistorical of subjects.

Instructor(s): A. Johns Terms Offered: Winter
Equivalent Course(s): HIST 35307, HIPS 25307, HIST 25307

CHSS 35309. History of Perception. 100 Units.

Knowing time. Feeling space. Smelling. Seeing. Touching. Tasting. Hearing. Are these universal aspects of human consciousness, or particular experiences contingent upon time, place, and culture? How do we come to know about our own perceptions and those of others? This course examines these and related questions through detailed readings of primary sources, engagement in secondary scholarship in the history and anthropology of sensation, and through close work with participants' own sensations and perceptions of the world around them.

Equivalent Course(s): HIPS 25309, ANTH 24308, KNOW 31404, KNOW 21404, HIST 35309, ANTH 34308, HIST 25309

CHSS 35408. The History of Suggestion. 100 Units.

This course examines the history of studies of the nature of what has commonly become known as suggestion—subtle influences over personal and group behavior that are thought to affect us outside our conscious awareness or control. The idea of an unconscious influence of this kind has deep roots, but it was only in the nineteenth and twentieth centuries that it became a major focus of research, controversy and reflection. The course will examine the development and significance of characterizations of suggestion and related concepts of subtle influence in medicine, advertising, and various fields in the sciences. Course materials will include primary sources in those areas, literary materials, and film.

Instructor(s): A. Winter Terms Offered: Winter
Equivalent Course(s): HIST 35408, HIPS 25408, HIST 25408

CHSS 35525. Environmental Histories of the Global South. 100 Units.

Drawing on cases from Africa, Latin America, and especially Asia, this course explores key themes in the modern environmental history of the world beyond the rich industrialized North. Our investigations will focus on the ecological impacts of colonialism, war, and development, and how environmental management has helped to construct modern states and capitalist practices in turn. Ranging from the malarial plantations of the Caribbean to the forests of southeast Asia, we will analyze not-so-natural disasters like floods and chemical spills as well as the slow violence of deforestation and droughts. Combining primary sources with classic scholarship, we will encounter pioneering green activists like the original "tree huggers" of the Himalayas and environmental advocates for brutal population control. The course will conclude by examining the emergence of a newly assertive Global South in international climate negotiations, and its implications for the environmental history of our planet at large. The course is open to all, but may be of particular interest to students who have taken "Introduction to Environmental History."

Instructor(s): L. Chatterjee Terms Offered: Spring
Equivalent Course(s): HIST 35024, HIST 25025, HIPS 25525, SALC 35025, SALC 25025

CHSS 37015. Graphic Medicine. 100 Units.

What do comics add to the discourse on health, illness, and disease? What insight do comics provide about the experience of illness? Can comics improve health? Graphic Medicine: Concepts and Practice is a course designed to introduce students to the basic concepts and practices of the emerging field of graphic medicine. Broadly defined as the "intersection between the medium of comics and the discourse of healthcare," graphic medicine allows for a unique exploration of health, disease, and illness through the narrative use of graphic and textual elements. Following a life-cycle framework, this course will examine the range of graphic medicine works that address topics such as pregnancy, abortion, mental health, sexuality, chronic medical diseases, HIV/AIDS, dementia, and end-of-life issues. Students will learn about conceptual and practical aspects of the field and be exposed to a variety of styles and genres that capture its breadth and diversity. In addition to reading, analyzing, and discussing the works, an important component of the class will be exercises during which students will create their own graphic medicine works. Taught by a nurse cartoonist (also a founding figure in the field) and a physician, the course also provides a perspective of the field from within the practice of medicine. Through didactics, discussion, and practice, this course will provide students with a thorough understanding of the field of graphic medicine.

