

Theories of Science (KULT8850/1)

Everything you need to know

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None

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1. Theories of Science - Spring 2025 - All you need to know

You can download a pdf-version of this site with all its information [here](#).

The course provides an introduction to theories of science and relevant social science and humanities scholarship, with an emphasis on the history and philosophy of science and the social organization and dynamics of various academic fields, including their strategies for producing knowledge and the interaction between research and society.

The course engages with issues such as philosophical assumptions underlying high-quality scholarship, making claims about truth and objectivity, professional and societal relevance of science, navigation of academic challenges, and classic and contemporary critiques of science. To contribute to a better understanding of academic work, insights into the history of science and academic scholarship and the key features of the modern university are provided. Moreover, the course is one of the few arenas in which PhD students from a wide variety of disciplines meet and work together, which increases their interdisciplinary sensitivities.

Registration for the course: <https://nettskjema.no/a/tosv25>

1.1 Lecturers

Professor Thomas Berker (responsible for the course: thomas.berker@ntnu.no), Professor Ståle Rainer Strøm Finke, Associate Professor Terje Finstad, Professor Jonathan Knowles, Associate Professor Sofia Moratti, Associate Professor Rune Nydal, Associate Professor Astrid Rasch, Associate Professor Elisabeth Stubberud, Professor emeritus Knut H. Sørensen, Research Professor Govert Valkenburg, and Postdoctoral Researcher Hannah Winther.

2. Formalities

No university course without formalities. We keep it simple and adaptable to your specific circumstances but we are required to demand ca. 25 hours work from you for every credit awarded.

2.1 Credit points (ECTS)

The course consists of lectures, group work, and plenary discussions. To ensure sufficient engagement with the course's content, to enable peer-learning, and to encourage networking across disciplines, **physical attendance** is mandatory and no digital alternatives for participation are provided. We are aware of the fact that PhD students are busy people and will therefore grant shorter leaves of absence. In case you cannot attend a lecture, please contact the course responsible (thomas.berker@ntnu.no) with a very brief description why you cannot participate.

To pass the course, you need to attend the lectures, present a paper at the course conference, and deliver a course assignment text.

The deadline for the course assignment is **August 31st, 2025**.

The course is taught in two variants, **KULT8851 and KULT8850**. The variants are identical except that KULT8851 demands a longer assignment text (4000-5000 words) than KULT8850 (500-1000 words).

2.2 Required readings

Required readings are described in the course program. All the literature is accessible online or is made available to the participants on this site. The readings that are marked as 'essential' must be read before the lectures. Please make sure to prepare some comments/questions.

3. Where and when

All lectures will take place at Dragvoll, room 8563 (in the back of the library, walk through to the end and then turn to the left)).

The course consists of three two-day meetings and a course conference. The dates for Spring 2025 are:

- April 28-29
- May 12-13
- May 26-27

Conference: June 6 (room will be announced)

4. Preliminary course program

This is a draft, the final version will be published before the course starts, but the dates most likely will not change

All meetings are in room 8563 (in the back of Dragvoll library, walk through to the end and then turn to the left)

4.1 28 April: Introduction and Philosophy and Research Ethics I

0915-1000 Thomas Berker: Welcome, about the course, structure, course assignment, and other practical information

1015-1200 Hannah Winther: Research ethics

This session deals with three levels of research ethics:

- Quality of research – good research conduct and the ethos of science
- Protecting persons and/or groups affected by research
- The social responsibility of research (broad research ethics)

Essential readings:

- Kaiser, M (2014) The integrity of science. Lost in translation? Best practice & Research Clinical Gastroenterology. 28(2):339-347. <https://doi.org/10.1016/j.bpg.2014.03.003>.
- Ruyter, K.W. (2019) The history of research ethics. Available at : <https://www.forskningsetikk.no/en/resources/the-research-ethics-library/systematic-and-historical-perspectives/the-history-of-research-ethics/>.
- Guillemain, M & Guillam, L (2004) Ethics, reflexivity and “ethically important moments” in research. Qualitative Inquiry. 10(2):261-280. <https://doi.org/10.1177/1077800403262360>.
- Sarewitz, D (2016) The pressure to publish pushes down quality. Nature. 533:147 <https://www.nature.com/articles/533147a>.

