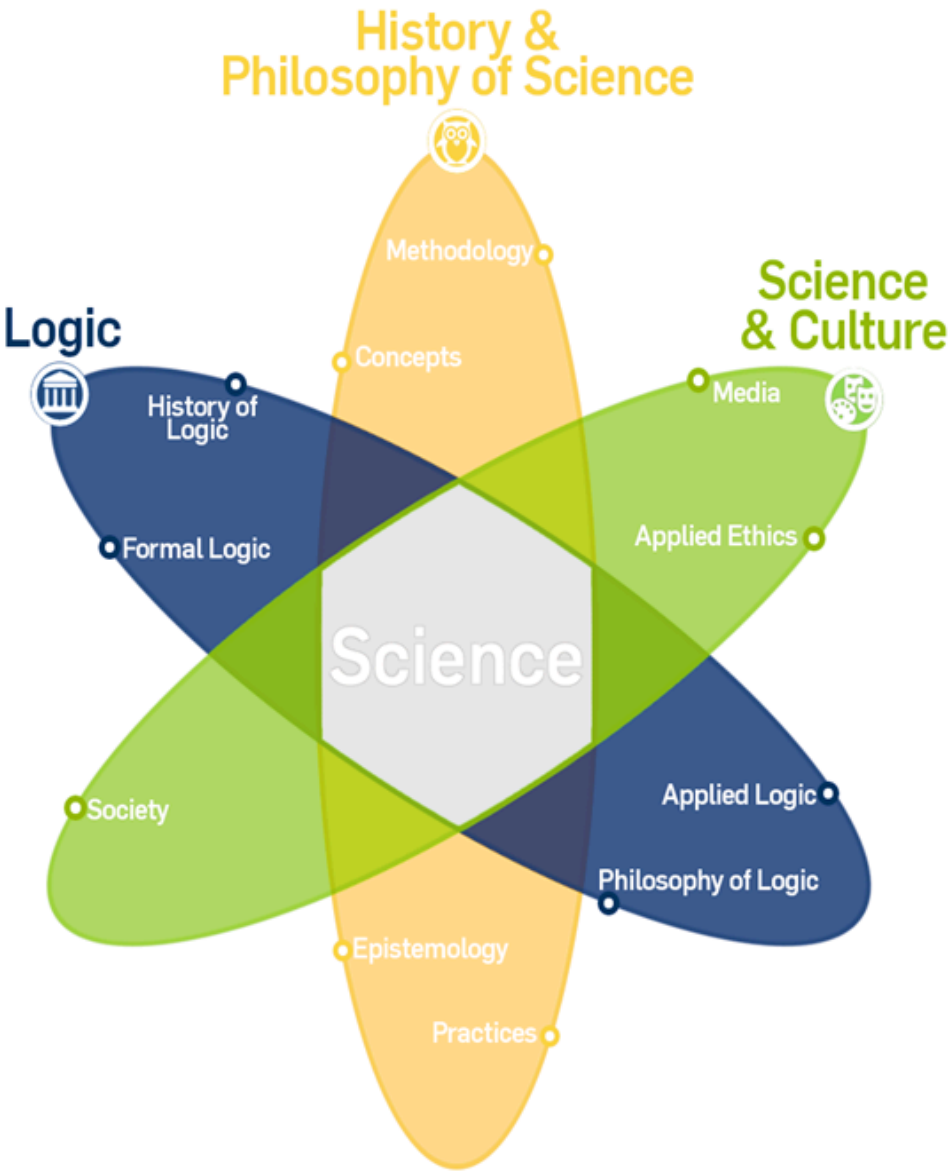
Annotated course catalogue

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



Summer Term 2026

Inhalt

— Overview — 2

Basic module 1: *History and Philosophy of Science* 2

Basic module 2: *Formal Logic and History of Logic* 3

Elective Module 1: *Knowledge, Science and its History* 3

Additional Courses 4

Elective Module 2: *Problems and Philosophical Aspects of Logic* 4

Additional Introductory Courses 5

Elective Module 3: *Complementary Studies* 6

— Annotation — 8

Basic module 1: *History and Philosophy of Science* 8

Additional Courses 9

Basic module 2: *Formal Logic and History of Logic* 10

Elective Module 1: *Knowledge, Science and its History* 11

Elective Module 2: *Problems and Philosophical Aspects of Logic* 14

Additional Introductory Courses 22

Elective Module 3: *Complementary Studies* 23

— Overview —

Basic module 1: *History and Philosophy of Science*

030007 History and Philosophy of Science, I

Lecture & Seminar Thu 10:00 - 12:00 GABF 04/609
Baedke

030008 History and Philosophy of Science II

Lecture & Seminar Thu 14:00 - 16:00 GABF 04/609
Baedke

030141 Methods in History and Philosophy of Science

Blockseminar 21.-24.09. 10:00 - 16:00 GA 3/143
Baedke

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

— Lecture to the module will be offered again in the winter term 2026/2027 —

030037	Geschichte und Philosophie der Logik
	Seminar Tue 16:00 - 18:00 GABF 04/716 Rami

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

030067	Imre Lakatos' Methodology of Scientific Research Programs 50 years later
	Seminar Thu 12:00 - 14:00 GABF 05/703 Dolega
030028	Philosophy of Science in the Age of the Replication Crisis
	Seminar Mo 12:00 - 14:00 GA 03/46 Dung
030059	Aktuelle Themen der Erkenntnistheorie und Metaphilosophie
	Seminar Wed 16:00 - 18:00 GA 6/153 Horvath
030025	Antiphilosophy in the History of Philosophy
	Seminar Thu 10:00 - 12:00 ID 03/401 Steinkrüger
030110	Lecture Series 'History and Philosophy of the Life Sciences'
	Colloquium & Reading Group Mo 16-18:00 Online Baedke

030103	Colloquium of History and Philosophy of Science (Kolloquium zur Wissenschaftstheorie und Wissenschaftsgeschichte)
	Colloquium Thu 18:00 - 20:00 GA 3/143. Baedke, Pulte, Meer
030147	Data Science for Philosophy
	Blockseminar 10.04., 24.04., 15.05., 12.06., 10.07. 10-16 GABF 04/358 Eugenio Petrovich
030148	Scientometrics and Science Mapping
	Blockseminar 11.04., 25.04., 16.05., 13.06., 11.07. GABF 04/516 Eugenio Petrovich
030149	Quantitative Studies of Philosophy
	Blockseminar 27.07.-31.07. 10-16 Uhr GABF 04/358 Eugenio Petrovich
030097	Philosophy in the Field: Qualitative Methods in Philosophy of Science in Practice
	Seminar Thu 16:00 - 18:00 Wasserstraße 221 ?
030096	Philosophy of Science After the Practice Turn
	Seminar Do 14:00 - 16:00 Wasserstraße 221 ?

Additional Courses

030024	Marginalisierte Perspektiven in Wissenschaft und Wissenschaftstheorie
	Seminar Tue 10:00 - 12:00 GA 03/46 Fischer, Straetmanns

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

030064	The ‘Humbug’ of Too Many Values

Seminar Wed 16:00 - 18:00 GABF 04/358
Skurt

030035	Aristotle's Law of Non-contradiction and its reception in contemporary analytical Philosophy
	Seminar Tu 14:00 - 16:00 GA 03/46 Skurt
030063	Recent work in Philosophical Logic
	Seminar Thu 10:00 - 12:00 GABF 04/358 Wansing
030087	Abstract algebraic Logic
	Seminar Mo 14:00 - 16:00 GABF 05/703 Tedder
030143	Mathematical Tools for Logicians
	Blockseminar Blockseminar 01.-02.04. und 07.-09-04. GA 3/143 Drobyshevich, Vaz Silva
211117	Gems of Logic
	Seminar Mo 12:00 - 14:00 MC 1/30 Zeume
030101	Logic and Epistemology
	Colloquium Thu 16:00 - 18:00 GA 03/46 Wansing
030034	Truth, existence and reference: Introduction to Free Logic
	Seminar Thu 16:00 - 18:00 GA 3/143. ?
030145	An introduction to mathematical philosophy
	Blockseminar 03.-07.08. 10-16 GA 1/128 CIP-Insel Sanders
030098	Introductory Math and Programming for Computational Philosophy
	Seminar Tue 10:00 - 12:00 GABF 04/609 Yoo

Additional Introductory Courses

030053	Priests sehr kurze Einführung in die philosophische Logik
	Seminar Tue 16:00 - 18:00 GA 03/46 Skurt
030052	Freges Sprachphilosophie
	Seminar Mo 10:00 - 12:00 GABF 04/716 Wansing
030003	Grundzüge der Logik
	Vorlesung Thu 10:00 - 12:00 HGB 10 Rami

