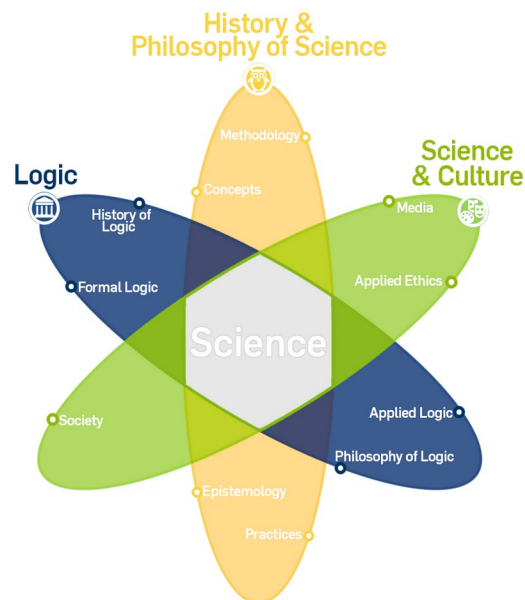


Annotated course catalogue

History and Philosophy of Science and Logic (HPS⁺ Logic)



Winter Term 2026/2027

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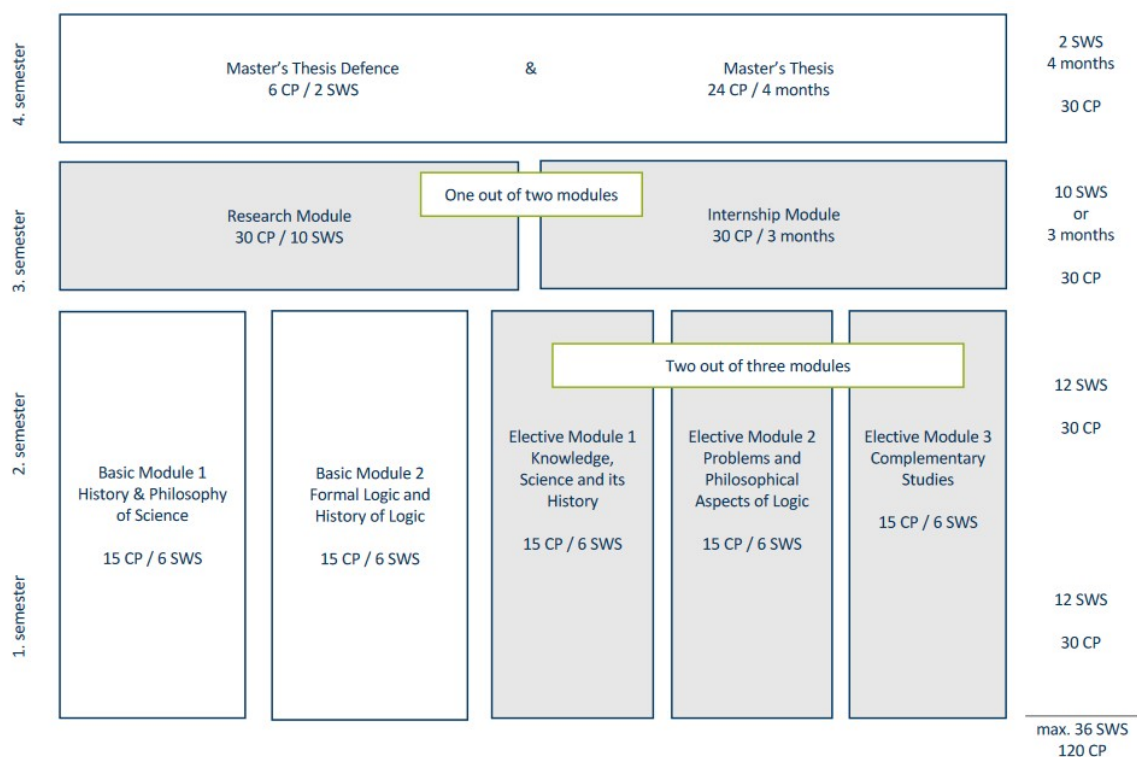
Information on registration in RUB eCampus

To register for the courses in this course catalogue, search for the course in **eCampus** using the course number (**Lehrveranstaltungsnummer**) and register.

You can access eCampus via the WebClient:

https://www.ruhr-uni-bochum.de/ecampus/ecampus-webclient/login_studierende.html

Curriculum



This study plan gives you an initial overview. You will find a detailed description of the individual modules in the module handbook. Therefore, only a **brief description** is given here:

In the first two semesters, you will study the basic modules 1 and 2 as well as two of the three compulsory elective modules. Basic module 1 (History & Philosophy of Science) is always offered in the summer semester and basic module 2 (Formal Logic and History of Logic) in the winter semester. Depending on when you start your studies, you will therefore complete basic module 1 or 2 first. The courses from the three compulsory elective modules are offered every semester.

In the third semester, you will study **either** the internship module **or** the research module. The internship module gives you the opportunity to complete a three-month internship, about which you will write an internship report. In the research module, on the other hand, you work on your own research-related question in one of the three subject areas of the compulsory elective modules, which also serves as preparation for the Master's thesis. You can complete the research module at the Ruhr University or in the form of a semester abroad, preferably at one of the universities with which we have cooperation agreements. The same naturally applies to the practical module: The internship can be completed in Bochum, elsewhere in Germany or abroad. In both modules, the focus is on your own commitment, but we will also support you in the realisation (finding internships, formulating questions, finding topics, etc.). If you already know that after your Master's degree you would like to pursue a career outside of academia in the narrow sense, but with a scientific connection (e.g., science foundations, museums, education and science ministries, science journalism, university administrations, to name just a few examples), then the internship module is ideal for this. If, on the other hand, you are 'drawn' to science itself and you already know, for example, that you would like to pursue a doctorate, then the research module offers you the ideal conditions to start honing your 'scientific profile' during your studies.

Finally, in the fourth semester, you will write your Master's thesis in the final module and present it in a specially designed colloquium.

