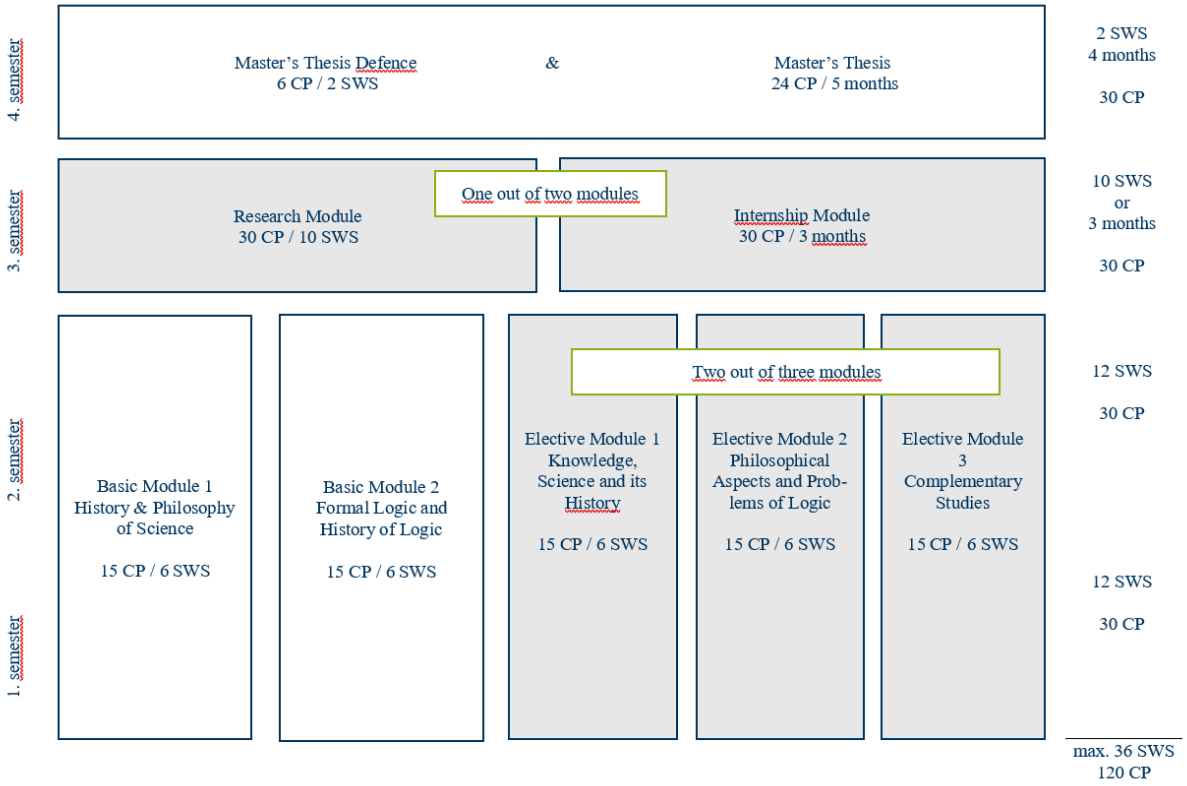
Module descriptions

The modular plan of the programme

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

The entire curriculum in the MA programme 'History & Philosophy of Science and Logic' is modularised. In accordance with the framework guidelines of the Standing Conference of the Ministers of Education and Cultural Affairs (KMK), modules are understood as units whose contents and methods are determined by the intended learning outcomes and the competences to be achieved. These units should be both thematically and temporally self-contained. Each module is assigned credit points according to the ECTS (European Course Credit Transfer System), which reflect the respective required study effort, whereby one credit point (CP) corresponds to 30 hours. In the History & Philosophy of Science and Logic degree programme, 8 modules are offered, of which students must complete 6. The standard period of study is four semesters with a total of 120 credit points:



Freedom of choice for students

Students have the opportunity to shape their academic profile by making two key decisions during their studies, which enable them to pursue diverse professional fields and research areas. These decisions play a central role in helping students carve out their unique path towards achieving their academic and professional goals:

1. In the first study phase, in addition to the basic modules 'History and Philosophy of Science' and 'Formal Logic and History of Logic', students choose two of three interdisciplinary study orientations: (1) Knowledge, Science and its History, (2) Problems and Philosophical Aspects of Logic, (3) Complementary Studies.