Elective Module 3: *Complementary Studies*

211045	Introduction to Artificial Intelligence
	Lecture with exercise Fr 10:00 - 14:00 HGD 30 Cheng, Laurenz, Glasmachers, Straßer, Schmidt, Jansen, Maghsudi
030062	Topics in the Philosophy of Language, Logic and Information: (Non)Existence
	Seminar Wed 16:00 - 18:00 GA 04/187. Rami, Liefke
030036	Empirical methods in philosophy of language
	Seminar Tue 14:00 - 16:00 GA 6/153 Spychalska
030072	What is information?
	Seminar Thu 14:00 - 16:00 GA 04/187 Liefke
211057	Highlights of Theoretical Computer Science
	Lecture with exercise Tue, Thu, Fr 14-16 MC 1/54 Zeume

030050	The Computational Theory of Mind (incl. Workshop with the author)
	Seminar Thu 14:00 - 16:00 GA 6/153 Schlicht
030065	Minds without Mirrors – Richard Rorty's "Philosophy and the Mirror of Nature
	Seminar Wed 16:00 - 18:00 GABF 04/352 Dolega
030031	David Chalmers, The Conscious Mind
	Seminar Thu 12:00 - 14:00 GABF 04/716 Starzak
030014	Philosophical Technology Assessment
	Seminar Tue 14:00 - 16:00 GABF 04/716 Weydner-Volkmann
030060	L.A. Paul: Transformative Experience
	Seminar Thu 10:00 - 12:00 GABF 05/608 Schlicht
030048	Ethics of Large Language Models
	Seminar Wed 14:00 - 16:00 GA 03/46 Weber-Guskar
030070	Ethik des algorithmischen Outsourcing
	Seminar Tue 14:00 - 16:00 IC 03/410 Titz
030029	Aktuelle Themen in der Philosophie der Sprache und Kognition/Topics in the Philosophy of Language and Cognition
	Seminar Wed 12:00 - 14:00 GA 04/187 Werning
030105	Technikphilosophisches Forschungskolloquium
	Colloquium Tue 16:00 - 18:00 GA 3/143. Weydner-Volkmann

030106	Research Colloquium Philosophy Meets Cognitive Science: Memory and Language
	Colloquium Tue 12:00 - 14:00 GA 04/187 Werning
030095	The Social in Social Epistemology
	Seminar Wed 14:00 - 16:00 Wasserstraße 221 ?
051041	Ist ChatGPT besser als ich? KI-Tools in der romanistischen Linguistik
	Seminar 27.-31-07. 9:00-15:00 GB 7/131 Matrisciano-Mayerhofer
010730	Blockseminar: Academic Freedom, Human Rights, and Democracy under Pressure: Student/Academic Advocacy for Scholars at Risk
	Blockseminar, 17.4.2026, 10:00-16:00, 24/25.04., 8./9.05., 22./23.05., 10./11.06. Schell, Koller, Vernekohl
040642	Kunst und Wissenschaft des Dokumentierens
	Hauptseminar Thu 16:00 - 18:00 GA 6/62 Sammlungsraum Nadim
040164	HS: Von Mad Scientists und anderen Erfinder*innen: Technikgeschichte in audiovisuellen Medien
	Hauptseminar Tue 8:00 - 10:00 GABF 05/707 Rothauge

— Annotation[1] —

Basic module 1: *History and Philosophy of Science*

030007	History and Philosophy of Science, I
	Lecture & Seminar Thu 10:00 - 12:00 GABF 04/609

[1] At the time this course catalog was created, comments were not available for all courses. You can access the course catalogue at https://vvz.ruhr-uni-bochum.de/ and then search for the relevant course using the course number (make sure you have the correct semester at the top left!) and then use the “Veranstaltungdetails” (“Course details”) tab to see if there is a comment now.

Baedke

History and philosophy of science reflects on the historical and theoretical foundations, methods and aims of science. This includes further subjects like patterns of the historical development and the social structure of science. By tracing major scientific developments from the early modern period to the late 20th century, focusing especially on the exact and life sciences, this two-part module (see below) gives an overview over the present status of history and philosophy of science. It deals with problems of methods and scientific practices (like experimentation), certain key concepts (such as “explanation” and “understanding”), and it examines questions that focus on the significance of the historicity of scientific knowledge and the role of values in science or freedom of science.
The course is an open-format lecture (with seminar-like discussion elements) designed for the MA-program “History & Philosophy of Science and Logic” (HPS+Logic). It is also open to other interested advanced B.A. and M.A. students of philosophy and students from the natural sciences and other subjects (with basic knowledge in theoretical philosophy). The lecture is accompanied by the course “History and Philosophy of Science, II” that serves to deepen and to complement the topics of the lecture. Participation in both parts of the module is highly recommended. For students of HPS+Logic it is a requirement in order to complete the “Basic Module 1”. The language of the lecture will be English. You will be informed about modalities concerning credits in the first session.

030008 History and Philosophy of Science II

Seminar Thu 14:00 - 16:00 GABF 04/609
Baedke

This course belongs to the lecture “History and Philosophy of Science, I”; further information on the subjects are given there. It extends and deepens special topics of Part I by discussing besides philosophical, especially historical sources. Therefore, attending makes only sense when you also visit Part I. The course will include a “writeshop” that allows students to train their writing skills. The course is obligatory for students of the master program HPS+Logic, but can also be taken by interested advanced B.A. and M.A. students from philosophy, the natural sciences and other subjects. The language will be English (but discussions can switch to, e.g., German if necessary). Literature and modalities concerning credits will be discussed in the first session.

030141 Methods in History and Philosophy of Science

Blockseminar 21.-24.09. 10:00 - 16:00 GA 3/143
Baedke

This seminar addresses methodological issues in history and philosophy of science. This includes, among others, ways to conduct philosophy of science vs. philosophy for science, methods of integrated history and philosophy of science (HPS), argumentation theory as well as experimental and digital methods in history and philosophy of science. The seminar is open only to students of the master program HPS+Logic.

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

— Lecture to the module will be offered again in the winter term 2026/2027 —

030037	Geschichte und Philosophie der Logik
	Seminar Tue 16:00 - 18:00 GABF 04/716 Rami

Seminar description will soon be available on eCampus

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

030067	Imre Lakatos' Methodology of Scientific Research Programs 50 years later
	Seminar Thu 12:00 - 14:00 GABF 05/703 Dolega

Seminar description will soon be available on eCampus

030028	Philosophy of Science in the Age of the Replication Crisis
	Seminar Mo 12:00 - 14:00 GA 03/46 Dung

This course examines the philosophical implications of the replication crisis - the widespread failure of scientists to reproduce the results of published studies, particularly in psychology and other social sciences - that has shaken empirical research over the past decade. We will explore how these failures to reproduce published findings have challenged traditional assumptions about scientific methodology, evidence evaluation, and the reliability of research conclusions.

The course investigates proposed solutions including preregistration, increased focus on replication studies, and other methodological reforms, while critically examining whether these remedies address the underlying epistemological issues or create new problems.
Central questions we will discuss include:

Are most published research findings false?
How can empirical research be made more trustworthy?
Should scientists make value judgements when evaluating evidence?

030059 Aktuelle Themen der Erkenntnistheorie und Metaphilosophie

Seminar Wed 16:00 - 18:00 GA 6/153
Horvath

In diesem Seminar, das auch Elemente eines Kolloquiums enthält, werden wir aktuelle Themen aus der Erkenntnistheorie und Metaphilosophie sowie verwandten Gebieten diskutieren. Gelegentlich kann es auch Vorträge von externen Gästen (auf Deutsch oder Englisch) geben, die in der Regel führende Expert*innen auf ihrem Gebiet sind. Studierende im fortgeschrittenen Bachelor-, im Master- oder im Promotionsstudium sind im Seminar herzlich willkommen. Darüber hinaus haben Sie die Möglichkeit, Themen oder Arbeiten vorzustellen, die für Sie von besonderem Interesse sind, einschließlich eigener Arbeiten, z.B. im Zusammenhang mit einer Abschlussarbeit (auf Deutsch oder Englisch).

030025 Antiphilosophy in the History of Philosophy

Seminar Thu 10:00 - 12:00 ID 03/401
Steinkrüger

From its very beginnings, the philosophical project has been called into question. Such criticism may take the form of a fundamental opposition to the value of philosophy itself (as in the story of Thales in the well in Plato's Theaetetus, or in certain radical forms of scientism), be directed against particular branches of philosophy (for example, against metaphysics or theoretical philosophy more broadly), or be simply an opposition to the philosophical tradition. In this seminar, we will first establish some theoretical foundations in order to develop a framework for evaluating various antiphilosophical stances. We will then examine a range of antiphilosophical texts spanning from antiquity to contemporary times and representing various positions across the spectrum of antiphilosophy.