— Courses —

Basic module 1: *History and Philosophy of Science*

History and Philosophy of Science, I

Will be offered again in the summer semester 2027

History and Philosophy of Science II

Will be offered again in the summer semester 2027

Methods in History and Philosophy of Science

Will be offered again in the summer semester 2027

Basic module 2: *Formal Logic and History of Logic*

030005	Formal Logic				
	Seminar	Wed 14:00 – 16:00	GABF 04/358		Skurt
030006	Formal Logic Übung				
	Übung	Wed 16:00 - 18:00	GA 03/34		Skurt
030023	Antike Logik in moderner Gestalt/ Ancient logic in a modern form (hybrid)				
	Seminar	Thur 14:00 - 16:00	GA 3/143		Kürbis, Skurt

Elective Module 1: *Knowledge, Science and its History*

030025	Descartes and deception. Inquiring the reliability of experience and thought from the Meditations to contemporary Philosophy of Mind				
	Blockseminar	16.-18.02. 9:00-17:30 19.02. 9:00-13:00	GA 6/153		Marchi
030068	Scientific uncertainty - challenges from scientific practice				
	Seminar	Thur 16:00-18:00	Wasserstraße		Hangel
030065	Introduction to History and Philosophy of the Life and Health Sciences				
	Seminar	Wed 12:00-14:00	GA 03/46		Petino Zappala

030059	Science in a political world			
	Seminar	14.11., 16-01., 06.02. 10:00-16:00	Wasserstraße	Hangel
030070	Modeling Scientific Communities			
	Seminar	Thur 10:00-12:00	GA 03/34	Yoo
030116	Kolloquium zur Wissenschaftstheorie und Wissenschaftsgeschichte Colloquium of History and Philosophy of Science			
	Colloquium	Thur 18:00-20:00	GA 03/34	Pulte, Baedke, Meer
030117	Lecture Series 'History and Philosophy of the Life Sciences'			
	Lecture Series	Mo 16:00-18:00	Online	Baedke

Additional Introductory Course

030062	Kant und die zeitgenössische Erkenntnistheorie, Metaphysik und Philosophie des Geistes			
	Seminar	Mo 12:00-14:00	GABF 05/703	Dung
030036	Klassische Probleme der Wissenschaftsphilosophie			
	Seminar	Mo 10:00-12:00	GABF 04/716	Brooks
030029	Introduction to the Philosophy of Science: Experiments, Observations, and Simulations			
	Seminar	Tue 14:00-16:00	GABF 04/7160	Shevchenko

Elective Module 2: Problems and Philosophical Aspects of Logic

030023	Antike Logik in moderner Gestalt/ Ancient logic in a modern form (hybrid)			
	Seminar	Thur 14:00-16:00	GA 3/143	Kürbis, Skurt
030031	Geschichte und Philosophie der Logik			
	Seminar	Tue 16:00-18:00	GA 03/46	Rami
030032	Kompaktseminar zur Philosophie von Gottlob Frege			

	Blockseminar			Rami
030071	Formal Tools in Philosophical Inquiry			
	Seminar	Thur 10:00-12:00	GABF 04/609	Knoks
030026	Wittgenstein's latest work. Reflections on certainty and doubt in a rapidly changing world			
	Blockseminar	24.-25.02. 9:30-17:30 26.02. 9:30-13:00	GA 6/153	Marchi
030069	Capita Selecta in logic and the foundations of mathematics			
	Blockseminar	15.02.-19-02. 10:00-16:00	GA 04/187	Sanders
030064	Existence, Reference and Truth: More Free Logic			
	Seminar	Thur 16:00-18:00	GABF 04/609	

Elective Module 3: Complementary Studies

030024	Thinking and Acting in humans and AI systems: Social Interaction, Belief and Consciousness			
	Seminar	Mo 14:00-16:00	GA 03/46	Newen, Shahmoradi
030028	Philosophy of Artificial Intelligence			
	Seminar	Tu 16:00-18:00	GA 04/187	Werning
030072	Explanation, Understanding, and Artificial Intelligence			
	Blockseminar	01.-05.03. 10:00-16:00	GA 04/187	Knoks
030073	Co-Confabulations and Generative Hermeneutics. Reading, Writing and Thinking with Generative AI			
	Seminar	Thur 18:00-20:00	GA 3/143	Clowes
030074	Interpreting Ourselves with Generative AI			
	Seminar	Fr 10:00-12:00	GA 3/143	Clowes
030075	Companion AI and Mindshaping			
	Blockseminar			Clowes
030091	Philosophy and Ethics of AI			

	Seminar	Thur 16:00-18:00	GA 3/143	Knoks
030066	Illusionist approaches to consciousness			
	Blockseminar		16.-19.02. 10:00-16:00	Dolega
030084	Philosophy of Mind Wandering			
	Seminar	Wed 16:00-18:00	GABF 04/358	
030114	Episodic simulation and inquiry into the past			
	Seminar	Mo 16:00-18:00	GA 04/187	Alvarez
030089	Philosophy and Science of Consciousness			
	Blockseminar	Fr 14:00-16:00		Schlicht
030057	Memory, identity, and digital technologies			
	Seminar	Wed 10:00-12:00	GA 03/46	Rovetta
030050	What is Imagination? - Topics in the Philosophy of Imagination			
	Seminar	Wed 14:00-16:00	GA 3/143	Wolf
030076	Ethics of Migration + Workshop			
	Seminar	Wed 18:00-20:00	GA 3/143	Mieth
030077	Climate Ethics: Climate-Related Energy Ethics			
	Seminar	Mo 14:00-16:00	GABF 05/703	Vogel
030078	Introduction to Normative Ethics (EELP)			
	Seminar	Thur 10:00-12:00	GABF 04/511	Richter
030080	The Ethics of Care: Historical Origins and Contemporary Perspectives			
	Seminar	Wed 14:00-16:00	GA 6/153	Schülein
030081	Ethics of Digitization (EELP)			
	Seminar	Tue 14:00-18:00	GA 3/143	Titz

Basic module 1: History and Philosophy of Science**Additional introductory courses****Basic module 2: Formal Logic and History of Logic**

030005 Formal Logic

Seminar Wed 14:00-16:00 GABF 04/358

Skurt

The lecture offers a thorough treatment of intuitionistic logic, including proofs of soundness, completeness, and other fundamental

model- and proof theoretic properties, such as the disjunction and existence property in the intuitionistic case. In addition, the course gives an overview of basic non-classical logics, such as first-degree entailment logic.

CP can be earned by a graded written exam.