2. In the second study phase, a further profile-forming decision is made: The students deepen their thematic knowledge and their systemic competences in the research or internship module. This thematic specialization will then be continued in the final module, in which students write and defend their Master's thesis.

In addition to these profile-forming decisions, students can choose between different courses in the majority of the modules. Firstly, this enables them further thematic differentiation. Secondly, they may switch to other courses in the case that certain seminars or lectures overlap in time.

Module completion and module examinations

For the successful completion of the module, students take a final examination in each module, which is usually graded. The forms of examination are described later.

The final module consists of two parts, the Master's thesis and the final defence colloquium. In the defence colloquium, the conception, progress and results of the Master's thesis are presented in a half-hour, graded oral presentation. The grades of the module examinations (Master's thesis and Master's thesis defence) are included proportionately in the final grade. They relate to the learning objectives of the entire module.

The module descriptions specify the number of examinations and describe to which module parts they are assigned. The course descriptions specify the types of examinations students can choose from. Four different examination forms are possible in the Master programme from which students can choose – whereby not all examination forms are offered in all modules. In preparation for the Master's thesis, all students must have written at least two term papers during the programme.

A **written exam** typically spans over 1-2 hours and serves as a means to demonstrate proficiency in tasks related to the subject matter covered in the module. The exam assesses one's ability to effectively utilize limited resources and time constraints, while also gauging the depth of their knowledge in the subject area.

A **term paper** should reflect essential facts, contexts and interpretations of topics of the module, but its substance should go beyond the facts presented in the module. The length of a term paper should be about 15 pages.

In **oral examinations**, the candidate should prove that he or she has sufficient knowledge in the relevant area of examination, recognises contexts and is able to address special questions in these contexts. Oral exams are individual examinations and can last up to 45 minutes.

The **internship report** consists of two parts, an interim report and a final report. Both parts should comprise approximately 10 pages. In the reports, essential elements of the internship should be reproduced and critically reflected, especially with regard to the normative-analytical and descriptive-historical aspects of the MA programme.

In addition, non-examination-relevant, ungraded coursework is required of students in all modules. These can take the form of a lecture, a presentation, a text summary, a protocol, a shorter essay, or similar achievements. They are named in the module descriptions and explained in detail in the course descriptions. These course achievements are used as didactic tools of higher education to train the students' presentation skills and to ensure their learning success. The coursework is not graded but is a prerequisite for participation in the module examination.

Mandatory Basic Module 1: "History & Philosophy of Science"

Code	Workload	Credits	Semester	Frequency	Duration
BM 1	450 h	15 CP	1st or 2nd semester	Yearly	2 semesters

1	Courses	Contact hours	Self-study	Group size
	a) Lecture "Integrated History and Philosophy of Science"	30 h	120 h	open (ca. 60)
	b) Seminar "Current Topics in HPS"	30 h	120 h	40
	c) Exercises „Methods in HPS"	30 h	120 h	40

2 Learning outcomes / Competences

(a-b) Lecture "Integrated History and Philosophy of Science" and accompanying seminar "Current Topics in HPS"

In view of different previous knowledge, which may come from different courses of study, the module serves, in addition to the direct qualification goal (acquisition of basic knowledge about topics in HPS), to establish a common basis for further study.