030110 Lecture Series 'History and Philosophy of the Life Sciences'

Colloquium & Reading Group Mo 16-18 Online
Baedke

In this lecture series 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 fo a reading group meeting (instead of a lecture) in which current research literature is discussed. For students (especially, but not only students of the HPS+Logic program) 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://rotorub.wordpress.com/roto-lecture-series/

030103 Colloquium of History and Philosophy of Science (Kolloquium zur Wissenschaftstheorie und Wissenschaftsgeschichte)

Colloquium Thu 18:00 - 20:00 GA 3/143.
Baedke, Pulte, 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.

030147 Data Science for Philosophy

Blockseminar 10.04., 24.04., 15.05., 12.06., 10.07. 10-16 GABF 04/358
?

Over the past two decades, the range of methods used by philosophers to address philosophical problems has expanded significantly. Alongside traditional philosophical approaches, philosophers have increasingly experimented with methodologies drawn from the empirical and formal sciences, including experiments, simulations, data analysis, and formal modelling. Data plays a central role in all of these approaches. This course aims to provide philosophy students with solid foundations in data science, equipping them with the technical knowledge needed to manage, analyse, and extract insights from data. The course covers key concepts in statistics, data representation, data analysis, and data visualization, applying them to the investigation of real-world datasets related to philosophy and its history. Students will also become familiar with R, a standard programming language for computational statistics and SQL, a standard language used to query databases, acquiring practical skills that are valuable not only for academic research but also on the broader job market.

030148 Scientometrics and Science Mapping

Blockseminar 11.04., 25.04., 16.05., 13.06., 11.07. GABF 04/516
?

Scientometrics is the quantitative study of science. It provides a distinctive perspective on how scientific knowledge develops, spreads, and changes over time and, in the last decades, it has become central in the management of scientific research, especially in research evaluation. For philosophers, scientometrics offers empirical tools to investigate classic questions about scientific progress, disciplinary structure, collaboration, and the dynamics of research communities. This course aims to introduce students to scientometrics by presenting both its applied side (quantitative methods for research evaluation) and its descriptive side, with a particular focus on science mapping, i.e., a set of data-driven techniques for constructing maps of scientific fields based on large collections of scientific publications. Students will not only learn the theoretical foundations of science mapping, but also acquire hands-on experience in creating their own maps using VOSviewer, a freely available science mapping software.

030149 Quantitative Studies of Philosophy

Blockseminar 27.07.-31.07. 10-16 Uhr GABF 04/358
?

Scholars in digital humanities, scientometrics, and philosophy itself are increasingly using quantitative methods to study the structure and dynamics of philosophy as a discipline. This course aims to provide an overview of the main methodologies used in quantitative studies of philosophy, presenting key research in this emerging field and discussing influential case studies. In addition, the course will host invited talks by leading scholars who apply quantitative approaches to areas such as the history of twentieth-century philosophy, integrated history and philosophy of science, and philosophy of science.

030097 Philosophy in the Field Qualitative Methods in Philosophy of Science in Practice

Seminar Thu 16:00 - 18:00 Wasserstraße 221
?

This course is offered in conjunction with the course “Philosophy after the Practice Turn” for students, who want to get first-hand experience how to do philosophy in practice with qualitative methods. While “Philosophy after the practice turn” is a standalone class, for this class: “Philosophy in the Field”, students are highly encouraged to enroll in both courses to learn about the theory and the practice. Within one semester, the aim is to do an empirically informed philosophy project. Students will engage in cognitive ethnography, develop a philosophically relevant research question, operationalize the question to construct a topic guide, learn

about research ethics and data protection, methodological questions, do fieldwork, analysis, interpretation and communication of the results. The course will end with discussing limitations of doing empirically informed philosophy of science.

Prerequisites: A willingness to actively participate in the research process is required.

030096 Philosophy of Science After the Practice Turn

Seminar Do 14:00 - 16:00 Wasserstraße 221
?

This course is an introduction to Philosophy of Science in Practice, a branch of philosophy of science that has developed over the past decades through the systematic study of and interaction with scientific practices. While it examines how knowledge is generated and validated with traditional conceptions of rationality and truth it also recognizes contextual factors and thus considers theory in connection to scientific practice in real-world contexts. Students will study different conceptions of “practice” and its role as organized, goal-directed activity in science. In the course we will discuss different methodical interactions between philosophical analysis, historical case studies, and contemporary scientific practice that can benefit philosophical investigations.

This course is conceptualized to serve as theory background for the more practice-oriented course “Philosophy in the Field”.

Prerequisites: Willingness to engage with English-language texts. BA and MA students (German- and English- speaking) are welcome.

Additional Courses

030024 Marginalisierte Perspektiven in Wissenschaft und Wissenschaftstheorie

Seminar? Tue 10:00 - 12:00 GA 03/46
Fischer, Straetmanns

Dieses Seminar widmet sich der Frage, wie wissenschaftliches Wissen entsteht und wessen Perspektiven dabei systematisch ausgeblendet, marginalisiert oder abgewertet werden. Gemeinsam untersuchen wir, wie soziale Machtverhältnisse wissenschaftliche Praktiken, Theorien und Institutionen prägen und welche alternativen Perspektiven an den Rand gedrängt werden. Wir klären zunächst grundlegende Begriffe wie Marginalisierung, Diskriminierung und Intersektionalität. Darauf aufbauend befassen wir uns mit der Rolle von Frauen in der Wissenschaftstheorie und diskutieren, wie sich das Selbstverständnis der Disziplin aus feministischer Perspektive verändert. Ein weiterer Schwerpunkt liegt auf konkreten wissenschaftlichen Feldern: Wir betrachten die Beiträge und Ausschlüsse von Frauen in der Botanik und in der Medizin und analysieren, wie koloniale Machtstrukturen Wissensbestände geformt und verdrängt haben. Weitere Themen sind Formen indigenen Wissens, Race Science und Ableismus in der Wissenschaft. Ziel des Seminars ist es, ein differenziertes Verständnis davon zu entwickeln, wie

Wissen situiert ist, welche Stimmen in der Wissenschaft gehört werden – und welche nicht – und welche Konsequenzen dies für eine gerechtere Wissenschaftspraxis hat.

Im Seminar werden überwiegend deutschsprachige Texte gelesen, ergänzt durch ausgewählte englischsprachige Aufsätze. Die Veranstaltungssprache ist Deutsch. Vorkenntnisse in Wissenschaftstheorie oder Naturwissenschaften sind nicht erforderlich – entscheidend sind die Bereitschaft zur sorgfältigen Lektüre und zur engagierten Diskussion.

Leistungsanforderungen:

- regelmäßige und aktive Teilnahme an den Sitzungen
- Übernahme einer kurzen Vorstellung (Impulsreferat) zu einem der Seminartexte
- Erstellung eines wissenschaftlichen Posters zu einem Seminarthema in Gruppenarbeit

Details zu Anforderungen und Möglichkeiten zu weiteren Leistungen (Essays, Hausarbeiten u.ä.) werden in der ersten Sitzung besprochen.

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

030064	The ‘Humbug’ of Too Many Values
	Seminar Wed 16:00 - 18:00 GABF 04/358 Skurt

“How was it possible that the humbug of many logical values persisted over the last fifty years” or “[...] any multiplication of logical values is a mad idea [...]” wrote Polish logician Roman Suszko in an essay in the 1970s. There are exactly two truth values, “true” and “false”; everything else are just algebraic values, and the development initiated by Jan Lukasiewicz, namely that there are more than two truth values, is catastrophic.

In this seminar, we will take an in-depth look at the following questions: How many truth values do we really need to analyze logical consequence? Can all logics be considered two-valued? What are the concrete consequences of reducing any logic to just two truth values? Are there any genuinely many-valued logics at all that require more than two truth-values?

CP credits can be earned by passing an oral exam or submitting an essay.

030035	Aristotle's Law of Non-contradiction and its reception in contemporary analytical Philosophy

Seminar Tu 14:00 - 16:00 GA 03/46
Skurt

In classical logic (and many non-classical logics), the law of excluded middle is one of the most fundamental principles. It says that a statement cannot be both true and false at the same time. If contradictions do occur in such logics, they immediately lead to the possibility of deriving any arbitrary statement. The origins of this principle can be traced back to ancient Greece, and its validity is still controversially debated in philosophy today. If one abandons the principle of excluded contradiction, one arrives at so-called paraconsistent logics, in which a contradiction does not lead to triviality. One philosophical manifestation that makes use of paraconsistent logics is dialethism, according to which true contradictions exist. Examples of true contradictions can be found, among other places, in semantic paradoxes, the most famous of which is the liar paradox ("This sentence is false"). In this course, we will discuss and debate contemporary arguments for the invalidity of the law of excluded middle and dialethism in particular, as well as arguments for the validity of the law. Last but not least, we will attempt to answer the following question: What is so bad about contradictions?