030006 Formal Logic Übung

Übung Wed 16:00 - 18:00 GA 03/34

Skurt

The exercises accompanying the lecture Formal Logic contribute to the participants' confidence in the application of methods, techniques, and procedures of formal logic.

CP can be earned by active participation and regular handed in exercise sheets.

030023 Antike Logik in moderner Gestalt/ Ancient logic in a modern form (hybrid)

Seminar Thur 14:00 - 16:00 GA 3/143

Kürbis, Skurt

In this seminar we will look at the reception of ancient logic in the 20th century following the innovations of formal logic by Frege and Russell. We begin with the first system of formal logic, Aristotle's Syllogistics. The discussion will focus on Lukasiewicz's Aristotle's Syllogistics, a classic text of formal logic in the 20th century. We will look closely at his reconstruction. This will require us to get reasonably proficient with Polish notation, so this is what we will learn in the first sessions. Lukasiewicz's interpretation and formalisation of Aristotle's syllogistic was not without critics, so we will look at some of his most prominent critics, Corcoran and Smiley.

The development of propositional logic by the Stoic logicians is the second topic to be discussed in the seminar. Again we will begin by reading Lukasiewicz, this time a shorter piece. Many of the theses Lukasiewicz advances regarding Stoic Logic were vindicated in greater detail by Benson Mates in his seminal study of Stoic Logic. Time permitting, we will also look at other aspects of ancient logic.

CPs can be obtained either through an oral examination or a written essay.

LITERATURE

Syllogistic

Jan Lukasiewicz: Aristotle's Syllogistics from the Standpoint of Modern Formal Logic. 2nd enlarged edition. Oxford: Clarendon 1957 Timothy Smiley: Syllogism and Quantification, *Journal of Symbolic Logic* 27/1 (1962): 58-72-

Timothy Smiley: What is a Syllogism? *Journal of Philosophical Logic* 2(1972): 136-154-

John Corcoran: Completeness of an Ancient Logic, *Journal of Symbolic Logic* 37/4 (1972): 696-702-

John Corcoran: A Mathematical Model of Aristotle's Syllogistic, *Archiv für Geschichte der Philosophie* 55/2 (1973):191-219 John Corcoran: Aristotelian Syllogisms: Valid Arguments or True Universalized Conditionals?, *Mind* LXXXIII/330 (1974):278-281-

Propositional Logic

Jan Lukasiewicz: Zur Geschichte der Aussagenlogik. *Erkenntnis*, Vol. 5 (1935), pp. 111-131 (English translation: in Storrs McCall (ed.): *Polish Logic 1920-1939*, (Oxford University Press 1967)) Benson Mates: *Stoic Logic*. (Berkeley, Los Angeles, London: University of California Press 1973).

General

Joseph Maria Bochenski: *A History of Formal Logic* (University of Notre Dame Press 1961) Martha and William Kneele: *The Development of Logic* (Oxford: Clarendon 1962).

Elective Module 1: *Knowledge, Science and its History*

030025	Descartes and deception. Inquiring the reliability of experience and thought from the <i>Meditations</i> to contemporary Philosophy of Mind
Blockseminar	16.-18.02. GA 6/153

9:00-17:30
19.02. 9:00-13:00

Marchi

In this Blockseminar we shall delve into the philosophy of René Descartes' meditations. With the philosophical tool of methodological doubt Descartes rules out the possibility that an evil genius is constantly deceiving us since there is something that we cannot be deceived about, namely that one is thinking. However, contemporary cognitive science is ripe with examples that an omnipotent deceiver is not needed as we are often the ones who deceive ourselves. We shall start by discussing and understanding Descartes' ideas in the meditations leading to the famous Cogito argument. Then, we shall move from the meditations to debates of related issues in contemporary Philosophy of Mind and cognitive science, focussing especially on topics connected with the reliability of conscious experience and self-deception.

Ungraded: For this blockseminar all students are required to actively participate either by presenting the session's material or by taking notes and writing protocols of the sessions.

Graded: To receive a grading for this Blockseminar, on top of active participation students are required to write an original essay (Hausarbeit): the length depends on the study program (Bachelor/ Master and type of Master).

In exceptional cases there will be the possibility to have an oral examination if there are significant issues with the writing of the essay.

Preparatory Meeting Online which is obligatory: Monday 19th of October 2026 from 18:00 to 19:00

Link: <https://ruhrunibochum.zoomx.de/j/3013146887?pwd=qIm2koVASAuB7leod9SpadFoHFZlXm.1>

Seminar dates: from Tuesday the 16th to Friday the 19th of February 2027

030068 Scientific uncertainty - challenges from scientific practice

Seminar Thur 16:00-18:00 Wasserstraße Hangel
Seminar information will soon be available in eCampus.

030065 Introduction to History and Philosophy of the Life and Health Sciences

Seminar Wed 12:00-14:00 GA 03/46 Petino Zappala

What makes the life and health sciences different from other sciences? Where does their authority come from? How do these scientists construct knowledge and integrate it across disciplines?

How do different kinds of values affect this knowledge? Can these sciences be objective and do they actually describe true phenomena or reality? What are the roles that they play in our society and should these fields be more "open" or democratic?

During the course of the semester, publications focusing on current or enduring debates on history and philosophy of the life and health sciences will be read and discussed. The topics of the course are organized in thematic blocks on (a) demarcation and allocation of authority, (b) the historical turn on the life sciences, (c) realism/pragmatism and conceptual change, and (d) science as a social product/process. By employing the tools provided by history and philosophy, we will not only approach these questions, but also reflect critically on the potential and limitations of science and philosophy themselves.

To pass the course, students must actively take part in the discussions during class and conduct a presentation or alternative examination. No particular knowledge of the life and health sciences is required.