Instructor(s): Brian Callender, MK Czerwiec Terms Offered: Winter
CHSS 38400. Darwin’s ‘On the Origin of Species’ and ‘The Descent of Man’ 100 Units. This lecture-discussion class will focus on a close reading of Darwin’s two classic texts. An initial class or two will explore the state of biology prior to Darwin’s Beagle voyage, and then consider the development of his theories before 1859. Then we will turn to his two books. Among the topics of central concern will be the logical, epistemological, and rhetorical status of Darwin’s several theories, especially his evolutionary ethics; the religious foundations of his ideas and the religious reaction to them; and the social-political consequences of his accomplishment. The year 2019 was the 210th anniversary of Darwin’s birth and the 160th anniversary of the publication of On the Origin of Species. (B) (II) Instructor(s): R. Richards Terms Offered: Winter Equivalent Course(s): PHIL 23015, HIST 24905, PHIL 33015, HIPS 24901, FNDL 24905, HIST 34905

CHSS 38900. Philosophy of Mind and Science Fiction. 100 Units. Could computers be conscious? Might they be affected by changes in size or time scale, hardware, development, social, cultural, or ecological factors? Does our form of life constrain our ability to visualize or detect alternative forms of order, life, or mentality, or to interpret them correctly? How do assumptions of consciousness affect how we study and relate to other beings? This course examines issues in philosophy of mind raised by recent progress in biology, psychology, and simulations of life and intelligence, with readings from philosophy, the relevant sciences, and science fiction. (B) Instructor(s): W. Wimsatt Terms Offered: Spring Equivalent Course(s): PHIL 33400, HIPS 25400, PHIL 23400

CHSS 39405. Advanced Logic. 100 Units. Since Russell’s discovery of the inconsistency of Frege’s foundation for mathematics, much of logic has resolved around the question of to what extent we can or cannot prove the consistency of the basic principles with which we reason. This course will explore two main efforts in this direction. We will first look at proof-theoretic efforts towards demonstrating the consistency of various foundational systems, discussing the virtues and limitations of this approach. We will then closely examine Godel’s theorems, which are famous for demonstrating limits on the extent to which we can formulate consistency proofs. Much has been written on the implications of Godel’s theorems, and we will spend some time trying to carefully separate what they really entail from what they do not entail. Assessment will be by regular homework sets. Intermediate logic or prior equivalent required. (II) and (B). Instructor(s): K. Davey Terms Offered: Spring Prerequisite(s): Elementary Logic or equivalent Equivalent Course(s): PHIL 29405, HIPS 20905, PHIL 39405

CHSS 40196. Cultural Evolution. 100 Units. This course explores the nature of process of cultural evolution. After establishing a background on the characteristics of biological evolution, we consider topics in cultural evolution that explore similarities and differences between processes of biological and cultural evolution, and theoretical and conceptual innovations necessary to deal with the latter, using a variety of approaches and methodologies, including agent-based modeling, “big data” approaches, and case studies. These will include topics like: the nature of inheritance, the limits of ‘memes’, the role of cognitive development, the coevolution of cognition and lithic technology, the scaffolding and evolution of social support, institutions, organizations and firms, the structure of scientific communities, entrenchment and the emergence of conventions and standards, the role of technology, horizontal vs. vertical transmission, multichannel inheritance, economic markets, the nature of innovation, and the role of history. Equivalent Course(s): PHIL 52805, EVOL 30196, SOCI 40196

CHSS 40201. Religion and Reason. 100 Units. The quarrel between reason and faith has a long history. The birth of Christianity was in the crucible of rationality. The ancient Greeks privileged this human capacity above all others, finding in reason the quality wherein man was closest to the gods, while the early Christians found this viewpoint antithetical to religious humility. As religion and its place in society have evolved throughout history, so have the standing of, and philosophical justification for, non-belief on rational grounds. This course will examine the intellectual and cultural history of arguments against religion in Western thought from antiquity to the present. Along the way, of course, we will also examine the assumptions bound up in the binary terms ‘religion’ and ‘reason.” Equivalent Course(s): HIST 66606, PHIL 43011, CLAS 46616, KNOW 40201, DVPR 46616