CP credits can be earned by passing an oral exam or submitting an essay.

Literatur:
Priest, G., Beall, JC, Armour-Garb, B., 2004, "The Law of Non-Contradiction"

030063 Recent work in Philosophical Logic

Seminar Thu 10:00 - 12:00 GABF 04/358
Wansing

The seminar is devoted to discussing some recent work in Philosophical Logic. Topics include modal logic (broadly conceived), constructive logic, paraconsistent logic, and connexive logic.

Prerequisites: Some previous knowledge of classical logic and the readiness to present a journal article or survey chapter in the seminar.

CP can be earned by writing a short essay based on a presentation in the seminar.

Background literature: Graham Priest, An Introduction to Non-Classical

Logic. From If to Is, CUP, 2012, and appropriate entries in the Stanford

Encyclopedia of Philosophy or the Handbook of Philosophical Logic.

030087 Abstract algebraic Logic

Seminar Mo 14:00 - 16:00 GABF 05/703
Tedder

This course will be an introduction to Abstract Algebraic Logic. The main focus will be on algebraic and matrix semantics for a range of logics, along with associated metatheoretic results such as completeness, and characterising classes of logics in terms of properties of their semantics. We'll start with preliminary information about lattice theory, set theory, and universal algebra. This course will follow Josep Maria Font's Abstract Algebraic Logic: An Introductory Textbook.

030143 Mathematical Tools for Logicians

Blockseminar 01.-02.04. und 07.-09-04. GA 3/143
Drobyshevich, Vaz Silva

The goal of this course it to familiarize the students with some of the mathematical machinery commonly used by working (philosophical or otherwise) logicians. We will start with some rudimentary set theory such as (but not restricted to): set operations, tuples, order relations of different kinds, equivalence relations, lattices and so on. We will also discuss the role of both naive and axiomatic set theory for the development of modern logic. We will then transition to abstract treatments of logic via matrix semantics and (if time permits) algebraic semantics. The block seminar will include exercise sessions in which the students will be encouraged to discuss their solutions. We hope that the students will come out of this seminar having developed a good understanding of both the notions involved and the reasons for why they are so prominent in the literature on logic.

The credits will be primarily awarded for participation in solving exercises during the seminar.

Literature:
[1] B.A. Davey and H.A. Priestley, Introduction to Lattices and Order. Cambridge University Press, 1990.
[2] J.M. Font, Abstract algebraic logic: an introductory textbook. College Publications, 2016
[3] E. Mendelson, Introduction to mathematical logic. Princeton, 1964.
[4] R. Wojcicki, Theory of Logical Calculi. Springer, 1988.

211117 Gems of Logic

Seminar Mo 12:00 - 14:00 MC 1/30
Zeume

Logics play an important role in many modern computer science applications. Relevant information is extracted from databases with the help of logic-based query languages; the formal verification of software and hardware is based on logical specification languages and algorithms for these; and methods for automated reasoning in artificial intelligence have their basis in formal logic.

Motivated by these applications, we will explore advanced topics in logic in this seminar. Among others, topics will include:

• Satisfiability. The satisfiability problem for logical formulae is one of the funda-mental algorithmic problems. Understanding for which logics it can be solved and with which algorithmic complexity is therefore a major research area in computational logic.
• Expressivity. Logics are the basis for specification languages in formal verifica-tion and for query languages for databases. Understanding the expressive power of logics therefore yields valuable insights into the usefulness of specifi-cation and query languages.
• Tailor-made logics. There is a plethora of logical formalisms designed for applications which are tailor-made to have nice algorithmic properties while preserving the requi-rements on expressivity required by the application. We will explore several such for-malisms.

The seminar is on the theoretical side of computer science, so students are expected to be interested in and to enjoy theoretical topics.

Learning outcome:

Students will be able to independently explore advanced topics in logic in computer science. They will be able to present the topic orally and in writing, and to critically analyse the topic independently.

Allocation of places:

Seminar slots will be allocated centrally. Please register in the central Moodle course (https://moodle.ruhr-uni-bochum.de/course/view.php?id=62179) between 01.02.2026 and 01.03.2026.

You must also register for the associated examination in Flexnow within the deadline. Information on the deadlines can be found on the website of the Examinations Office of the Faculty of Computer Science.

Successful attendance of the courses "Logic in Computer Science" (or similar) and "Theoretical Computer Science".

Students of computer science, ITS, and applied computer science. Also motivated students of mathematics and philosophy are welcome to join.

The seminar is on the theoretical side of computer science, so students are expected to be interested in and to enjoy theoretical topics.

030101	Logic and Epistemology
	Colloquium Thu 16:00 - 18:00 GA 03/46 Wansing

In this research-oriented colloquium, students will have an opportunity to present a paper on a topic of their choice from philosophical logic or epistemology. This paper may or may not be related to an MA thesis.

Some background knowledge in analytic epistemology and philosophical logic is required. In addition to presentations by students, there will be talks by guests and invited speakers.

CP can be earned by giving a presentation or summarizing a talk of the colloquium or a chosen journal article in a short essay.

030034 Truth, existence and reference: Introduction to Free Logic

Seminar Thu 16:00 - 18:00 GA 3/143.
?

Free logics are certain first-order logics whose terms may be empty.

More precisely, a first-order logic is free, if it satisfies both of the following two conditions: First, its terms need not denote any member of the domain of quantification and, secondly, its quantifiers range over the extension of a denotation predicate E!, which is typically interpreted as existence. So, under the existential interpretation of E!, free logics treat terms as being free of existential import. This seminar is supposed to give a basic introduction to free logics from a semantic perspective. After a quick revision of the basic model theory of classical first-order logic we will look at the different semantics that have been developed for free logics (positive, negative, neutral).

The seminar will then turn to a sample of philosophical applications of free logics to issues like definite descriptions, the logic of fiction and the semantics of empty names.

This course will be continued in the next semester, where more advanced material on free logic will be treated (completeness theory, expressivity issues, second-order free logics etc.).

Literature

Bencivenga, E.: Free Logics. In: D.M. Gabbay & F. Guenthner (eds.):

Handbook of Philosophical Logic. 2nd ed. Dordrecht, 147-96.

Bostock, D.: Intermediate Logic. Oxford, 1997, chap. 8.

Frost-Arnold, G.: Free Logic. Cambridge, 2024.

Lambert, K.: Free Logics. In: L. Goble (ed.): The Blackwell Guide to Philosophical Logic. Malden, MA, 258-79.

Nolt, J.: Free Logic. The Stanford Encyclopedia of Philosophy. (Spring

2025 Edition). URL =<https://plato.stanford.edu/entries/logic-free/>.

030145 An introduction to mathematical philosophy

Blockseminar 03.-07.08. 10-16 GA 1/128 CIP-Insel
Sanders

The structural application of mathematical methods and ideas to philosophy is a fairly novel field, known as “mathematical philosophy”. We discuss some interesting case studies that are accessible to students in philosophy and related areas. All required concepts from logic and mathematics (e.g. computability theory) shall be introduced and explained to the extent necessary.

030098 Introductory Math and Programming for Computational Philosophy

Seminar Tue 10:00 - 12:00 GABF 04/609
Yoo

**This course, conducted in English, is complementary to "Agent-based Simulations in Philosophy" course (winter semester).

In recent years, many philosophical developments have made use of heavy computer simulations and gigantic data sets. However, it is a big challenge for philosophy students to engage in such studies, especially for those who lack the required foundations, such as computer programming or probability theory. This course aims to equip students in philosophy with these foundational tools in programming and math, thus empowering them to engage in contemporary philosophical literature.

Thanks to the advances in modern technology and measurement techniques, scientists can carry out theoretical analyses that involve intense computations. Yet, these tools use large data sets and computer calculations and therefore come with the burden of mathematics and computer programming skills. Philosophers, too, have started to adopt methods relying on computers. For instance, epistemologists have started using computer simulation tools to examine knowledge in a social context where multiple agents interact with each other. The main points made in these works are accessible for a broader philosophical audience. But still, they require basic understanding of math and coding for a good comprehension, and furthermore replicating their arguments. This course aims to provide some of those basic requirements.

Participants are not expected to have taken prior math courses. We plan to proceed step-by-step by starting with some seminal papers in the discipline of

network epistemology. From then on, we go through matrix algebra, statistics, and graph theory. An introduction to Julia programming and practices will be included as we conclude each section.

Evaluation (both graded and non-graded credits) is done by an exam focusing on key concepts: eigenvalues, differentiation, probability distribution, and centrality measures. Participants can earn extra exam points by submitting their Julia coding practices on these key concepts by generating, controlling, and visualizing data structures.