The students

- can explicate and apply basic concepts of the philosophy of science,
- acquire the basic competence to understand the development of scientific knowledge and to analyse it based on criteria of rationality and methodology in the philosophy of science,
- can understand the current scientific system in its historical imprints,
- have a basic understanding of normative issues and argumentation, which they can use to evaluate scientific validity claims of both past and present scientific developments,
- are able to characterize the scientific fields of natural sciences, humanities and social sciences on the basis of their respective methods, epistemological interests and contents and they can specify cross-disciplinary commonalities and differences, taking into account fields' historical developments,
- are able to understand and communicate the immanent presuppositions and practices of other disciplines,
- can differentiate between epistemic and non-epistemic values (and value decisions) in (the history of) the sciences and classify them regarding their functions and significance,
- gain a basic understanding of historiographical approaches and research perspectives of the history of science in connection with questions about the theory of science.

	(c) Exercise "Methods in HPS" The students • gain an overview of scientific-theoretical and -historical methods, and how these can be integrated, • can recognize, distinguish, and apply important patterns of rational argumentation, justification, and analysis at the meta-theoretical level, • are able to identify and communicate cross-curricular similarities and differences in the sciences, • know specific methods of the various reference sciences and can reflect on their commonalities and differences in terms of interdisciplinary research and communication, • are familiar with historiographical methods in the history of science, especially the indexing of literature in the history of science and non-indexed sources, • are able to apply and reflect on methods of "Digital Humanities" for the indexing of historical and current text corpora.
3	**Content** (a) The lecture teaches the basics of philosophy of science, i.e. its central concepts (such as causality, explanation, understanding, law, theory, model, (non-)epistemic values) as well as its most important debates and positions, against the background of discussion and research fields in the history of science from the early modern period to the present. (b) The accompanying seminar serves primarily to deepen, but also to complement the lecture topics. Special emphasis is placed on intensive reading of relevant original texts and sources with the inclusion of classifying and explanatory textbook texts. (c) The exercise serves to deepen the methodological knowledge and ability for methodological reflection, on the one hand, regarding the history and philosophy of science, and, on the other hand, regarding different reference sciences. The teaching of methods takes place exemplarily based on concrete meta-theoretical or scientific problems, which are carried along in the course discussions and elaborations.
4	**Teaching format** (a) Lecture with the possibility to ask clarifying questions and to contribute to the discussion. (b) Seminar discussions and short papers with presentation on previously read texts, group work and discussions on controversial positions. [ad (a) and (b): Provision of supplementary materials and opportunity for discussion via e-Learning platform]. (c) Seminar with integrated exercises in a compact format. Exercises include library, archive, or museum research as well as independent bibliometric analyses of provided corpora using Digital Humanities tools.
5	**Participation Requirements** **Formally:** (a-c) Fulfilment of the requirements for admission to the MA programme HPS+Logic.

	Content related: Lecture (a) and seminar (b) must be completed within the same semester.
6	**Exam forms** For the final module examination, the following forms of examination can be chosen: Graded written exam (in a) or graded written paper or graded oral exam (in b or c) on science-theoretical or -historical topics of the seminar or methodological topics of the exercises.
7	**Requirement for the award of credit points** • In the lecture (a) regular participation with preparation or self-study; in the seminar and exercises (b and c) regular and active participation with preparation and post-processing; successfully completed module examination; passed written or oral examination according to point 6; • The lecture (a), the accompanying seminar (b), and the exercises (c) are each credited with 5 CPs.
8	**Use of module** (in other study programmes) • The lecture (a) and the seminar (b) can also be taken in the single- and double-subject master's programmes in philosophy as well as in the context of some MA specialization areas (such as in programmes of the cooperating faculties, mathematics or natural sciences). The Exercises (c) are designed specifically for the HPS+Logics programme and are taken only by students in that programme. • The module is designed to provide a foundation for acquiring basic knowledge in History and Philosophy of Science while also establishing a common ground for further studies in the modules EM 1 and EM 3.
9	**Proportion of the grade in the final grade** The module grade is included in the final grade with a share of 12,5%.
10	**Module representative and main lecturers** • Module representative: *Prof. Dr. Jan Baedke* • Main lecturers: Prof. Dr. Jan Baedke, Prof. Dr. Helmut Pulte, and Prof. Dr. Dunja Šešelja. Other lecturers of these chairs and working groups of HPS will also offer module parts.
11	**Other information** The module is designed specifically for the HPS+Logic degree programme. When registering for the module, students of this degree programme will be given priority.