CHSS 40203. Biopolitics & Posthumanism. 100 Units. Much has been written about the possibility (or impossibility) of creating an integrated political schema that incorporates living status, not species boundary, as the salient distinction between person and thing. In this course, we will explore how biopolitical and posthumanistic scholars like Michel Foucault, Hannah Arendt, Giorgio Agamben, Jane Bennett, Cary Wolfe, and Donna Haraway have acknowledged (and advocated transcending) the anthropocentric ümwelt, to borrow Jakob von Úexküll’s influential term. In parallel with our theoretical readings, we will explore how actual legal systems have incorporated the nonhuman, with a particular focus on Anglo-American and transnational law. Our goal is to develop our own sense of an applied biopolitics—whether to our own research, to future legislation and jurisprudence, or both. Instructor(s): Nicolette I. Bruner Terms Offered: Winter
CHSS 40205. Ecological Thinking. 100 Units.
What is the environment, anyway? Is it a collection of resources? An entity in need of protection? An autonomous state of being? In this course, we will engage with writers and thinkers who have grappled with what it means to think ecologically. We will examine how environmental concerns have reached across borders to shape law, culture, and theories of knowledge on a global scale. Course themes will include environmental justice, the energy humanities, postcolonial environmentalisms, ecocriticism, ecofeminism, queer ecologies, and critical life studies. Readings will include works by Rachel Carson, William Cronon, Lawrence Buell, Helena Maria Viramontes, Christopher Stone, Rob Nixon, Tamara Giles-Vernick, Timothy Morton, and others.
Instructor(s): Nicolette I. Bruner Terms Offered: Winter
Equivalent Course(s): KNOW 40205

CHSS 40206. Assaulting the Paradigm: Franz Boas and His Contemporaries. 100 Units.
How do ideas succeed? What challenges do those who voice new ideas face as they try to gain adherents, and how do they rise to influence against the odds? This course examines how the unexpected, the unconventional, and the radically original can dethrone accepted truths. We will investigate this question through a case study of the anthropologist Franz Boas and his contemporaries, who assaulted the paradigm of race at the turn of the twentieth century. In addition to reading Boas, we will study the works of John Dewey, W. E. B. Du Bois, Sigmund Freud, Zora Neale Hurston, Claude Lévi-Strauss, Margaret Mead, and Thorstein Veblen. By tracing the mutual influence between Boas and thinkers in fields from psychology to philosophy, we can examine how knowledge is contested and propagated-including the challenges those who frame ideas face as they break away from the pack, the role of social networks in the success of concepts that go "against the grain" of conventional wisdom, and the special agency of multidisciplinary collaboration in the periods of ferment produced when authority is tested and new ideas are demanded.
Instructor(s): Isaiah Lorado Wilner Terms Offered: Winter
Equivalent Course(s): ANTH 44810, KNOW 40206

CHSS 40207. Human Rights and Humanitarianism in the Modern World. 100 Units.
The related concepts of human rights and humanitarianism form the basis of contemporary ethical and political thought. Acting in the name of "humanity" is seen as unequivocally noble, and very few of us would ever claim to be anti-humanitarian or anti-human rights. Yet the moral consensus surrounding these terms obscures a contested and often disturbing history. Rather than uncritically accepting a triumphalist story of the progressive victory of human rights and humanitarianism, this course will explore how these concepts were constructed over time, paying special attention to how they were used in practice, what kind of rhetorical work they accomplished, and whose interests they served. The course will consider the origins of modern concepts of humanity, rights, citizenship, and social responsibility during the enlightenment and trace how they developed over the course of the 19th and 20th centuries. We will study the role of human rights and humanitarianism in the transformative events and processes of modern history, including the rise of nation-states, the trans-Atlantic slave trade and its abolition, imperial expansion and decolonization, the world wars, and twentieth-century genocides. Students will leave the course with an understanding of how human rights and humanitarianism can be applied to their own research interests.
Instructor(s): Yee Slobodkin Terms Offered: Winter
Equivalent Course(s): HMRT 40207, KNOW 40207

CHSS 40208. Man and/as Machine. 100 Units.
Recently, Amazon employees fighting for better working conditions united under the slogan "We are not robots!" Recalling Karl Capek's R.U.R., which coined the word robot (from the Czech word for slave), the slogan suggests the importance of the machine as an object and a concept in relation to which human identity has been - and continues to be - defined. Throughout the history of human thought, the machine has existed as both something that we are like (for example, Descartes comparing the brain to a machine) but also as an opposite to humanity (as in the aforementioned slogan). This course will trace this tension between the machine as an 'Other' and as a metaphor for our human self from the early modern period to the present. Beginning with theoretical and philosophical writing on the importance of oppositions and binaries to human identity and language, it will trace the history of the idea of the machine as it relates to the human in texts by Rene Descartes, La Mettrie, Emile Zola, Karl Capek, Alan Turing, and Donna Haraway, among others. In addition to confronting the complexity and ambiguity of a concept that ubiquitously shapes our lives today, students in this course will also wrestle with broader humanistic questions regarding the nature of the Self, the boundaries between self and other, and the relationship between human identity and technology.
Instructor(s): Anastasia Kluchinskaya Terms Offered: Winter
Equivalent Course(s): KNOW 40208