Reference

(Introduction)

O'Connor, C., & Weatherall, J. O. (2019). The Misinformation Age: How False Beliefs Spread. Yale University Press, ch.2, pp 46-92.

Page, S. E. (2018). The Model Thinker: What You Need to Know to Make Data Work for You. Basic Books, Ch. 2.

(Programming Julia)

Lauwens, B., & Downey, A. (2019). Think Julia: How to Think Like a Computer Scientist. O'Reilly Media. https://benlauwens.github.io/ThinkJulia.jl/latest/book.html

Kalicharan, N. (2021). Julia - Bit by Bit: Programming for Beginners. Springer International Publishing.

Sherrington, M. (2015). Mastering Julia. Packt Publishing.

(Matrix Algebra, Statistics)

Strang, G. (2009). Introduction to Linear Algebra (4th ed.). Wellesley-Cambridge Press.

Knut S., Peter H., Arne S., Andrés C. (2022). Essential Mathematics for Economic Analysis (6th ed.). Pearson

Chiang, A. C., & Wainwright, K. (2005). Fundamental Methods of Mathematical Economics (4th ed.). McGraw-Hill Education.

Dennis D. Wackerly, William Mendenhall, Richard L. Scheaffer - Mathematical Statistics with Applications-Cengage Learning (2008)

(Network Theory)

Barabási, A.-L. (2016). Network Science. Cambridge University Press. http://networksciencebook.com/

Menczer, F., Fortunato, S., & Davis, C. A. (2020). A First Course in Network Science. Cambridge University Press.

Jackson, M. O. (2010). Social and Economic Networks. Princeton University Press.

Easley, D., & Kleinberg, J. (2010). Networks, Crowds, and Markets. Cambridge University Press.

(Computational Epistemology)

Grim, Patrick and Daniel Singer, "Computational Philosophy", The Stanford Encyclopedia of Philosophy (Summer 2024 Edition), Edward N. Zalta & Uri Nodelman (eds.), URL = https://plato.stanford.edu/archives/sum2024/entries/computational-philosophy/ .

Weatherall, J. O., O'Connor, C., & Bruner, J. P. (2020). How to Beat Science and Influence People: Policymakers and Propaganda in Epistemic Networks. The British Journal for the Philosophy of Science, 71(4), 1157–1186.

Weatherall, J. O., & O'Connor, C. (2021). Conformity in scientific networks. Synthese, 198(8), 7257–7278.

Zollman, K. J. S. (2007). The communication structure of epistemic communities. Philosophy of Science, 74(5), 574–587.

Additional Introductory Courses

030053 Priests sehr kurze Einführung in die philosophische Logik

Seminar Tue 16:00 - 18:00 GA 03/46
Skurt

"Die Logik ist eine der ältesten intellektuellen Disziplinen und zugleich eine der modernsten. Ihre Anfänge reichen bis ins 4. Jahrhundert v. Chr. zurück. Die einzigen älteren Disziplinen sind die Philosophie und die Mathematik, mit denen sie seit jeher eng verbunden ist. Um die Wende zum 20. Jahrhundert wurde sie durch die Anwendung neuer mathematischer Techniken revolutioniert, und im letzten halben Jahrhundert hat sie radikal neue und wichtige Aufgaben in der Datenverarbeitung und Informationsverarbeitung gefunden. Sie ist somit ein Fachgebiet, das für einen Großteil des menschlichen Denkens und Strebens von zentraler Bedeutung ist." (Graham Priest)

Gerade von Philosophiestudierenden wird Logik heutzutage jedoch oft als etwas angesehen, das wenig mit dem Rest der Philosophie zu tun hat. In diesem Seminar wollen wir anhand des Buches "Logic: A Very Short Introduction"

Graham Priest diskutieren, ob diese Sichtweise vielleicht unfair ist. Dabei begeben wir uns auf die Suche nach den philosophischen Wurzeln der Logik und betrachten Antworten der modernen Logik auf Fragen wie der Existenz Gottes oder Lösungen zu den Paradoxien von Sorites und Epimenides.

Im Laufe des Semester soll gemeinsam mit den Teilnehmenden des Seminars ein Dokument erstellt werden, entweder mittels eines in Moodle integrierten Wikis oder, wenn die Teilnehmenden daran Interesse haben, mithilfe des Textsatzprogramms LaTeX, in welchem Lösungsvorschläge mittels Logik von konkreten philosophischen Problemen zusammengetragen werden.

CP können durch eine große schriftliche Leistung erreicht werden.

Literatur: Priest, G., 2001, "Logic: A Very Short Introduction"

030052 Freges Sprachphilosophie

Seminar Mo 10:00 - 12:00 GABF 04/716
Wansing

Friedrich Ludwig Gottlob Frege (1848-1925) gilt als einer der Begründer der modernen formalen Logik und Sprachphilosophie. In diesem Seminar sollen anhand der Lektüre einiger klassisch gewordener Aufsätze Grundkenntnisse der Fregeschen Sprachphilosphie vermittelt werden. Diese Arbeiten werden im Seminar gelesen und diskutiert.

Eine Teilnahmevoraussetzung ist, dass alle Teilnehmenden zu Seminarbeginn über die folgenden Texte verfügen müssen: "Sinn und Bedeutung", "Funktion und Begriff", und "Der Gedanke".

CP können durch eine mündliche Prüfung erworben werden oder einen Essay.

030003 Grundzüge der Logik

Vorlesung Thu 10:00 - 12:00 HGB 10
Rami

Die Logik ist die Lehre vom folgerichtigen Schließen. Die zwei Grundfragen der Logik sind vor diesem Hintergrund: Welche Eigenschaften muss ein Schluss haben, damit er folgerichtig ist? Wie können wir auf verlässliche Weise feststellen, ob ein Schluss folgerichtig ist? Die elementare Logik beschäftigt sich mit zwei relativ einfachen formalen Sprachen, nämlich der Sprache der Aussagenlogik und der Sprache der Prädikatenlogik erster Stufe. Wir werden uns in der Vorlesung genauer mit diesen beiden Sprachen befassen und Antworten auf die beiden angeführten Grundfragen in Bezug auf diese beide Sprachen erörtern. D.h. wir werden einerseits eine präzise Definition der Folgerichtigkeit in Bezug auf beide Sprachen entwickeln und uns anderseits mit logischen Kalkülen vertraut machen, die es ermöglichen, die Folgerichtigkeit von Schlüssen relativ zu diesen beiden

Sprachen zu überprüfen. Die Veranstaltung wird durch ein Übung begleitet, in dem der Stoff wiederholt wird und Übungseinheiten bearbeitet werden.

Elective Module 3: *Complementary Studies*

211045	Introduction to Artificial Intelligence
	Lecture with excercise Fr 10:00 - 14:00 HGD 30 Cheng, Laurenz, Glasmachers, Straßer, Schmidt, Jansen, Maghsudi

Content:

This course gives an overview over representative methods in artificial intelligence: formal logic and reasoning, classical methods of AI, probabilistic reasoning, machine learning, deep neural networks, computational neuroscience, neural dynamics, perception, natural language processing, robotics.

Learning Outcomes:

After successful completion of this course, students will be able to

- summarize a number of fundamental methods in artificial intelligence,
- explain their mathematical basis and algorithmic nature,
- apply them to simple problems,
- decide which methods are suitable for which problems, and
- communicate about the all that in English.

Enrollment:

All students must enroll in the Moodle course to receive the class material and announcements. If you have problems with that, please contact Aya Altamimi at . In addition, you will probably have to enroll for this course with your examination office according to the rules of your degree program, only they will be able to advise you. Your examination office might also decide to award a different number of credit points than we certify you for this class, see below for students other than CS Bachelor. Students from Dortmund and Duisburg-Essen will probably have to fill a UAR form (University Alliance Ruhr).

Final Exam:

The exam will be administered on two dates after the lecture period in the summer semester. Students are free to choose either of the two dates. Keep in mind that the next opportunity to take the exam will be about one year later.

The written exam will be 90 minutes long within a 100 minute time slot. The exam will be digital and must be taken in person in a computer lab on RUB campus. It will be a closed book exam, thus you are not allowed to consult any materials except for a self-hand-written one-sided DIN A4 formulary. There are no prerequisits for taking the exam.

Note: Bachelor students earn 5 CP by successfully passing the exam. For Master students the following applies: 3 CP for Master students from technical study programs; 0 CP for (Applied) Computer Science Master students; technical study programs include Maschinenbau, Data Science (TU Do), Automation&Robotics (TU Do)...