Mandatory Basic Module 2: "Formal Logic and History of Logic"

Code	Workload	Credits	Semester	Frequency	Duration
BM2	450 h	15 CP	1st or 2nd semester	Yearly	2 semesters

1	Courses	Contact hours	Self-study	Group size
	a) Lecture "Formal Logic"	30 h	120 h	open (ca. 60)
	b) Exercises "Formal Logic"	30 h	120 h	40
	c) Seminar on "Formal Logic and History of Logic"	30 h	120 h	40

2 Learning outcomes / competences

(a-b) Lecture "Formal Logic" and accompanying exercises:

The module has a dual purpose of providing the necessary foundation for acquiring basic knowledge of Formal Logic while also establishing a common ground for further study, taking into account the diverse range of prior knowledge and backgrounds of students from different courses of study.

The students

- are enabled to actively apply logical tools in scientific contexts,
- acquire knowledge of central notions of model and structural proof theory,
- learn different formal methods for approaching philosophical problems,
- gain an understanding of formal logic as a theory of information processing,
- are able to explain the differences between a number of important formal systems and to classify them with regard to their properties.

(c) Seminar on "Formal Logic and History of Logic":

The students

- have an overview over the most important developments in logic from Ancient Greece to the present day,
- can read and understand the different logical notations that emerged within the last two centuries,
- are competent in analysing the logical structure of arguments in philosophical texts,
- understand logic as a discipline in which various formal systems are studied and applied,
- know the impact of logic on theory formation and the development of philosophy of science.

3 Content

(a) The lecture course offers a thorough treatment of first-order classical and 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. (b) The exercises contribute to the participants' confidence in the application of methods, techniques, and procedures of formal logic. (c) The seminar serves to deepen the lecture, but also to complement the lecture's topics. Special emphasis will be placed on intensive reading of selected relevant classical texts and seminal papers.
4	**Teaching format** (a) Lecture with the possibility to ask clarification and comprehension questions. (b) Exercises with paper and pencil; seminar discussions of possible solutions to exercises; homework. (c) Seminar discussions and presentation of short papers or written essay on previously read texts; group work and discussions on relevant positions. ad (a-c): Provision of supplementary materials and opportunity for discussion via e-learning platform.
5	**Participation requirements** **Formally:** (a-c) Fulfilment of the requirements for admission to the MA programme HPS+Logic. **Content related:** Lecture (a) and exercises (b) must be completed within the same semester.
6	**Exam forms** The final module examination can be chosen from the following examination forms: ad (a) and ad (b): graded written exam, or ad (c): graded written term paper or graded oral exam
7	**Requirement for award of credit points** In the lecture and the exercises regular participation with preparation and post-processing or self-study; in the seminar regular and active participation with preparation and post-processing; successfully completed module exam.
8	**Use of module** (in other study programmes) • The module can also be taken in the single and double MA in Philosophy, as well as in the context of some MA specialization areas (such as in programmes of the cooperating faculties, mathematics or natural sciences). • The module is designed to provide a foundation for acquiring basic knowledge in Formal Logic and History of Logic while also establishing a common ground for further studies in the modules EM 2 and EM 3.

9	**Proportion of grade in the final grade** The module grade is included in the final grade with a share of 12,5%.
10	**Module representative and main lecturers** • Module representative: *Prof. Dr. Heinrich Wansing* • Lecturers: Prof. Dr. Dolf Rami, Prof. Dr. Christian Straßer, Prof. Dr. Heinrich Wansing; other lecturers of the two Philosophy departments working on formal logic and history of logic.
11	**Other information** The module is designed specifically for the HPS+Logic programme. When registering for the module, students of this degree programme will be given priority.