Introductory reading material

Odenbaugh, Jay and Paul Griffiths, "Philosophy of Biology", The Stanford Encyclopedia of Philosophy (Winter 2024 Edition), Edward N. Zalta & Uri Nodelman (eds.)
<https://plato.stanford.edu/entries/biology-philosophy/>

Reiss, Julian and Rachel A. Ankeny, "Philosophy of Medicine", The Stanford Encyclopedia of Philosophy (Winter 2025 Edition), Edward N. Zalta & Uri Nodelman (eds.)
<https://plato.stanford.edu/entries/medicine/>

030059	Science in a political world			
	Seminar	14.11., 16.01., 06.02. 10:00-16:00	Wasserstraße	Hangel
	Seminar information will soon be available in eCampus.			
030070	Modeling Scientific Communities			
	Seminar	Thur 10:00-12:00	GA 03/34	Yoo
	Seminar information will soon be available in eCampus.			
030116	Kolloquium zur Wissenschaftstheorie und Wissenschaftsgeschichte Colloquium of History and Philosophy of Science			
	Colloquium	Thur 18:00-20:00	GA 03/34	Pulte, Baedke, Meer

The colloquium provides an opportunity to discuss various topics relating to the philosophy and history of science – especially those related to master's theses and dissertations – as well as to present current literature from these and related fields. Guest lectures are planned on various dates. The languages of the lectures are English and German. Interested students from all disciplines are cordially invited to participate.

For crediting of the colloquium, please register to the course in eCampus. If possible, the colloquium should be held in presence. However, a hybrid format may be offered for individual sessions. The date of the first session/lecture will be announced by e-mail and on this page: <https://www.pe.ruhr-uni-bochum.de/philosophie/i/wtwg/colloquium/index.html.de>.

030117

Lecture Series 'History and Philosophy of the Life Sciences'

Lecture Series Mo 16:00-18:00 Online

Baedke

In this lecture series (combined with a reading group) current topics in the history and philosophy of the life sciences will be discussed. The lecture series will host talks by international leading experts and local researchers, including philosophers and historians, but also scholars from the social and natural sciences. Participants will also have the opportunity to present their master and doctoral theses. Once per month (3-4 times during the whole term) the participants meet for a reading group meeting (instead of a lecture) in which current research literature is discussed. For students who want to participate and receive course credits, please write to jan.baedke@rub.de and register via eCampus. Talks will be given in English and online (via Zoom). They will be announced on: <https://www.pe.ruhrunibochum.de/philosophie/i/wtwg/colloquium/index.html.de>

Additional Introductory Course

030062

Kant und die zeitgenössische Erkenntnistheorie, Metaphysik und Philosophie des Geistes

Seminar Mo 12:00-14:00 GABF 05/703

Dung

Immanuel Kants Kritik der reinen Vernunft (Krv) ist sein erkenntnistheoretisches Hauptwerk, welches als eines der einflussreichsten Werke der Philosophiegeschichte betrachtet wird. Dort liefert er den Grundriss für seine Transzendentalphilosophie. In diesem Seminar werden wir – auf Grundlage von Sekundärliteratur zu Kants zentralen Positionen in der KrV – Kant-inspirierten Theorien und Debatten in der Gegenwartsphilosophie nachspüren. Wir werden sowohl untersuchen, wie sich diese zu Kants eigenen Ansichten verhalten als auch ob sie eigenständig systematisch plausibel sind.

Zentrale Fragen, die wir behandeln werden, schließen ein:

Lassen sich begriffliche und Erfahrungsurteile unterscheiden?

Gibt es eine Geist-unabhängige externe Welt?

Lässt sich das Wesen der Welt erkennen?

Was ist die Struktur und Funktion des Geistes?

Da wir englischsprachige Literatur lesen werden, ist die Fähigkeit, englische Fachliteratur lesen zu können, Voraussetzung.

030036 Klassische Probleme der Wissenschaftsphilosophie

Seminar

Mo 10:00-12:00

GABF 04/716

Brooks

Wissenschaftsphilosophie ist ein dynamisches Forschungsfeld, das sich mit den grundlegenden Fragen und Kontroversen der Wissenschaften befasst. Viele dieser Fragen bilden den Kern der Disziplin und bleiben über lange Zeit hinweg aktuell. Was ist Kausalität? Wie erklären Wissenschaftlerinnen und Wissenschaftler Phänomene? Gibt es geschlechtsspezifische Verzerrungen in der Erhebung, Darstellung und Interpretation wissenschaftlicher Daten und Erklärungen? Zugleich eröffnen neue Theorien und Perspektiven immer wieder neue Einsichten und Herangehensweisen an diese Probleme.

In diesem Seminar beschäftigen wir uns mit zentralen Fragestellungen der Wissenschaftsphilosophie. Behandelt werden unter anderem die Natur der Kausalität, die Struktur und Funktion wissenschaftlicher Erklärungen sowie Ansätze der feministischen Wissenschaftsphilosophie. Ziel des Seminars ist es, grundlegende Kenntnisse des Fachgebiets zu vermitteln und einen Überblick über seine historische Entwicklung seit dem 20. Jahrhundert sowie aktuelle Debatten zu geben.

Die Kreditierung des Kurses erfolgt über aktive Teilnahme, d. h. regelmäßige Beteiligung an den Seminardiskussionen, sowie durch zwei kurze Essays. Eine Benotung kann wahlweise durch eine mündliche Prüfung oder eine Hausarbeit erfolgen. Die Seminarliteratur wird über Moodle und in der ersten Sitzung bekannt gegeben.

030029 Introduction to the Philosophy of Science: Experiments, Observations, and Simulations

Seminar

Tue 14:00-16:00

GABF 04/7160

Shevchenko

How is scientific knowledge produced? What makes an observation reliable? What can experiments establish, and what can scientists learn from models and digital simulations? This seminar offers a basic introduction to the philosophy of science by focusing on three

central forms of scientific inquiry: observation, experimentation, and modelling, including digital simulation.

The course begins with fundamental questions about scientific inquiry and the relationships among research questions, aims, evidence, and methods. It then examines three central forms of inquiry in separate thematic blocks: observation, experimentation, and the use of models, including simulations. Each block combines a brief historical introduction, central debates in the philosophy of science, and concrete case studies. We will examine how these forms of inquiry are used in practice and compare their epistemic strengths and limitations. The final part of the course considers how the organizational scale and duration of research shape scientific inquiry, and how different research approaches can be combined and integrated.

Course requirements: To pass the course, students must prepare the assigned readings, participate actively in discussions, give a short presentation on an assigned text, and, following the class discussion, submit a brief written response developing their own position on an issue raised by the text. No previous knowledge of the philosophy of science is required.

Introductory literature:

Potochnik, A., Colombo, M., & Wright, C. (2024). *Recipes for Science: An Introduction to Scientific Methods and Reasoning* (2nd ed.). Routledge. (Especially Chapters 2-5).