Every student who wishes to take the exam must register in two places:

In the corresponding course in the RUB online exam system (https://online-exam.ruhr-uni-bochum.de/). You will take the exam in this Moodle environment.
Important: This is another instance of Moodle that looks the same, but it is different from the Moodle course that we use to share class materials and announcements!
With the examination office. If you are a student of our faculty, mathematics, or physics, register via FlexNow with the examination office of the Faculty of Computer Science. All other students will probably have to register with their own examination office, but we don't know. Please check yourself.

A mock exam will probably be available towards the end of the course. It will be shorter than the final exam, but it should contain at least one question from every instructor. The main purpose is to give you a good impression of the style of the exam and therefore facilitate exam preparation.

Condition for granting the credit points:

To pass this class and receive credit, you need at least 50% of the points (which are usually not 100) on the final exam. If the final exam has 60 points you need 30 points (50%) to pass the exam.

030062	Topics in the Philosophy of Language, Logic and Information: (Non)Existence
	Seminar Wed 16:00 - 18:00 GA 04/187. Rami, Liefke
	Seminar description will soon be available on eCampus
030036	Empirical methods in philosophy of language

Seminar Tue 14:00 - 16:00 GA 6/153
Spychalska

One central and still open question in pragmatics concerns the role of Theory of Mind (ToM)—understood as the ability to attribute mental states such as beliefs and intentions to oneself and others—in the interpretation and production of meaning. Within the Gricean framework (Grice, 1975), this ability is taken to be essential for pragmatic inferencing of all kinds, including the derivation of implicatures, reference resolution, the interpretation of irony, metaphor, and indirect requests. However, the precise role that ToM plays in pragmatic inference remains debated.

This journal paper–based seminar focuses on the role of ToM in pragmatics, with particular emphasis on the notion of perspective-taking—the process by which speakers and hearers represent others' mental states by adopting their perspective—and its function in communication. The seminar combines theoretical and experimental readings that examine how perspective-taking contributes to pragmatic understanding and language use.

The course is particularly suitable for master's students and advanced bachelor students in cognitive science and philosophy, especially those with an interest in empirically oriented approaches to the philosophy of language and mind.

Literature: selected articles (to be provided)

Grice, H. P. (1975). Logic and Conversation. In Cole, P. and Morgan, J. L., editors, Syntax and Semantics, volume 3 of Speech Acts, pages 41–58. Academic Press, New York. Reprinted in Studies in the Way of Words.

Requirements for passing (3CP): Active participation and a presentation in class

Graded (6CP): An individual or a team project/ extended second presentation

030072 What is information?

Seminar Thu 14:00 - 16:00 GA 04/187
Liefke

Information takes a central role in our everyday lives. Thus, it is perhaps surprising that the concept of information has only recently started to receive broader philosophical attention. This seminar gives an introduction to this emerging topic, focusing on semantic information. The latter is information about the world that is meaningful and that can constitute knowledge. We will start by distinguishing information from some of its cognate concepts (incl. data, meaning, representation), by asking how data can turn into information, and how meaningful data acquire a truth value. In the second half of the semester, we will discuss different approaches to semantic information. We will end the semester by discussing the role of information in some philosophical disciplines (esp.

epistemology, philosophy of mind/cognitive science, and philosophy of language), and by asking whether all semantic information is propositional.

Readings: A selection of texts will be made available through Moodle before the start of the semester. This selection will include (a.o.):

— Dretske, F. I. (1983). Précis of Knowledge and the Flow of Information. Behavioral and Brain Sciences, 6(1), 55-90.
— Floridi, L. (2010). Information: A very short introduction. Oxford University Press.

— Floridi, L. (2011). The Philosophy of Information. Oxford University Press.

Prüfungsform:

— kleine Studienleistung: Protokoll (mit Kurzpräsentation)

— große Studienleistung: Protokoll plus Klausur, mündliche Prüfung oder Hausarbeit

211057 Highlights of Theoretical Computer Science

Lecture with exercise Tue, Thu, Fr 14-16 MC 1/54
Zeume

The insights and techniques of modern theoretical computer science have been key for advances in all areas of computer science. In this course, we will discuss some highlights and the techniques that underpin them.

Possible topics that we might cover:

Computational models (is there life beyond Turing machines?)
Kolmogorov complexity (what is the shortest program that produces some output?)
Communication complexity (how many bits must Alice and Bob exchange to jointly solve a problem?)
Fine-grained complexity (are some easy problems easier than others? and why?)
Fast multiplication of numbers and matrices (can you beat the high-school method?)
Randomness (does it really help to compute faster?)Circuit lower bounds (why is it so hard to prove that problems are hard?)
Convex optimization (how to maximize profit if all you can ask are yes/no questions)
Hardness of approximation (how easy is it to find near-optimal solutions?)
Cryptography and computation

If you enjoyed your first course in theoretical computer science in the Bachelor's and would like to deepen your knowledge by getting an overview of the fascinating theory of computing, then this course will be exactly right for you.

Current information such as lecture dates, rooms or current lecturers and trainers can be found in the Ruhr University course catalog https://vvz.rub.de and in eCampus https://www.rub.de/ecampus/ecampus-webclient

Examination format: Written exam (180 minutes) or oral exam (15-45 minutes)

Successful completion of an introductory course on theoretical computer science (covering formal languages, basics of complexity theory including NP-completeness and reductions, basics of computability theory). Interest and motivation to learn about theoretical concepts.

There is no single textbook for the course. Some good starting points are:

Arora, Barak. Computational Complexity: A Modern Approach. Cambridge University Press. A preprint is available at: http://theory.cs.princeton.edu/complexity/book.pdf
Kozen. Theory of Computation. Springer. 2006.

We will give further pointers to the literature where needed.

030050	The Computational Theory of Mind (incl. Workshop with the author)
	Seminar Thu 14:00 - 16:00 GA 6/153 Schlicht

The Computational Theory of Mind is the view that the human mind is fundamentally a computational system—not just metaphorically but literally: cognition arises through computational processes akin to those in computers. In this seminar, which is taught in English but addressed at Bachelor students interested in the Philosophy of Mind, we will read the introductory book by Matteo Colombo and Gualtiero Piccinini which traces this idea historically, explains its appeal for solving classic problems in philosophy of mind (like the mind-body relation), and shows how computational modeling and AI contribute to understanding mental phenomena. It also addresses challenges: making the theory compatible with how real brains work, cognition's dynamics and situatedness, intentionality, and consciousness. The authors defend and refine the computational approach. The seminar is part of our concept of research-oriented teaching which includes a workshop with the author and other scholars on the topic (June 2-3, 2026) at RUB. The workshop is part of the seminar and students are encouraged to seize the opportunity to engage with the author.

Text: Matteo Colombo & Gualtiero Piccinini (2024): The Computational Theory of Mind. Cambridge University Press.

Secondary Reading: Michael Rescorla (2024): The computational theory of mind (https://plato.stanford.edu/entries/computational-mind/)

030065	Minds without Mirrors – Richard Rorty's "Philosophy and the Mirror of Nature

Seminar Wed 16:00 - 18:00 GABF 04/352
Dolega

Seminar description will soon be available on eCampus

030031 David Chalmers, The Conscious Mind

Seminar Thu 12:00 - 14:00 GABF 04/716
Starzak

In his book The conscious mind David Chalmers argues against physicalism (roughly: the theory that we can explain consciousness in physical terms) and develops his own, property-dualistic theory of consciousness. In this seminar we will read excerpts of the book and discuss, among others questions like: What is consciousness? What different explanations have been offered so far? What does the theory of physicalism say about consciousness? What is the hard problem of consciousness?

The seminar is part of the program research oriented teaching. It gives students the opportunity to discuss the content of the seminar with David Chalmers and other renowned philosophers in then context of a two day workshop at the end of the semester.

Requirement:

- willingness to read and discuss philosophical issues in English
- Participation in the workshop The conscious mind at 30, June 18th & 19th, Kunstmuseum Bochum
- Short essay
- A version of then text The conscious mind

030031 David Chalmers, The Conscious Mind

Seminar Thu 12:00 - 14:00 GABF 04/716
Starzak

Technology assessment (TA) is the systematic examination of technologies to predict and evaluate their societal, economic and environmental consequences. The stated goal is to improve our political influence over how technological change plays out in democratic societies. Its practice has evolved until now to incorporate philosophical perspectives as an integral part of the standard toolbox.

In this seminar we will trace the original motivation for doing TA and its historical development. We then turn to the three main strands of technology assessment: parliamentary assessment, which frames decision-making within legislative bodies; participatory assessment, which seeks to involve citizens and stakeholders in shaping technology outcomes; and constructive assessment, which aims at

embedding ethical values into the design of technologies themselves. Throughout, we emphasize how the philosophy of technology and technology ethics contribute to each of these variants of doing TA, and we explore various contributions that illustrate these intersections.