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

Code	Workload	Credits	Semester	Frequency	Duration
EM 1	450 h	15 CP	1st and 2nd semester	Every semester	1 or 2 semester(s)

1	Courses	Contact hours	Self-study	Group size
	a) 1 introductory seminar (or one lecture) on special topics in History and Philosophy of Science,	1 x 30 h	1 x 120 h	1 x 40 (resp. 1 x 80-120)
	b) 2 advanced seminars on history and philosophy of science as well as methods in HPS.	2 x 30 h	2 x 120 h	2 x 40

2 Learning outcomes / competences

(a-c) The students

- are familiar with central topics in science and epistemology (such as empiricism and rationalism, pragmatism, analytical philosophy, critical rationalism, constructivism. etc.) as well as important areas of the history of science and historical science research,
- are able to analyse epistemological conditions, theory structures and use methodological decisions of different sciences on the basis of central basic concepts and positions in philosophy of science and to reflect on and communicate them with regard to interdisciplinary commonalities and differences,
- are able to differentiate between various epistemic and non-epistemic value decisions in scientific practice and to distinguish scientific from non-/pseudoscientific bodies of knowledge,
- deepen their historical knowledge in a focal area of the history of science and knowledge (e.g., history of technology, environmental history, history of medicine), and/or in an epoch-specific, region-specific, or systematic area of the history of science (e.g., theory of history, history of law), and are able to reflect on and communicate this knowledge in terms of interdisciplinary characteristics,
- can independently apply the forms of argumentation learned in the module BM 1 to new problems of science and epistemology in the natural sciences, humanities and/or social sciences,
- deepen their knowledge about methods in history and philosophy of science (from digital humanities approaches to HPS to methods of formal (social) epistemology of science), and learn to apply them,
- are able to recognize inter-thematic and interdisciplinary connections and to communicate them in an appropriate form,
- learn to master independent scientific forms of communication and presentation (in speech and writing).

3	**Content** (a) Following on from the contents of module BM 1, the seminar or lecture provides basic knowledge of current discussions in the philosophy and history of science, with a focus on a particular research field (e.g., introductions to the history and/or philosophy of biology or physics) or research topic (e.g., introduction to scientific explanation or to debates about values in science). (b) Based on an intensive reading of relevant original texts, central current problems in philosophy of science (e.g., issues of causal or law-based explanation, methodological problems in science, theory development in the sciences, issues about truth and objectivity, race and scientific racism, differences between scientific knowledge and traditional knowledge, etc.), topics in the history of science, technology, environment, and medicine and/or epoch- and region-specific or systematic historical topics, as well as special methodological questions about how to conduct Integrated History and Philosophy of Science (e.g. new Digital Methods, formal modelling) are taught and discussed.
	Teaching format • Seminar discussions and short papers with presentation or thesis paper on previously read texts, poster presentations, group work and discussion on controversial positions; Lecture with the possibility to ask clarifying questions and to contribute to the discussion. • Provision of supplementary materials (incl. video recordings of lectures) and opportunity for discussions via e-Learning platform.
5	**Participation requirement** **Formally:** (a) Fulfilment of the requirements for admission to the MA programme HPS+Logic. (b) Completion of lecture (a) and accompanying seminar (b) in Basic Module 1. **Content related:** (b) Proof of basic knowledge of the philosophy and history of science, as acquired in lecture (a) and seminar (b) of Basic Module 1.
6	**Exam forms** Graded written exam (in lectures) or graded written term paper or oral exam in one of the three EM 1 courses.
7	**Requirement for award of credit points** In the seminar regular and active participation with preparation and post-processing as well as successful homework or passed oral exam; in the lecture regular participation with preparation or self-study and passed written exam.
8	**Use of module** (in other study programmes) • The courses for the module are partly imported from other study programmes for the master's programme HPS+Logic. Teaching imports are possible from the following study programmes: from the double and single Master's programmes 'History', 'History of Medicine', 'History of Law' and 'Philosophy'