Additional reading:

Browse through the NESH guidelines, available in both Norwegian: <https://www.forskningsetikk.no/retningslinjer/hum-sam/forskningsetiske-retningslinjer-for-samfunnsvitenskap-og-humaniora/> or English: <https://www.forskningsetikk.no/en/guidelines/social-sciences-humanities-law-and-theology/guidelines-for-research-ethics-in-the-social-sciences-humanities-law-and-theology/>

1200-1230 Lunch

1230-1530 Jonathan Knowles: Philosophy of Science: Objectivity, Method, and Truth

This session introduces the classical issues of the philosophy of science, framed through the lens of the nature and possibility of objectivity in research.

Essential readings:

- Gaukroger, Stephen. 2012. Objectivity: A Very Short Introduction. Oxford: Oxford University Press, Chapter 1. (available [here](#))
- Jonathan Knowles, Theory of science: A Short Introduction: ‘Logical Positivism’ (p. 21-30). ([here](#))
- Popper, Karl. 1972. The Bucket and the Searchlight: Two Theories of Knowledge. Appendix to Objective Knowledge. An Evolutionary Approach. Oxford: Oxford University Press. ([here](#))
- Kuhn, Thomas S. 2012. Postscript - 1969. In The Structure of Scientific Revolutions, 173-208. Fourth edition. Chicago: University of Chicago Press. ([here](#))
- H.G. Gadamer 'The universality of the hermeneutical problem' in his Philosophical Hermeneutics, ed. D. Linge, California UP 1976. ([here](#))
- S Harding "'Strong objectivity" and socially situated knowledge' Chapter 6 of her Whose Science? Whose Knowledge? Cornell UP 1991. ([here](#))

Additional readings:

- Jonathan Knowles, *Theory of science: A Short Introduction*: Ch. 4: Further Developments in Philosophy of Science: Lakatos, Feyerabend, Laudan, *The Sociology of Scientific Knowledge*.
- M. Foucault 'The Discourse on Language' Appendix to *The Archaeology of Knowledge*. New York, Pantheon Books 1972, <https://commons.princeton.edu/shakespeares-language/wp-content/uploads/sites/41/2017/09/Foucault-The-Discourse-on-Language.pdf> (and [here](#))

4.2 29. April: Philosophy and Research Ethics II

0915-1000: Thomas Berker: Introduction to day 2

1015-1100: Rune Nydal: What makes a social theory right?

Reading:

Taylor, Charles. 1983. *Social Theory as Practice*. New York: Oxford University Press. (available [here](#))

1100-1200: Lunch

1200-1500: Ståle Rainer Strøm Finke: The body as the locus of knowing

This session deals with two enabling factors within science and their impact on our understanding of science: The body and literacy.

- What role does the body play in the production of scientific knowledge?
- How does the customary association between literacy and academic knowledge influence how we theorize about science?
- What if things were different – what can we learn from knowledge systems that incorporate the knowing body in more articulate ways than we usually do in the Western academic tradition, without any involvement of literacy?

Readings:

- Bourdieu, P. (1992) Chapter 3: Structures, habitus, practices. In: *The Logic of Practice* (pp. 52-79). 1st edn. Stanford University Press. ([here](#))
- Merleau-Ponty, M. (1964). The primacy of perception and its philosophical consequences. In *The primacy of perception* (pp. 12-27). Northwestern University Press. ([here](#))
- Molander, B. (2015). Chapter 1: Knowledge and learning. Some examples. In: *The practice of knowing and knowing in practices* (pp. 13-33). Peter Lang Edition. ([here](#))
- Molander, B. (2015). Chapter 2: Tacit Knowledge and Silenced Knowledge. The Body, Culture, Action—and Language. In *The practice of knowing and knowing in practices* (pp. 35-70). Peter Lang Edition. ([here](#))
- Molander, B. (2015). Chapter 9: Two sides of the same coin. Professional knowledge and the culture of knowledge. In: *The practice of knowing and knowing in practices* (pp. 237-262). Peter Lang Edition. ([here](#))
- Young, I.M. (1980) 'Throwing like a Girl: A Phenomenology of Feminine Body Comportment Motility and Spatiality', *Human Studies*, 3(2), pp. 137–156. ([here](#))