Organisatorischer Hinweis:

The course is aimed at advanced BA and MA students, including EELP. We will alternate between in person discussions and remote elements (short writing assignments through Moodle).

030014	Philosophical Technology Assessment
	Seminar Tue 14:00 - 16:00 GABF 04/716 Weydner-Volkmann

Technology assessment (TA) is the systematic examination of technologies to predict and evaluate their societal, economic and environmental consequences. The stated goal is to improve our political influence over how technological change plays out in democratic societies. Its practice has evolved until now to incorporate philosophical perspectives as an integral part of the standard toolbox.

In this seminar we will trace the original motivation for doing TA and its historical development. We then turn to the three main strands of technology assessment: parliamentary assessment, which frames decision-making within legislative bodies; participatory assessment, which seeks to involve citizens and stakeholders in shaping technology outcomes; and constructive assessment, which aims at embedding ethical values into the design of technologies themselves. Throughout, we emphasize how the philosophy of technology and technology ethics contribute to each of these variants of doing TA, and we explore various contributions that illustrate these intersections.

Organisatorischer Hinweis:

The course is aimed at advanced BA and MA students, including EELP. We will alternate between in person discussions and remote elements (short writing assignments through Moodle).

030060	L.A. Paul: Transformative Experience
	Seminar Thu 10:00 - 12:00 GABF 05/608 Schlicht

L.A. Paul's Transformative Experience (2014) argues that some life choices fundamentally change who we are and what we value, in ways we cannot fully imagine beforehand. Decisions like becoming a parent, changing careers, or undergoing religious conversion involve experiences that are epistemically transformative, because we cannot know what they are like until we have them, and

personally transformative, because they reshape our preferences and identity. Paul shows that standard decision theory fails here, since we cannot assign reliable values to outcomes we cannot comprehend. She proposes rethinking rational choice, emphasizing commitment, trust, and self-shaping over expected utility in human decision making. In this seminar which is part of our research-oriented teaching, we will study Paul's book closely and lay a foundation for a workshop with the author (May 27-29, 2026) at RUB when Laurie Paul presents new work on the topic from her forthcoming book in the context of the Rudolf-Carnap Lectures. The workshop is part of the seminar and students are expected to participate and will have a chance to engage with the author.

Text: L.A. Paul (2024): Transformative Experience. Oxford University Press

Secondary Reading: Rebecca Chan (2023) Transformative Experience (https://plato.stanford.edu/entries/transformative-experience/) Katie Steele & H. Orri Stefansson (2025) Decision Theory (https://plato.stanford.edu/entries/decision-theory/)

030048	Ethics of Large Language Models
	Seminar Wed 14:00 - 16:00 GA 03/46 Weber-Guskar

This advanced seminar examines some philosophical and ethical issues of current human interaction with large language models. We begin with deceptively simple questions: can such systems genuinely speak, or do they merely simulate linguistic agency? As we ourselves do obviously talk to them: with whom, if anyone, are we in dialogue when we converse with them?

From there we investigate questions concerning morality and ethics: What kinds of moral competencies, should and could these systems possess? Can morality be operationalized in code, and if so, through which technical and conceptual architectures?

Furthermore, the seminar addresses the possibility of friendship, intimacy, and even love with artificial interlocutors. Are such relations coherent, illusory, or potentially transformative forms of sociality? Finally, we assess opportunities and risks: personal support and empowerment, epistemic access, but also dependency, manipulation and shifts in human self-understanding that might affect not only our personal but also political lives.

The literature will be provided via Moodle at the beginning of the semester.

Exams:

„Kleine Leistung“: Regular short writing assignments.

„Große Leistung“: Term paper or oral exam

030070 Ethik des algorithmischen Outsourcing

Seminar Tue 14:00 - 16:00 IC 03/410
Titz

In unserem alltäglichen Leben interagieren wir mit einer Vielzahl von Algorithmen, die wir als Werkzeuge nutzen und welche zugleich jedoch unser Verhalten beeinflussen. Wir delegieren (bzw. ‚outsourcen') eine Vielzahl täglicher Aufgaben an diese: Ob es darum geht, eine Route mit Google Maps zu planen, Trainings- und Schlafgewohnheiten zu tracken, Film- und Buchauswahlen auf Plattformen wie Amazon oder Netflix zu durchstöbern oder einen Text mit ChatGPT zu verfassen – es ist schwer, sich dem Einfluss dieser algorithmischen Werkzeuge zu entziehen. Ihre weit verbreitete Nutzung wirft wichtige ethische Fragen auf.

Dieses Seminar konzentriert sich auf die moralphilosophischen Auswirkungen dieser Interaktion mir Algorithmen in unseren täglichen persönlichen Aktivitäten. Was passiert, wenn wir zahlreiche tägliche Aufgaben und Ziele an digitale Assistenten und andere algorithmische Werkzeuge delegieren oder mit ihnen teilen? Algorithmische Werkzeuge prägen unsere Entscheidungsumgebung, indem sie Optionen vorab filtern und hervorheben, Erinnerungen oder Anreize senden und vermehrt sogar Entscheidungen für uns treffen oder sprachlich mit uns interagieren. Wie wirkt sich dies auf unsere Autonomie oder unser Selbstverständnis aus? Eine weitere zentrale Frage betrifft ihre Auswirkungen auf unsere moralischen oder intellektuellen Fähigkeiten. Während ein gewisses Delegieren an Technologien uns in moralischer oder kognitiver Hinsicht effizienter machen kann, kann auch argumentiert werden, dass eine übermäßige Abhängigkeit von Algorithmen unsere Tugendentwicklung zu untergraben droht und zu einem Fähigkeitsverlust führt. In diesem Seminar werden wir diese und damit zusammenhängende Fragen behandeln und dabei auch das positive Potenzial des algorithmischen Outsourcings im Blick behalten.

Die Literatur wird zu Vorlesungsbeginn im Moodlekurs zur Verfügung gestellt. Zu beachten ist, dass die Literatur zum Großteil englischsprachig ist.

030029 Aktuelle Themen in der Philosophie der Sprache und Kognition/Topics in the Philosophy of Language and Cognition

Seminar Wed 12:00 - 14:00 GA 04/187
Werning

In the seminar, we will discuss a selection of up-to-date topics in the philosophy of language and cognition. The seminar provides an opportunity for BA, MA, and PhD students to present their own thesis projects and receive feedback. It addresses students who have a particular interest in theoretical and experiment studies on the comprehension of language and its interaction with cognition. To earn credits, students are expected to do a presentation. To earn up to 6CPs, students can choose between writing a term paper and taking the opportunity to do an internship in our EEG lab plus protocol.

The topics we will discuss, among others, are:

· The influence of linguistic context on lexical meaning – theory and experiments

· Implicatures, presuppositions, co-suppositions and how to test them in experiments

· The role of co-speech gestures in communication – theory and experiments

· The evaluation of large language models relative to human language comprehension using EEG and other methods

Even though, the language of most papers and presentations will be in English, contributions to discussions can also be made in German.

Literature

· Werning, M., Hinzen, W., & Machery, E. (Eds.). (2012). The Oxford Handbook of Compositionality. Oxford: Oxford University Press. https://doi.org/10.1093/oxfordhb/9780199541072.001.0001

· Schlenker, P. (2022). What it all means: Semantics for (almost) everything. Cambridge, MA: MIT Press. https://doi.org/10.7551/mitpress/12128.001.0001

· Schlenker, P. (2022). What it all means: Semantics for (almost) everything. Cambridge, MA: MIT Press. https://doi.org/10.7551/mitpress/12128.001.0001

030105 Technikphilosophisches Forschungskolloquium

Colloquium Tue 16:00 - 18:00 GA 3/143.
Weydner-Volkmann

Forschungskolloquium zu Themen der Technikphilosophie und Technikethik und darüber hinaus. Es werden Konzepte für BA- und MA-Abschlussarbeiten vorgestellt und diskutiert. Darüber hinaus werden Forschungstexte und Entwürfe gelesen und diskutiert. Im Rahmen des Colloquium Digitale werden außerdem Gastvortra¨ge zu Themen der Ethik und Philosophie der Digitalisierung gehalten.

Organisatorischer Hinweis:

Bedingung für die Teilnahme ist es, eine Abschlussarbeit im Arbeitsbereich „Ethik der digitalen Methoden und Techniken“ zu planen. Bei regelmäßiger Teilnahme und dem Vorstellen eines eigenen Konzeptes (oder einer ähnlichen Leistung) kann eine kleine Studienleistung erworben werden. Manche Sitzungen werden wir auf englisch abhalten.