Wimsatt, W. C. (2007). *Re-Engineering Philosophy for Limited Beings: Piecewise Approximations to Reality*. Harvard University Press.

Winsberg, E., & Harvard, S. (2024). *Scientific Models and Decision-Making*. Cambridge University Press.

Elective Module 2: *Problems and Philosophical Aspects of Logic*

030023 Antike Logik in moderner Gestalt/ Ancient logic in a modern form (hybrid)

Seminar

Thur 14:00-16:00

GA 3/143

Kürbis, Skurt

In this seminar we will look at the reception of ancient logic in the 20th century following the innovations of formal logic by Frege and Russell. We begin with the first system of formal logic, Aristotle's Syllogistics. The discussion will focus on Lukasiewicz's Aristotle's Syllogistics, a classic text of formal logic in the 20th century. We will look closely at his reconstruction. This will require us to get reasonably proficient with Polish notation, so this is what we will learn in the first sessions. Lukasiewicz's interpretation and formalisation of Aristotle's syllogistic was not without critics, so we will look at some of his most prominent critics, Corcoran and Smiley. The development of propositional logic by the Stoic logicians is the second topic to be discussed in the seminar. Again we will begin by reading Lukasiewicz, this time a shorter piece. Many of the theses Lukasiewicz advances regarding Stoic Logic were vindicated in greater detail by Benson Mates in his seminal study of Stoic Logic. Time permitting, we will also look at other aspects of ancient logic.

CPs can be obtained either through an oral examination or a written essay.

LITERATURE

Syllogistic

Jan Lukasiewicz: Aristotle's Syllogistics from the Standpoint of Modern Formal Logic. 2nd enlarged edition. Oxford: Clarendon 1957 Timothy Smiley: Syllogism and Quantification, Journal of Symbolic Logic

27/1 (1962): 58-72

Timothy Smiley: What is a Syllogism? Journal of Philosophical Logic 2 (1972): 136-154

John Corcoran: Completeness of an Ancient Logic, Journal of Symbolic Logic 37/4 (1972): 696-702

John Corcoran: A Mathematical Model of Aristotle's Syllogistic, Archiv für Geschichte der Philosophie 55/2 (1973):191-219 John Corcoran: Aristotelian Syllogisms: Valid Arguments or True Universalized Conditionals?, Mind LXXXIII/330 (1974):278-281

Propositional Logic

Jan Lukasiewicz: Zur Geschichte der Aussagenlogik. Erkenntnis, Vol. 5 (1935), pp. 111-131 (English translation: in Storrs McCall (ed.): Polish Logic 1920-1939, (Oxford University Press 1967)) Benson Mates: Stoic Logic. (Berkeley, Los Angeles, London: University of California Press 1973)

General

Joseph Maria Bochenski: A History of Formal Logic (University of Notre Dame Press 1961) Martha and William Kneele: The Development of Logic (Oxford: Clarendon 1962)

030031

Geschichte und Philosophie der Logik

Seminar

Tue 16:00-18:00

GA 03/46

Rami

As the title suggests, this course focuses on the history of (the philosophy of) logic, but also systematically covers the philosophy of logic and related subject areas (such as the philosophy of mathematics or the philosophy of language). This seminar offers students three different ways to broaden their philosophical knowledge: (a) joint discussion of relevant research literature, (b) attending lectures by external or internal guests (online or in person), including joint discussion, (c) presenting their own research work or extracts from academic theses (such as B.A. and M.A. theses and doctoral dissertations). The seminar is open to students from all degree programmes within the Department of Philosophy, in particular those on the History & Philosophy of Science and Logic (HSP+ Logic) programme.

This semester, the focus will be on external and internal lectures, which will predominantly be delivered in English.

030032

Kompaktseminar zur Philosophie von Gottlob Frege

Blockseminar

Rami

In this seminar, we will discuss together with the renowned Frege expert Michael Kremer (University of Chicago) his most important works on Frege in detail.

To prepare for the seminar, participants should read the following texts and, for each essay, come up with 3–4 questions that will facilitate an interesting group discussion:

‘Definitions in Begriffsschrift and Grundgesetze’. – 2019 – In Philip A. Ebert & Marcus Rossberg, **Essays on Frege’s Basic Laws of Arithmetic**. Oxford: Oxford University Press. pp. 538–566.

Sense and reference: the origins and development of the distinction. Michael Kremer – 2010 – In Michael Potter, Joan Weiner, Warren Goldfarb, Peter Sullivan, Alex Oliver & Thomas Ricketts, **The Cambridge Companion to Frege**. New York: Cambridge University Press. pp. 220–292.

Logician Responses to Kant: (Early) Russell and (Early) Frege, 2006, *Philosophical Topics* 34 (2006): 163–188.

Judgement and truth in Frege. – 2000 – *Journal of the History of Philosophy* 38 (4): 549–581.

Frege’s theory of number and the distinction between function and object. – 1985 – *Philosophical Studies* 47 (3): 313–323.

In addition to the group discussion, the seminar will be complemented by 3–4 lectures by other Frege scholars.

Requirements for 3 credits: Participation in the discussion; preparation of well-thought-out questions

Requirements for 6 credits: As for 3 credits, plus a 10–15-page term paper on one of the topics covered in the seminar sessions.

Schedule: Over four consecutive days in March 2027, from 10.00 to 17.00 each day, with a joint lunch break.

The venue and exact times will be announced soon.

030071 Formal Tools in Philosophical Inquiry

Seminar

Thur 10:00-12:00

GABF 04/609

Knoks

This course has two goals. The first is to provide students with a gentle introduction to formal tools that have proven useful in philosophy, including probability theory, decision theory, and nonclassical logic. The second goal is to demonstrate how these formal tools can be applied to philosophical inquiry. We will begin with the basics of probability and utility. No advanced mathematics will be required; rather, the emphasis will be on understanding the fundamental concepts and the philosophical issues surrounding their interpretation. We will then explore how these tools can be used to address questions about rationality. For example, we will consider questions such as: How should we rationally update our beliefs? How should we rationally evaluate and choose plans for action? The final third of the course will focus on applications of formal tools to debates in ethics and metaethics, while also introducing methods from nonclassical logic. We will consider questions such as: What makes one social outcome ethically better than another when different outcomes benefit different people to different degrees? How do normative reasons interact systematically to determine the normative status of the actions available to an agent? By the end of the course, students will have a foundational grasp of the formal machinery of probability and decision theory, as well as the ability to work with basic set-theoretic and logical concepts. Students will also have developed skills in applying these formal tools to philosophical inquiry and become familiar with some of the central problems in formal epistemology and formal ethics.