CHSS 40300. Case Studies on the Formation of Knowledge II. 100 Units.
The KNOW core seminars for graduate students are offered by the faculty of the Stevanovich Institute on the Formation of Knowledge. This two-quarter sequence provides a general introduction, followed by specific case studies, to the study of the formation of knowledge. Each course will explore 2-3 case study topics, and
each case study will be team-taught within a "module." A short research paper is required at the end of each quarter. Graduate students from every field are welcome. Those who take both quarters are eligible to apply for a SIFK 6th-year graduate fellowship. For more information, please email your questions to sik@uchicago.edu

Module 1: Foundations of Psychology in Linguistics and Biology Robert Richards, John Goldsmith This module will examine the ways several established disciplines, particularly linguistics and biology, came together in the mid-19th century to establish the science of psychology. Both linguistics and biology offered empirical and theoretical avenues into the study of mind. Researchers in each advanced their considerations either in complementary or oppositional fashion. Module 2: Origins of the Social Construction of Knowledge Robert Richards, Alison Winter This module will trace the development of the idea of the social construction of knowledge and its relation to philosophy and history of science. The development lit a spark, then created a conflagration, and yet still smolders. Module 3: The Politics of Philosophical Knowledge Equivalent Course(s): SOCI 40210, SCTH 40300, MAPH 40300, KNOW 40300, EALC 50300, CMLT 41803, HIST 64901, MAPS 40301


This course critically examines concepts of "nature" and "artifice" in the formation of scientific knowledge, from the Babylonians to the Romantics, and the ways that this history has been written and problematized by both canonical and less canonical works in the history of science from the twentieth century to the present. Our course is guided by three overarching questions, approached with historical texts and historiography, that correspond to three modules of investigation: 1) Nature, 2) Artifice, and 3) Liminal: Neither Natural nor Artificial.

Instructor(s): Margaret Carlyle, Eduardo Escobar, Jennifer P. Daly Terms Offered: Spring

Note(s): This course fulfills part of the KNOW Core Seminar requirement to be eligible to apply for the SIFK Dissertation Research Fellowship. Ph.D. students must register with the KNOW 40304 course number in order for this course to meet the requirement.

CHSS 40305. Between Nature and Artifice: The Formation of Scientific Knowledge. 100 Units.

This course critically examines concepts of "nature" and "artifice" in the formation of scientific knowledge, from the Babylonians to the Romantics, and the ways that this history has been written and problematized by both canonical and less canonical works in the history of science from the twentieth century to the present. Our course is guided by three overarching questions, approached with historical texts and historiography, that correspond to three modules of investigation: 1) Nature, 2) Artifice, and 3) Liminal: Neither Natural nor Artificial.

Instructor(s): Margaret Carlyle, Eduardo Escobar, Jennifer P. Daly Terms Offered: Spring

Note(s): This course fulfills part of the KNOW Core Seminar requirement to be eligible to apply for the SIFK Dissertation Research Fellowship. Ph.D. students must register with the KNOW 40304 course number in order for this course to meet the requirement.

CHSS 40306. Race, Land, and Empire: History, Intersectionality, and the Meanings of America. 100 Units.

This seminar examines the making and meaning of the United States at the intersections of race, land, and empire. It considers a set of profound historical transformations that shape American and global life today: the conquest and colonization of the vast North American continent; the expansion of slavery and, with it, a system of global capitalism; the growth of opposition to that system of labor, culminating in the Civil War; the origins, as a result of that war, of a modern American nation-state; the ethnic cleansing and resettlement of the West; and the ascension of the United States of America to global eminence as a military power. Rather than framing these events within a national narrative about the idea of Manifest Destiny or an epic struggle toward the ideal of democracy-an approach that ignores most of the continent, divides the West from the North and South, and frames history itself as progress-this course makes use of a global lens to analyze the borders between and border crossings by American communities. Our focus will be the interrelations between regions and peoples; the processes that led to alteration; and the evolution of structures that redistributed social power.