030106 Research Colloquium Philosophy Meets Cognitive Science: Memory and Language

Colloquium Tue 12:00 - 14:00 GA 04/187
Werning

In the research colloquium current topics at the interface between Philosophy and Cognitive Science will be discussed. The colloquium hosts talks by leading international experts and local researchers as well as presentations by doctoral and master students. To receive credits, students will be given the (assisted) opportunity to present projects of their own.

This semester the sessions of the research colloquium will alternate in a bi-weekly rhythm between the topics “Memory” and “Language & Cognition”. A detailed schedule will be published in due course at https://www.ruhr-uni-bochum.de/phil-lang/colloquium.html. Talks will be held either online via Zoom or in person.

030095 The Social in Social Epistemology

Seminar Wed 14:00 - 16:00 Wasserstraße 221
?

In many, if not most, processes that lead to understanding or knowledge, we depend on and/or relate to others. This course examines processes involved in building knowledge and forming beliefs in relation to other individuals (e.g., Experts). It also explores how individuals collaborating in scientific groups form beliefs and how collaboratively organized science relies on a division of cognitive labor and specific forms of social organization that support the epistemic aims of science.

This seminar has a two-fold purpose: First, it examines core concepts related to trust in science, such as trustworthiness, epistemic responsibility, belief, disagreement. Second, it connects these concepts to processes relevant to collaborative knowledge generation in science, including trust and distributed epistemic labor, interpersonal epistemic trust and dependence, peer disagreement, group belief, and judgment aggregation.

Prerequisites: Willingness to engage with English-language texts. BA and MA students (German- and English- speaking) are welcome.

051041 Ist ChatGPT besser als ich? KI-Tools in der romanistischen Linguistik

Seminar 27.-31-07. 9:00-15:00 GB 7/131
Matrisciano-Mayerhofer

Die Teilnahme an dieser Veranstaltung ist auch für Studierende des Studiengangs Empirische Mehrsprachigkeitsforschung (EMF) möglich.

010730 Blockseminar: Academic Freedom, Human Rights, and Democracy under Pressure: Student/Academic Advocacy for Scholars at R...

Blockseminar
Schell, Koller, Vernekohl

Part 1:: FR 17.4.2026, 10:00-16:00:
Introduction to Course and Concepts/Understandings of Academic Freedom, Human Rights, Global Social/Civic Responsibility (inter-/transdisciplinary/regional/global perspectives)

Part II: 24/25 April
FR: Limits and Threats to Academic Freedom and How/

Ways to Respond (What Role for Universities and the (Global) University Community (Students, Reseachers, Staff) ?

SAT: Introduction to Planning, Organising, and Evaluating Effective Advocacy Campaigns

Part III: 8./9. Mai 2026
VE/EUR PART ! Start of Virtual Exchange/Erasmus U Rotterdam: Intro / Getting to know each other

Part IV: 22./23 Mai 2026

Part V: Wed/Thu, 10-11 June 2026 (Academic Freedom Forum):
Student Advocacy for Academic Freedom, Human Rights and Scholars at Risk (Garden of Refuge Walk + N:N: ?)

Part VI: DATE/TIME??
Presentation of SAR Advocacy Report & Course Evaluation

Beschreibung
The seminar “Academic Freedom and Democracy Under Pressure: Human Rights Advocacy for Scholars at Risk” assumes that academic freedom, institutional autonomy and democracy are acutely threatened in many places around the world, especially in the context of increasing nationalisms, authoritarianism and in a post-truth world, where facts are disregarded in favour of personal beliefs and repeated falsehoods, leading to the normalization of "fake news" and misinformation. This is demonstrated by numerous well-documented examples of students, researchers, and academic institutions that fear or experience state or public repression for ‘seeking and speaking truth’, e.g. for their research, teaching and public (social or civic) engagement.

The seminar is divided into two parts:

In the first conceptual/theoretical/methodological part we will critically reflect on concepts and discourses of academic freedom, academic (social/civic) responsibility and engagement as well as human rights in interdisciplinary and global perspective. This is followed by a discussion of research that connects human rights, academic freedom, and democracy alike. Furthermore, the module offers a critical engagement with concepts, measures and organisations working in the fields of academic solidarity and academic/human rights advocacy, especially those aimed at supporting and empowering students and researchers worldwide who are affected by political persecution, unlawful imprisonment, or forced exile, with particular attention to power asymmetries and global responsibilities.

In the second, the practical project/advocacy part, participants will develop and implement their own human rights advocacy campaign on behalf of unjustly imprisoned or forcely displaced scholars and in support of academic freedom. They will have the possibility to do so in (online) collaboration and in international teams with students from the Erasmus University Rotterdam as well as other Scholars at Risk Advocacy Seminars across Europe. The campaigns developed by the students will be part of the RUB Academic Freedom Forum (10-11 June 2026), which celebrates the 25th anniversary of the Scholars at Risk Network and the 10th University without Borders Program of Ruhr University Bochum.

The seminar will be offered in cooperation with the Scholars at Risk Network (USA) as well as with scholars in exile hosted by Ruhr University Bochum. Upon successful completion, and as an add on, you will receive an additional certificate from the Scholars at Risk Network (SAR).

The module is most suitable for advanced Bachelor's students, Master's students as well as (early) PhD students. No prior knowledge is required; participants should have an interest in engaging in collaborative (online) work within international, self-directed teams.

040642	Kunst und Wissenschaft des Dokumentierens
	Hauptseminar Thu 16:00 - 18:00 GA 6/62 Sammlungsraum Nadim

Seminar description will soon be available on eCampus

040164	HS: Von Mad Scientists und anderen Erfinder*innen: Technikgeschichte in audiovisuellen Medien
	Hauptseminar Tue 8:00 - 10:00 GABF 05/707 Rothauge

Von Metropolis (Fritz Lang, DE 1927), Frankenstein (James Whale, US 1931) und Back to the Future (Robert Zemeckis, US 1985) über Hidden Figures (Theodore Melfi, US 2016) und Marie Curie (Marjane Satrapi, UK 2019) bis hin zu Oppenheimer (Christopher Nolan, US/GB 2023) und The Fallout (Amazon Prime,

seit 2024): Wie werden (natur-)wissenschaftliche Erfindungen in Film-, Fernseh- und Streamingproduktionen dargestellt? Was wird hervorgehoben, was weggelassen; woran (und an wen) wird erinnert? Welches Bild von Erfindern wird darin perpetuiert bzw. erst konstruiert? Sind Erfinderfiguren in Filmen und Serien eher Helden oder Bösewichte – und wie steht das gegenwärtig besonders populäre Genre des Biopic eigentlich zur (historischen) Biografieforschung? Welche Rolle spielen Repräsentationen von Geschlecht(erverhältnissen) in Audiovisionen zur Technikgeschichte oder, polemisch gefragt: Wo bleiben eigentlich die Erfinderinnen?

In diesem Hauptseminar befassen wir uns zunächst grundlegend mit theoretisch-methodischen Fragen des Umgangs mit audiovisuellen Produktionen als Quellen für die Geschichtswissenschaft. Nach einem Crashkurs zu filmästhetischen Mitteln sowie zu filmischem und seriellem Erzählen wenden wir uns speziell der Inszenierung von (natur-)wissenschaftlichen Erfindungen zu, die sich zumeist über technikhistorisch als bedeutsam geltende Figuren und Ereignisse vollzieht. Dies setzt voraus, dass wir uns auch mit ‚klassischen' wie neueren Ansätzen und Narrativen der Technikgeschichtsschreibung auseinandersetzen. Erst dann werden wir herausarbeiten können, welche Beiträge die Darstellungen von Erfinder*innen in Film- und Fernsehproduktionen bzw. Streaming-Angeboten leisten (wollen) – oder auch nicht. Hierfür werden ausgewählte Fallbeispiele im Mittelpunkt des zweiten Teils des Hauptseminars stehen: mehrheitlich fiktionale Formate unterschiedlicher Entstehungszeiten.

Literaturauswahl:

Allen, Glenn Scott: Master Mechanics and Wicked Wizards. Images of the American Scientist as Hero and Villain from Colonial Times to the Present. Amherst, MA, 2009.

Brewer, Paul R.; Ley, Barbara L.: Science in the Media. Popular Images and Public Perceptions. New York and Abingdon 2022.

Groot, Jerome de: Remaking History. The Past in Contemporary Historical Fictions. London 2015.

Heßler, Martina: Kulturgeschichte der Technik. Frankfurt a. M. und New York 2012.

Kracauer, Siegfried: Von Caligari zu Hitler. Eine psychologische Geschichte des deutschen Films. Frankfurt a. M. 122025.

Mikos, Lothar: Film- und Fernsehanalyse. München 42023.

Perkowitz, Sidney: Hollywood Science. Movies, Science, and the End of the World. New York, NY, 2010.

Rosenstone, Robert A.: History on Film/Film on History. Abingdon/London/New York 42024,