030026 Wittgenstein's latest work. Reflections on certainty and doubt in a rapidly changing world

Blockseminar

24.-25.02. 9:30-17:30

GA 6/153

26.02. 9:30-13:00

Marchi

In this Blockseminar we shall critically examine the latest work of Ludwig Wittgenstein focussing especially on his last text *On Certainty* and related material. In this work Wittgenstein articulates the idea that knowledge is ultimately founded on the certainty of special propositions that he calls hinges. Such propositions are hereditary within a community of linguistic agents and enjoy significant stability within their specific social, geographical and historical context. However, hinges are not necessarily permanent and immutable, they can and do shift over time making certainty an evolving concept. We shall discuss how this Wittgensteinian idea fares with respect to the contemporary fast changing and globalised world and what the consequences are for his foundationalism.

Ungraded: For this Blockseminar all students are required to actively participate either by presenting the session's material or by taking notes and writing protocols of the sessions.

Graded: To receive a grading for this Blockseminar, on top of active participation students are required to write an original essay (Hausarbeit): the length depends on the study program (Bachelor/ Master and type of Master). In exceptional cases there will be the possibility to have an oral examination if there are significant issues with the writing of the essay.

Preparatory Meeting Online which is obligatory: Tuesday 20th October from 18:00-19:00

Link: <https://ruhr-uni-bochum.zoom-x.de/j/3013146887?pwd=qIm2koVASAuB7leod9SpadFoHFZlXm.1>

Seminar dates: from Tuesday the 23rd to Friday the 26th of February 2027

030069 Capita Selecta in logic and the foundations of mathematics

Blockseminar	15.02.-19.02. 10:00-16:00	GA 04/187	Sanders
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Seminar information will soon be available in eCampus.

030064 Existence, Reference and Truth: More Free Logic

Seminar	Thur 16:00-18:00	GABF 04/609
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Prüfungsform: Mündliche Prüfung

Seminarbeschreibung:

This seminar is a continuation of last semester's introductory course on free logic, offering more advanced material. On the one hand we will take a more mathematical perspective on the established semantics for free logic. This will include completeness theory for dual domain free logic as well as single domain negative free logic. Furthermore attention will be given to the question what fragments of first- or higher-order logic free logics of different kinds correspond to. Besides the trivial case of dual domain logics we will look at Peter Woodruff's proof that (van Fraassen-style) supervaluational free logic is a considerable fragment of second-order logic. After that we will turn to more recent approaches to free logic such as new varieties of dual domain semantics (Antonelli, Leeb), Pavlovic and Gratzl's generalized semantics as well as model-theoretic and proof-theoretic approaches to so-called quasi-free logics (Feferman, Indrzejczak). If time permits some advanced applications will be considered such as logics of partial terms, free description theory or higher-order free logics for dealing with intensional paradoxes. A collection of papers will be uploaded which we will read and discuss in class.

Elective Module 3: Complementary Studies

030024 Thinking and Acting in humans and AI systems: Social Interaction, Belief and Consciousness

Seminar	Mo 14:00-16:00	GA 03/46	Newen,
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Shahmoradi

Seminar information will soon be available in eCampus.

030028 Philosophy of Artificial Intelligence

Seminar Tu 16:00-18:00 GA 04/I87

Werning

This seminar gives an introduction into the philosophical questions addressing Artificial Intelligence (AI). It focusses on the fundamental challenges related to AI such as meaning, compositionality, intentionality, empathy and consciousness. We trace the field from classic symbolic paradigms and connectionism through to modern deep learning models, transformer architectures, and Large Language Models (LLMs). We will also ask how AI systems can be empirically evaluated with regard to their humanoid character.

Aside from active participation, participants will be expected to give a presentation in English. Assistance regarding the English language will be provided.

Literature:

Buckner, C. J. (2024). From deep learning to rational machines: What the history of philosophy can teach us about the future of artificial intelligence. New York, NY: Oxford University Press.

Chalmers, D. J. (2023). Could a Large Language Model be Conscious? arXiv. <https://doi.org/10.48550/ARXIV.2303.07103>

Grindrod, J. (2024). Large language models and linguistic intentionality. *Synthese*, 204(2), 71. <https://doi.org/10.1007/s11229-024-04723-8>

Horgan, T., & Tienson, J. (1996). Connectionism and the Philosophy of Psychology. Cambridge, MA: MIT Press.

Macdonald, C., & Macdonald, G. (Eds.). (1995). Connectionism. Cambridge, MA: Blackwell.

Mandelkern, M., & Linzen, T. (2024). Do Language Models' Words Refer? *Computational Linguistics*, 50(3), 1191–1200. https://doi.org/10.1162/coli_a_00522

Müller, V. C., Dung, L., Löhr, G., & Rumana, A. (Eds.). (2026). Philosophy of Artificial Intelligence: The State of the Art. Cham: Springer Nature Switzerland. <https://doi.org/10.1007/978-3-032-10073-3>

Quilty-Dunn, J., Porot, N., & Mandelbaum, E. (2023). The best game in town:

The reemergence of the language-of-thought hypothesis across the cognitive sciences. *Behavioral and Brain Sciences*, 46, e261. <https://doi.org/10.1017/S0140525X22002849>

Werning, M., Hinzen, W., & Machery, M. (Eds., 2012). *The Oxford Handbook of Compositionality*. Oxford: Oxford University Press.

030072 Explanation, Understanding, and Artificial Intelligence

Blockseminar 01.-05.03. GA 04/187
10:00-16:00

Knoks

This intensive seminar will explore central issues at the intersection of the philosophy of science, epistemology, and artificial intelligence. We will consider questions such as: What epistemic grounds, if any, do we have for trusting the outputs of a system whose internal workings are inaccessible to us? What epistemic status should we accord to claims and explanations generated by AI systems? Can AI transform the nature of scientific inquiry and the kinds of knowledge it produces? The first three days of the seminar will take the form of lectures and discussion sessions designed to bring students up to speed on the state of the art in both AI technology and the most prominent philosophical positions. The final two days will take the form of a workshop, “AI and Epistemology,” featuring talks on cutting-edge research.