	• *C*ourses of the module can also be taken in the single- and double-subject master's programme in philosophy as well as in the context of some MA specialization areas (such as the study of mathematics or natural sciences) and in the double-subject bachelor's programme in philosophy. • In module EM1, the knowledge acquired in the module BM1 will be deepened and specialized. In combination with the modules EM2 or EM3 the students will be able to make an informed decision (based on their interests and skills) on whether they take the modules RM or EM in the second study year.
9	**Proportion of grade in the finale grade** The module is completed with a graded performance (term paper, oral exam, or written exam). The module grade is included in the final grade with a share of 12,5%.
10	**Module representative and main lecturers** • Module representative: *Prof. Dr. Jan Baedke* • Main lecturers: Prof. Dr. Jan Baedke, Dr. Helmut Pulte, Prof. Dr. Dunja Šešelja. Other lecturers of the chairs of Prof. Pulte, Prof. Baedke and Prof. Šešelja. Lecturers of other groups working in Theoretical Philosophy will offer parts of the module, as well as. Additional lecturers of other institutes and departments include: Prof. Dr. Fabian Klinck (Faculty of Law), Prof. Dr. Frank Uekötter (History), Prof. Dr. Maren Lorenz (History), PD Dr. Stefan Schulz (History of Medicine), Prof. Dr. Marc Stadtler (Educational Research), Prof. Dr. Norbert Ricken (Educational Research). Other lecturers of the involved chairs and the Faculty of History with orientation to the history of science will offer parts of the module.

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

Code	Workload	Credits	Semester	Frequency	Duration
EM 2	450 h	15 CP	1st or 2nd semester	Every semester	1 or 2 semester(s)

1	Courses	Contact hours	Self-study	Group size
	a) Lecture on "Philosophical Logic"	30 h	120 h	40
	b) Seminar on "Philosophy of Logic"	30 h	120 h	40
	c) Seminar on "Classical Texts in Philosophical Logic or Philosophy of Logic"	30 h	120 h	40

2 Learning outcomes / competences

(a) – (c) Lecture and Seminars

The students

- can apply the methods learned in the module BM2 to problems in Philosophical Logic and to debates in the Philosophy of Logic,
- gain deeper knowledge about systems of non-classical logics and their history,
- understand the different forms of representation and applications of systems of Philosophical Logic in Philosophy, Theoretical Computer Science and Linguistics,
- acquire in-depth systematic and historical knowledge of selected developments in logic and its philosophy,
- know central questions and debates regarding Philosophy of Logic and applications of Philosophical Logic,
- have the ability to orientate themselves in the relevant research landscape,
- are familiar with the latest research methods in the areas of Philosophical Logic and Philosophy of Logic.

3 Content

(a) The focus is on the most important systems of modal logic, on intuitionistic logic, many-valued logic, free logic, substructural logic, paraconsistent logic or connexive logic, and their historical development. Exercises on the various non-classical logics are integrated into the seminar. Other topics include formal argumentation theory, non-monotonic logic, logic in AI.

(b) Core topics from the philosophy of logic are discussed, such as for instance the paradoxes, logicality, logical pluralism, non-exceptionalism about logics, conceptions of identity, truth and necessity, semantic, metaphysical and logical problems of existence and non-existence, different notions of quantification, conceptions of logical consequence and metaphysical conceptions of possible worlds.