Instructor(s): Isaiah Lorado Wilmer Terms Offered: Spring

Note(s): This course fulfills part of the KNOW Core Seminar requirement to be eligible to apply for the SIFK Dissertation Research Fellowship. No instructor consent is required, but registration is not final until after the 1st week in order to give Ph.D. students priority.

Equivalent Course(s): KNOW 40305, ENGL 40305

CHSS 40307. Seeing and Knowing. 100 Units.

The concept of visuality attends to the ways in which things become seeable, knowable, and governable. Scholars who study optical instruments, architecture, cinema, and media have done much to show us how visual technologies change our ways of seeing. Others in the history of science study how practices of observation transform our understanding of nature-and ourselves. This comparative course analyzes regimes of visuality.
in different cultural and historical contexts. After a short introduction on the philosophy of visual experience and psychology of visual perception, we will investigate a series of configurations of seeing and knowing. These sites range from the history of disability to contemporary climate science, and students will be asked to contribute visual topics from their own research or disciplines for collective exploration in our seminar. Through comparative study, we will work to develop new categories or relationships for linking perception and knowledge.

Instructor(s): Alex Campolo Terms Offered: Spring
Equivalent Course(s): KNOW 40308, CMST 40308, ARTH 40307

CHSS 40308. Political Theologies of Slavery and Freedom in the Atlantic World. 100 Units.
This seminar examines the interdisciplinary form of knowledge known as “political theology” in the context of Atlantic slavery. The course will trace two major developments. First, we will explore how Christian metaphysics facilitated colonialism and slavery, focusing on the emergence of race as a theological (rather than a biological) concept and on the self-fulfilling providentialism that structured fantasies of Euro-Christian world dominance. Second, we will explore how indigenous and African cosmologies and Christianities informed enslaved resistance and abolitionism. Our readings will range from works of political theology (Augustine, Calvin, Hobbes) to early American writings (Las Casas, Ligon, Jefferson) to Black Atlantic anti-slavery texts (Wheatley, Walker, Turner). We’ll consider the explorer George Best’s rewriting of the biblical Curse of Ham, Francis Bacon’s claim that Europe’s superior technology evidenced its Chosen status, and the ideology of “hereditary heathenism” that forestalled early efforts to convert slaves to Christianity. Likewise, we’ll consider the role of obeah in the Haitian Revolution, the competing attitudes toward Christian slave revolt found in fiction by Douglass and Stowe, and the continued contestation of what W. E. B. Du Bois called “the new religion of whiteness.” Secondary authors may include Charles Taylor, Talal Asad, Max Weber, Colin Kidd, Rebecca Goetz, Jared Hickman, Katharine Gerbner, Jorge Cañizares-Esguerra, and J. Cameron Carter
Instructor(s): Alex Mazzarotto Terms Offered: Spring
Equivalent Course(s): KNOW 40308, CRES 30308, CMST 40308

CHSS 40310. Topics in Medical Anthropology. 100 Units.
This seminar will review theoretical positions and debates in the burgeoning fields of medical anthropology and science and technology studies (STS). We will begin this seminar exploring how “disease” and “health” in the early 19th century became inseparable from political, economic, and technological imperatives. By highlighting the epistemological foundations of modern biology and medicine, the remainder of this seminar will then focus on major perspectives in, and responses to, critical studies of health and medicine, subjectivity and the body, entanglements of ecology and health, humanitarianism, and psychoanalytic anthropology.
Instructor(s): P. Sean Brotherton Terms Offered: Winter. Winter 2021
Prerequisite(s): Strongly recommended: previous lower-division courses in the social studies of health and medicine through ANTH, HIPS, HLTH, or CHDV
Note(s): This is an advanced reading seminar. Among undergraduates, 3rd and 4th year students are given priority. Consent only: Use the online consent form via the registrar to enroll.
Equivalent Course(s): ANTH 40310, ANTH 24341, CRES 24341, HLTH 24341, CHDV 24341, CRES 24341, HIPS 24341, CHDV 40301