030073 Co-Confabulations and Generative Hermeneutics. Reading, Writing and Thinking with Generative AI

Seminar Thur 18:00-20:00 GA 3/143

Clowes

Seminar information will soon be available in eCampus.

030074 Interpreting Ourselves with Generative AI

Seminar Fr 10:00-12:00 GA 3/143

Clowes

Seminar information will soon be available in eCampus.

030075 Companion AI and Mindshaping

Blockseminar

Clowes

Seminar information will soon be available in eCampus.

030091 Philosophy and Ethics of AI

Seminar Thur 16:00-18:00 GA 3/143

Knoks

This course provides a nontechnical introduction to contemporary AI systems and the philosophical and ethical issues they raise. We will begin by examining some of the classical questions at the intersection of philosophy and AI, including the computational theory of mind and the possibility of artificial thought. We will then turn to contemporary AI technologies, including deep neural networks (DNNs) and large language models (LLMs), developing an outline understanding of how they work, and the capabilities and limitations that follow from their underlying architecture. Armed with this understanding, we will then turn to the philosophical and ethical questions raised by these technologies and discuss such issues as the black-box problem, the right to explanation, automated influence, algorithmic fairness and bias, machine ethics and value alignment. By the end of the course students should have sufficient understanding of both the core philosophical concepts and AI technology to be able to precisely articulate the main philosophical and ethical problems surrounding AI, and to begin developing their views on how these problems should be tackled.

030066 Illusionist approaches to consciousness

Blockseminar

16.-19.02.

10:00-16:00

Dolega

Illusionism holds that phenomenal consciousness (i.e. the felt redness of red, the ache of a headache) doesn't exist, and that our overwhelming conviction that it does is itself an introspective illusion generated by the brain. On this view, the task for a science of the mind isn't to explain phenomenality but to explain why we so stubbornly misrepresent ourselves as having it. This course will examine the case for illusionism and the objections it invites. We'll ask what it would take for such an illusion to be possible, why illusionism strikes nearly everyone as absurd, whether its defenders can explain that very resistance, and what follows if they're right.

Literatur (engl)

Core Readings: Keith Frankish "Illusionism as a Theory of Consciousness" (Journal of Consciousness Studies, 2016) François Kammerer, House of Mirrors: The Illusion of Phenomenal Consciousness (Oxford University Press, 2026) open access, free to read and download as a PDF

030084 Philosophy of Mind Wandering

Seminar

Wed 16:00-18:00

GABF 04/358

Description: Everyone's mind wanders. Yet we know surprisingly little about mind wandering. Although there have long been scattered philosophical reflections on distraction, reverie, and the stream of consciousness, mind wandering has only recently become a focus of systematic philosophical and

scientific research. Psychological studies estimate that it occupies roughly one-third to one-half of waking life, so understanding mind wandering is essential to understanding the human mind. This seminar examines mind wandering from an interdisciplinary perspective. Topics include the current state of psychological and neuroscientific research; the concept and definition of mind wandering; the potential mechanisms underlying it, especially the role of cognitive control; whether and in what sense mind wandering can be agential, and how it relates to our mental autonomy; and its possible functions and value.

Literature:

Christoff, K., Irving, Z. C., Fox, K. C. R., Spreng, R. N., & Andrews-Hanna, J. R. (2016). Mind-wandering as spontaneous thought: A dynamic framework. *Nature Reviews Neuroscience*, 17(11), 718–731.

Irving, Z. C., & Thompson, E. (2018). The philosophy of mind-wandering. In K. C. R. Fox and K. Christoff (Eds.), *The Oxford handbook of spontaneous thought: Mind-wandering, creativity, and dreaming* (pp. 87–96). Oxford University Press.

Metzinger, T. (2013). The myth of cognitive agency: Subpersonal thinking as a cyclically recurring loss of mental autonomy. *Frontiers in Psychology*, 4, Article 931.

Seli, P., Kane, M. J., Smallwood, J., Schacter, D. L., Maillet, D., Schooler, J. W., & Smilek, D. (2018). Mind-wandering as a natural kind: A family-resemblances view. *Trends in Cognitive Sciences*, 22(6), 479–490.

Smallwood, J., & Schooler, J. W. (2015). The science of mind wandering: Empirically navigating the stream of consciousness. *Annual Review of Psychology*, 66, 487–518.

030114 Episodic simulation and inquiry into the past

Seminar

Mo 16:00-18:00

GA 04/187

Alvarez

When you remember your first day at university, are you learning anything new, or just retrieving something you already knew? The traditional answer is that memory preserves and transmits something you learned through another source. Memory, on this “preservationist” view, is like a storehouse: whatever justification or knowledge you take out, you must first have deposited through perception or reasoning.

Recent work in cognitive science has put the preservationist view under pressure. A growing number of cognitive scientists hold that memory is a form of episodic simulation, alongside imagination. Episodic simulations are constructive processes by which humans assemble representations of events, drawing on various informational resources. Since episodic simulation combines information in somewhat creative ways, some philosophers have argued that memory, as a form of past-oriented episodic simulation, can generate new justification and knowledge of the past. The same reasoning has

been extended to imagination: if imagining is itself a form of constructive simulation, it too may be a source of knowledge. If these “generationist” views are right, treating episodic simulation as a storehouse that only preserves what we already knew is a misstep in the philosophical and scientific study of the mind. But is it?

This course addresses recent developments in this preservationist-generationist debates in the epistemology of memory and the epistemology of imagination, by applying insights from the sciences of episodic simulation. We will investigate what it would even mean for a psychological capacity to generate knowledge rather than preserve it, whether memory can do this, whether imagination can, and what difference the constructive picture from cognitive science makes to any of these questions. Along the way we will look at specific cases that pull hard in one direction or the other, such as memories of early childhood and imaginings of experiences that other people had.

No prior acquaintance with the literature is assumed. The relevant philosophical debates and the empirical work they draw on will be introduced as we go. By the end of the course you should be able to state the opposing positions clearly, weigh the arguments and the evidence on each side, and defend a view of your own.