	(c) The seminar offers in-depth discussion of seminal papers and monographs in Philosophical Logic and Philosophy of Logic.
4	**Teaching format** (a) Lecture with the possibility to ask clarifying questions with exercises incorporated in the lecture. (b) – (c) Seminar discussions and short papers with presentation or thesis paper on previously read texts, group work and discussions on relevant positions. ad (a), (b) and (c): Provision of supplementary materials and opportunity for discussion via e-Learning platform.
5	**Participation requirements** **Formally:** (a) Fulfilment of the requirements for admission to the MA programme HPS+Logic. (b) – (c) Completion of lecture (a) and accompanying exercises (b) of Basic Module 2. **Content related:** (b-c) Proof of knowledge in Classical and Intuitionistic Propositional and Predicate Logic, as acquired in lecture (a) and exercises (b) of Basic Module 2.
6	**Exam forms** For the final module examination, the following forms of examination can be chosen: Graded written exam (in a) or graded written paper or graded oral exam (in b or c) on topics from Philosophical Logic and Philosophy of Logic.
7	**Requirement for award of credit points** In the lecture (a) regular participation with preparation and post-processing or self-study; in the seminars (b and c) regular and active participation with preparation; successfully completed module examination; passed written or oral examination according to item 6.
8	**Use of module** (in other study programmes) • The lecture and seminars in this module can also be taken in the single and double MA in Philosophy, as well as in the context of some MA specialization areas (such as in programmes of the cooperating faculties, mathematics or natural sciences). • In module EM2, the knowledge acquired in the module BM2 will be deepened and specialized. In combination with the modules EM1 or EM3 the students will be able to make an informed decision (based on their interests and skills) on whether they take the modules RM or EM in the second study year.
9	**Proportion of grade in the final grade** The module grade is included in the final grade with a share of 12,5%.
10	**Module representative and main lecturers** • Module representative: *Prof. Dr. Dolf Rami*

	• Lecturers: Prof. Dr. Dolf Rami, Prof. Dr. Christian Straßer, Prof. Dr. Heinrich Wansing; other lecturers of the two Philosophy departments working on philosophical logic and philosophy of logic.
11	**Other information** The module is designed specifically for the HPS+Logic degree programme. When registering for the module, students of this programme will be given priority.

Elective Module 3: "Complementary Studies"

Code	Workload	Credits	Semester	Frequency	Duration
EM 3	450 h	15 CP	1st & 2nd semester	Every semester	1 or 2 semester(s)

1	Courses	Contact hours	Self-study	Group size
	3 seminars (or one lecture and two seminars) from 1 to 3 topic(s) (a-c)	3 x 30 h	3x 120 h	3 x 40 (resp. 1x 80-120 and 2 x 40)

2 Learning outcomes / competences

a) Topic "*Social, Historical and Ethical Issues of Science and Technology":*

The students

- acquire the competence to assess science and logic as a human cultural achievement as well as to analyse scientific knowledge production as a specifically social phenomenon in the general functional system of society,
- deepen their knowledge of the historical conditions and dynamics of this cultural achievement in the social context,
- deepen their knowledge and methodological skills in social science approaches to science and technology (e.g., Science &Technology Studies) and/or science ethics (e.g., environmental ethics, risk ethics),
- learn the competence to critically evaluate the social causes and anthropological presuppositions of non-epistemic value decisions in science practice and technology development,

b) Topic "*Applied Logic, Technology and Ethics*":

The students

- deepen their knowledge and methodological skills in ethics of technology (e.g., ethics of digitalization and artificial intelligence),
- learn to analyse opportunities and risks of 'applied logic' in digital systems (e.g., information access, connectivity, consent and privacy, algorithmic bias, data security),
- acquire knowledge in logic applications in areas of knowledge representation and verification (description logic, database development, model checking, verification theories)

c) Topic "*Cultural and Communicational Issues of Science*":

The students

- acquire the competence to analyse symbolic and media forms relevant for the mediation of scientific knowledge and logic in different historical and current manifestations,
- learn to understand different forms of science communication as culturally dependent, changeable cognitive performances,
- acquire the competence to examine challenges of scientific knowledge circulation in