4.3 12 May: Science in context I

0915-0950 Thomas Berker: Navigating without a (complete) map, introduction to the day

1000-1130 Govert Valkenburg: Science as practice

Essential readings:

- H.M. Collins and Steven Yearly (1992). Epistemological Chicken, pp. 301-326 in Andrew Pickering (ed.): Science as Practice and Culture, Chicago: University of Chicago Press ([here](#))
- Michel Callon and Bruno Latour (1992). Don't throw the baby out with the Bath School! A reply to Collins and Yearley, pp. 343-368 in Andrew Pickering (ed.): Science as Practice and Culture, Chicago: University of Chicago Press ([here](#))
- Noortje Marres (2018). Why We Can't Have Our Facts Back. Engaging Science, Technology and Society, vol. 4, 2018. ([here](#))

1130-1230 Lunch

1230-1500 Thomas Berker: Failing productively, lecture and group work

Essential reading:

- Latour, Bruno (1983) Give me a laboratory and I will raise the world. In: Latour, Bruno, Knorr-Cetina Karin, Mulkey MJ (eds.) Science observed. Perspectives on the social study of science. Sage: London: 141-170. Online: <http://www.bruno-latour.fr/sites/default/files/12-GIVE-ME-A-LAB-GB.pdf>

4.4 13 May: Science in context II

0915-1200 Terje Finstad: History of science and changes in scientific life. Situating and historicizing your own discipline/subject.

Essential reading:

- William Clark. 2008. Academic charisma and the origins of the research university. University of Chicago Press, p. 183-238 (chapter 6: The doctor of philosophy). ([here](#))

Additional readings:

- Lorraine Daston and Peter Galison. 1992. The image of objectivity. In: Representations 40, p. 81-128 ([here](#))
- Steven Shapin. 2010. Never pure. Historical studies of science as if it was produced by people with bodies, situated in time, space, culture, and society, and struggling for credibility and authority. The Johns Hopkins University Press, p. 1-15. ([here](#))

1200-1300 Lunch

1300-1500 Knut H. Sørensen: The university as a place and a context for research: Academic freedom and autonomy, the quest for excellence, and strained collegiality.

Essential reading:

- Knut H. Sørensen and Sharon Traweek: Questing Excellence in Academia: A Tale of Two Universities (Routledge 2022). Chapter 3. In the Shadows of Excellence and Neoliberal Interventions: Enactments of Academic Autonomy and Strained Collegiality (33 p.) The whole book is available here: <https://www.taylorfrancis.com/books/9780367259334>

4.5 26 May: Critical perspectives I

0915-1000 Thomas Berker: Introduction to days 5+6

1015-1200 Situated knowledge and feminist critiques of universality in science

In this session, we will revisit the concept of “objectivity” through feminist critiques of the idea of universality in science. We will discuss the relevance and significance of acknowledging researcher positionalities.