CHSS 40410. Technology and Aesthetics. 100 Units.
The idea of technological “progress” is a contested one, but it cannot be denied that innovation, at the very least, is a continuous process. Technological innovations regularly enable new mediums, new styles, new genres, and new subject matter as they offer us new ways to record the world, express ourselves, and tell stories. And because art is one of the fundamental lenses through which we see the world, the advent of new artistic and literary forms constantly offers us new ways to know. Each transformation in both creation and reception, however, raises anew fundamental theoretical questions: what is the difference between an objective record of the world and an artistic rendition of it? After touching briefly on the revolution brought about by Gutenberg’s invention of the printing press, this class will span the 19th through the 21st centuries to explore how technological innovation has led to new literary and aesthetic forms. Though the primary focus will be on literary texts, the course is intended as an interdisciplinary one, incorporating visual art and media. Class sessions will include visits to the Rare Book Collection, local art museums, and, potentially, Chicago-area theatre performances. For their final projects, students will be able to choose between a research paper or a creative project that engages with the questions and concerns of the course.
Instructor(s): Anastasia Klimentchynskaya Terms Offered: Spring
Equivalent Course(s): ARTH 40311, KNOW 40310, ARTV 40310

CHSS 42300. Scientific/Technological Change. 100 Units.
Equivalent Course(s): PHIL 20300, HIPS 20300, PHIL 30300

CHSS 45101. Agriculture: Ancient and Modern. 100 Units.
This course surveys the history of agriculture and agrarian societies from the dawn of the Neolithic to the age of genetic modification and anthropogenic warming. Topics to be discussed include the origins of agriculture, domestication, population dynamics, soil husbandry, foodways, land tenure, dietary transitions, industrial agriculture, the Green Revolution, and climate change. We will read texts by James Scott, Emmanuel le Roy Ladurie, Elinor Ostrom, Deborah Fitzgerald, and others.
Instructor(s): P. Cheney Terms Offered: Winter
Prerequisite(s): Upper-level undergraduates with consent of instructors
Equivalent Course(s): HIST 45101

CHSS 45125. Seminar: Anthropology of the Body. 100 Units.
Drawing on a wide and interdisciplinary range of texts, both classic and more recent, this seminar will variously examine the theoretical debates of the body as a subject of anthropological, historical, psychological, medical and literary inquiry. The seminar will explore specific themes, for example, the persistence of the mind/body dualism, experiences of embodiment/alienation, phenomenology of the body, Foucauldian notions of bio-politics, biopower, queering the body, and the medicalized, gendered, and racialized body, among other salient themes.
Instructor(s): P. Sean Brotherton Terms Offered: TBD. Not offered in 2020-21
Equivalent Course(s): CHDV 45101, GNSE 45112, ANTH 45125

CHSS 47000. Reading And Research: CHSS. 100 Units.
Readings and Research for working on their PhD

CHSS 50755. Race/Capital/Extraction. 100 Units.
In the concluding chapters of Capital, Vol. 1, Karl Marx describes the origins of capitalism as an enterprise "written in the annals of mankind in letters of blood and fire." This process that Marx christened as "so-called primitive accumulation" rests fundamentally on the extraction of raw materials through colonial regimes of enclosure and the brutal exploitation of racialized labor. Nonetheless, the relationship between race and capital is not sufficiently elaborated in Marx's oeuvre. In turn, this course will reconsider Marxist concepts and categories through a critical evaluation of the analytical domains of "race," "capital," and "extraction." Moreover, students will consider the extent to which these domains productively modify each other: Does capitalism as an economic system depend on race as its ideological substrate? Can race be understood as an extractive project founded the violent enslavement and mercantile transit of racialized laboring subjects? How are the production of race and the accumulation of capital transformed by extractive economies of fossil fuels and metallic ores? To this end, students will consult the writings of W.E.B. Du Bois, C.L.R. James, Claudia Jones, Walter Rodney, Sidney Mintz, Norman Girvan, Lloyd Best and Kari Polanyi Levitt.
Instructor(s): Ryan Jobson Terms Offered: Winter. Winter 2020
Equivalent Course(s): 50755, ANTH 50755