Language of the course: English.

Readings will be posted before the course begins.

Office hours: by appointment (please send me an email).

Evaluation: students are required to give an in-class presentation of one of the readings. Depending on the credit requirements of their degree program, students will also write a short essay.

030089 Philosophy and Science of Consciousness

Blockseminar Fr 14:00-16:00

Schlicht

Seminar information will soon be available in eCampus.

030057 Memory, identity, and digital technologies

Seminar Wed 10:00-12:00 GA 03/46

Rovetta

This course examines how 4E (embodied, embedded, enactive, extended) approaches to cognition have challenged internalist views of memory and identity, and how digital technologies (social media, virtual reality, AI) bear on these debates. Students will acquire the conceptual tools to think about such technologies from the vantage point of contemporary philosophy of mind.

In the first part, you will be introduced to 4E approaches and their development focusing on the issue of whether cognitive processes are confined to the brain or constitutively involve the body and the environment. We will then turn to digital technologies as a testing ground for these views: can a smartphone or a search engine literally be part of our cognitive processes, and under

what conditions does external scaffolding count as genuine extension rather than mere causal influence?

In the second part, we will apply these ideas to investigate the relation between new technologies, memory, and selfhood. We will address questions such as: what becomes of memory and identity in digital environments? How do social media profiles, virtual avatars, and algorithmic recommendation systems shape who we take ourselves to be? Can autobiographical memory and narrative identity be extended by digital technologies? What survives us in our digital remains?

Literature: The reading list will be provided on Moodle before the start of the course.

Language of Instruction: English.

Exam: Essay.

030050 What is Imagination? - Topics in the Philosophy of Imagination

Seminar

Wed 14:00-16:00

GA 3/143

Wolf

The ability to imagine – that is to go beyond the real – is a fascinating aspect of human cognition. You can be sat in a lecture while at the same time imagining being on a tropical island beach. Or you might stand in your living room, imagining what the room would look like if painted in a different colour. Similarly, a child can pretend to be in hot pursuit of a criminal with an imaginary friend, while knowing that both the criminal and the imaginary friend are not real. But how does imagination work? The topic of imagination has been a very active area of research in recent philosophy of mind, with considerable debate regarding the question of what imagination is, the processes it involves and the functions it might serve.

Based on recent texts from the philosophy of imagination we will explore and discuss 1) what imagination is; 2) how it relates to other mental phenomena like beliefs, desires or mental imagery and 3) explore what some of the functions of imagination might be (e.g. the role that imagination can play for gaining new knowledge or for creative thinking).

Texts for the seminar will be made available via Moodle.

Examination: written assignment or oral exam

030076 Ethics of Migration + Workshop

Seminar

Wed 18:00-20:00

GA 3/143

Mieth

Seminar information will soon be available in eCampus.

030077 Climate Ethics: Climate-Related Energy Ethics

Seminar

Mo 14:00-16:00

GABF 05/703

Vogel

Stopping global warming is an urgent priority in view of the imminent damage it poses. On closer examination, however, the necessary transition to a global system of renewable energy proves to be a formidable challenge. This seminar aims first to introduce some key concepts in climate ethics and then to delve deeper into the complications of a comprehensive energy transition. From there, we will ask ourselves whether these difficulties should lead to revised approaches in climate ethics. Finally, we will examine some controversial technologies in more detail and assess the extent to which they can and should contribute to solving the problems associated with the energy transition – in particular nuclear energy and carbon capture and storage. Essentially, we want to explore whether we really understand the challenges of the energy transition well enough, and whether a realistic perspective forces us to make compromises that we would prefer to avoid under ideal but possibly unrealistic conditions.

030078 Introduction to Normative Ethics (EELP)

Seminar Thur 10:00-12:00 GABF 04/511

Richter

This course is an introduction to key arguments and theories in normative ethics, a core discipline of philosophy. In addition to covering fundamental approaches such as utilitarianism, deontological ethics, and virtue ethics, the course aims to explore and practice methods of ethical reasoning. From a preparatory perspective, the course also aims to familiarize students with philosophical texts, the reconstruction of arguments, and the research of literature and writing of philosophical texts. Ultimately, the course focuses on the fundamentals needed to answer ethical questions such as: How can we distinguish what is morally right from what is wrong, and how can we recognize it? How can we make our thoughts about right and wrong, good and evil, comprehensible to others, clarify them, and justify them through argumentation? Students are required to submit short written assignments throughout the semester. These assignments focus on philosophical and ethical research methods and the arguments presented in the texts. The final assessment for the seminar is a term paper of approximately 15 pages. The term paper will be graded. Texts and materials will be made available via the Moodle learning platform.

Literature:

Darwall, Stephen: *Philosophical Ethics*. Westview Press 1998.

Helpful articles about e.g. Consequentialism, Deontological Ethics or Virtue Ethics can be found in „The Stanford Encyclopedia of Philosophy“ edited by Edward N. Zalta and Uri Nodelman, <https://plato.stanford.edu/index.html>

030080 The Ethics of Care: Historical Origins and Contemporary Perspectives

Seminar Wed 14:00-16:00 GA 6/153

Schülein

Seminar information will soon be available in eCampus.

030081 Ethics of Digitization (EELP)

Seminar

Tue 14:00-18:00

GA 3/143

Titz

Digitization refers to the process of converting information into a digital (i.e. computer-readable) format. It has given rise to a great number of digital technologies, which are now ubiquitous. Digital technologies deeply interfere with private and public life, by changing not least how we communicate, act, think and feel. Public discourse on digital technologies and their social impacts tends to paint a simple black and white picture: apocalyptic scenarios and paradisiacal proclamations are standing face to face. The truth, however, often lies in the gray areas, and this is one reason for a philosophical examination of the topic of digitization.

In this seminar, we take an ethical look at various phenomena and aspects related to digitization. How do digital technologies relate to central moral values such as autonomy, well-being, privacy, security and justice? How safe are these technologies and what are their possible risks? We will address the ethical significance of manipulation and deception through digital applications, the consideration of ethical values in machine decisions, and the impact of digital technologies on democratic structures and on the future of work. Some questions we will encounter are: do digital technologies make us more or less free? Do they contribute to individual or overall societal well-being or not? How do digital technologies like Big Data relate to our fundamental rights, first and foremost our right to privacy?