Essential readings:

- Rolin, K. "Situated knowledge and objectivity." In The Routledge Handbook of Feminist Philosophy of Science, pp. 216-224. Routledge, 2020. ([here](#))
- Ashton, N. A., & McKenna, R. (2020). Situating feminist epistemology. *Episteme*, 17(1), 28-47. ([here](#))
- Olmos-Vega, Francisco M., Renée E. Stalmeijer, Lara Varpio, and Renate Kahlke. "A practical guide to reflexivity in qualitative research: AMEE Guide No. 149." *Medical teacher* 45, no. 3 (2023): 241-251. ([here](#))

Additional reading:

- Collins, Patricia Hill 1986. Learning from the outsider within: the sociological significance of black feminist thought i Social Problems 33(6): 14-32 ([here](#))
- Haraway, Donna 1988. "Situated Knowledges: The Science Question in Feminism and the Privilege of Partial Perspective" Feminist Studies, 14(3): 575-599 (24 s) ([here](#))
- Harding, Sandra, 2001 "Feminist Standpoint Epistemology" in Lederman, M. & Bartsch, i The Gender and Science Reader, London: Routledge: 145-165 ([here](#))

1200-1300 Lunch**1300-1500** Astrid Rasch: Decolonising academia

In this session, we will explore the historical entanglement of science and colonialism and consider the enduring legacies of this entanglement. We will discuss whether and how these considerations affect our own research practice.

Essential readings:

- Gopal, Priyamvada. 2021. 'On Decolonisation and the University'. Textual Practice 35 (6): 873–99. ([here](#))
- Mott, Carrie, and Daniel Cockayne. 2017. 'Citation Matters: Mobilizing the Politics of Citation toward a Practice of "Conscientious Engagement"'. Gender, Place and Culture: A Journal of Feminist Geography 24 (7): 954–73. ([here](#))
- Murrey, A., & Daley, P. 2023. 'Introduction: Learning Disobedience from the Heart of Empire'. In Learning Disobedience: Decolonizing Development Studies, London: Pluto Press, pp. 9-28. ([here](#))

Additional readings:

- Ndlovu-Gatsheni, Sabelo J. 2021. 'The Cognitive Empire, Politics of Knowledge and African Intellectual Productions: Reflections on Struggles for Epistemic Freedom and Resurgence of Decolonisation in the Twenty-First Century'. Third World Quarterly 42 (5): 882–901. ([here](#))

4.6 27 May: Critical perspectives II

0915-1100 Elisabeth Stubberud: Decolonizing knowledge production and objectivity*Essential readings:*

- Fjellheim, Eva Maria (2020) 'Through our stories we resist', <https://www.taylorfrancis.com/chapters/oa-edit/10.4324/9780367853785-12/stories-resist-eva-maria-fjellheim>
- Kuokkanen, Rauna (2008) 'What is hospitality in the Academy? Epistemic Ignorance and the (Im)Possible Gift' in Review of Education, Pedagogy, and Cultural Studies vol. 30(1), pp. 60-82. ([here](#))
- SAIH: An introduction to decolonization <https://saih.no/assets/docs/Avkoloniserings/Avkoloniserings-ENG.pdf>
- Bhabra, Gurminder K. (2014) 'Postcolonial and decolonial dialogues' in Postcolonial Studies Vol. 17(2), pp. 115-121. <https://doi.org/10.1080/13688790.2014.966414>

Additional reading:

- Dankertsen, Astrid (2022) ' Avkoloniserings av akademia fra et samisk perspektiv' ([here](#))

1115-1200 Thomas Berker: The many uses of science: interdisciplinarity, innovation and sustainability*Essential reading:*

- Pfothenauer, Sebastian M., Joakim Juhl, and Erik Aarden. "Challenging the 'Deficit Model' of Innovation: Framing Policy Issues under the Innovation Imperative." Research Policy, New Frontiers in Science, Technology and Innovation Research from SPRU's 50th Anniversary Conference, 48, no. 4 (May 1, 2019): 895–904. ([here](#))

Additional reading:

- Berker, Thomas. "Negotiating research norms between academic and industrial research. The case of a research centre on zero emission buildings in Norway", to be published in Nordic Architectural Research. ([here](#))

1200-1300 Lunch

1300-1500 Thomas Berker: cont.d

4.7 6 June: Conference

The participants of the course present papers on how their PhD work relates to the topics of the course. The conference is public and will be organised collectively.