CHSS 51947. Techno-Natures: Anthropology and Science Fiction. 100 Units.
This graduate seminar explores science fiction narratives alongside anthropological theory and ethnographic practice in an attempt to develop novel theoretical and methodological interventions into questions concerning environment, governance, the body, and the relationship between humans and machines. In so doing the course aims to elaborate potential correspondences between anthropology and science fiction, with particular focus on re-conceptualizing nature in relation to post-apocalyptic narratives and crises of the Anthropocene. Following science fiction's speculative process, the course encourages a mode of inquiry that is experimental in order to explore the ways in which science fiction might operate as ethnographic thought experiment while challenging received understandings of the nature of empirical evidence. Course material will include science fiction texts as well as films.
Instructor(s): Michael Fisch Terms Offered: Winter. Winter 2019
Equivalent Course(s): ANTH 51947

CHSS 53709. Conceptual Change and the a-priori. 100 Units.
(II) and (III)
Instructor(s): K. Davey Terms Offered: Winter
Equivalent Course(s): PHIL 53709

CHSS 54833. Engineered Worlds III: Terraformations. 100 Units.
This experimental seminar is part of a larger series of events in 2019-20 organized under the Engineered Worlds theme. It will be linked to activities on several other campuses as well as a spring 2020 conference. It examines the effects of industrial living on the biosphere and considers the multiple ways that people have been involved in terraforming planet earth. Attending to the ways that race, gender, and class inform industrial life, the seminar will explore (via social theory, ethnography, and history) ways of thinking about planetary scale problems that have local intensities that matter. This is an advanced graduate seminar. Registration is by permission of instructor.
Instructor(s): Joseph Masco Terms Offered: Autumn. Autumn 2019
Prerequisite(s): Consent of Instructor
Note(s): Course will involve Skyped in participants from another university.
Equivalent Course(s): ANTH 54833

CHSS 55100. The Development of Whitehead’s Philosophy of Nature. 100 Units.
Alfred North Whitehead’s philosophy has seen a resurgence of academic interest in recent years via a line of influence passing through Deleuze and Latour. Meanwhile, Whitehead’s Process and Reality (1929) has gained a reputation, not undeserved, as possibly the most challenging English language text in the philosophical canon; it is seldom read in a department of philosophy. This is a pity, since the striking originality and creative potential of the philosophy contained within is unmatched. This course offers an opportunity for a gradual approach to understanding the “philosophy of organism” of Process and Reality by first taking in the foothills of earlier and less obtuse Whitehead texts Concept of Nature and Science and the Modern World. We will supplement
these readings with newly discovered notes from Whitehead’s Harvard lectures (published just last year). These documents reveal Whitehead in meditative mood, thinking through in real time his philosophical concerns. With their help, this course will explore the striking continuity of his earlier natural philosophy with the mature philosophy of Process and Reality and so provide a more gentle ascent to the heady realms of “actual entities”, “concrescence” and “conceptual feelings” described therein. (II)

Instructor(s): T. Pashby Terms Offered: Autumn
Equivalent Course(s): PHIL 55100, KNOW 55100

CHSS 55978. AdvRdgs in Technoscience. 100 Units.
Advanced Readings
Equivalent Course(s): ANTH 55973

CHSS 57400. Freud Wars: Hist & Philo Rdgs. 100 Units.
Equivalent Course(s): HIST 57400

CHSS 58108. The Philosophy of Howard Stein. 100 Units.
Howard Stein’s impressive body of work is notable for its tight integration of history of science with philosophy of science. Topics include: theories of spacetime structure (Newtonian and relativistic), the conceptual structure of quantum mechanics, the methodology of science in general and the character of scientific knowledge, and the history of physics and mathematics. Readings by Stein will be supplemented by primary historical texts and secondary philosophical literature, including selections from a forthcoming edited collection on Stein. (II)
Equivalent Course(s): PHIL 58108

CHSS 66900. Colloquium: Reading Marx’s Ecology. 100 Units.
In this course we will read Marx’s own ideas in their historical context and then explore commentaries on them by Paul Burkett, John Bellamy Foster, and others to see what of Marx’s ideas can be productively used in environmental history and in discussions of the Anthropocene.
Instructor(s): F. Albritton Jonsson & D. Chakrabarty Terms Offered: Spring
Equivalent Course(s): HIST 66900

CHSS 70000. Advanced Study: Conceptual & Historical Studies of Science. 300.00 Units.
Advanced Study: Conceptual & Historical Studies of Science