	society at large.
	Content As an extension and deepening of the contents of the modules BM1-2 (and EM1-2), the 3 EM3 seminars (or two seminars and one lecture) convey a thematic focus on (a) social and historical science and technology studies as well as ethics of science, and/or (b) fields of applied logic, philosophy of technology and ethics of technology, and/or (c) science communication and cultural studies of knowledge transfer.
	Teaching format • Seminar discussions and short presentations or thesis paper on previously read texts, poster presentations, group work and discussions; Lecture with the possibility to ask clarifying questions and to contribute to the discussion. • Provision of supplementary materials (including video recordings of lectures) and opportunity for discussions via e-Learning platform.
5	**Participation requirements** **Formal:** Fulfilment of the requirements for admission to the MA programme HPS+Logic. **Content related:** None.
6	**Exam forms** Written exam, oral exam, oral presentation; project work, written term paper (and other exam forms agreed upon with lecturers).
7	**Requirement for the award of credit points** Regular active attendance as well as successfully completed module examination.
8	**Use of module** (in other study programmes) • Some of the courses for the module are also offered in the following degree programmes: Single-or double-subject Master's programmes in (i) Philosophy, (ii) Social Science, (iii) Media Studies, (iv) General and Comparative Literature, (v) German Studies, (vi) Romance Philology, (vii) English/American Studies, (Viii) History, and (ix) Computer Science. • In module EM3, the knowledge acquired in the modules BM1 and BM2 will be deepened and specialized. In combination with the modules EM1 or EM2 the students will be able to make an informed decision (based on their interests and skills) on whether they take the modules RM or EM in the second study year.
9	**Proportion of the grade in the final grade** The module grade is included in the final grade with a share of 12,5%.
10	**Module representative and main lecturers** Module representatives: *Prof. Dr. Dunja Šešelja, Prof. Dr. Christian Straßer* • Lecturers: Prof. Dr. Jan Baedke, Prof. Dr. Dunja Šešelja, Prof. Dr. Christian Straßer, Prof. Dr. Klaus Steigleder, Prof. Dr. Sebastian Weydner-Volkmann, Prof. Dr. Eva Weber-Guskar (all

	Philosophy); Prof. Dr. Estrid Sørensen, Prof. Dr. Jürgen Straub (both Social Sciences); Prof. Dr. Anna Tuschling, Prof. Dr. Florian Sprenger, Prof. Dr. Astrid Deuber-Mankowsky (Media Studies); Prof. Dr. Natalie Binczek (German Studies), Prof. Dr. Armin Schäfer (German Studies), Prof. Dr. Linda Simonis (General and Comparative Literature), Prof. Dr. Yvonne Wübben (German Studies), Prof. Dr. Frank Uekötter (History), Prof. Dr. Thomas Zeume (Computer Science). Other lecturers assigned to the named chairs and research groups and other lecturers of the philosophy faculty (especially those with a focus on practical philosophy/ethics of digital methods and techniques) will also be able to offer module sections.
11	**Other information**

Elective Module: "Research Module"

Code	Workload	Credits	Semester	Frequency	Duration
RM	900 h	30 CP	3rd semester	Every semester	1 semester

1	Courses	Contact hours	Self-study	Group size
	a) Courses at a foreign (or German) university with a focus on HPS or Logic to the extent of 8 SWS or 24 CP.	ca. 120 h	ca. 600 h	ca. 20 – 40
	b) Independent project (incl. research plan and investigation for MA thesis) in the equivalent of 6 CP.		ca. 180 h	

2 Learning outcomes / competences

The students

- have in-depth knowledge of a specific research topic in the field of philosophy of science, logic, history of science and logic, and/or the cultural and social science approaches and core topics of the programme,
- are particularly able to identify the systematic specifics of their research topic, identify problem areas, and develop solutions based on the knowledge and methodological skills acquired in the programme,
- have the systemic competence to apply their acquired knowledge and methodological skills to new areas and to independently develop original scientific questions within the thematic focus of the programme,
- are able to communicate the acquired expertise appropriately and to let other students participate in this expertise in teams,
- have an overview of the international research literature in the chosen thematic focus and are able to critically evaluate the state of research,
- can, advised by teachers, draw up a largely independent research plan and carry out independent research work, also with regard to the subject area of the later, research-oriented master's thesis,
- are able to independently design interdisciplinary work formats and organize their implementation.

3 Content

- The module serves to deepen the student's own research questions on one of the thematic focal points of the study programme. It comprises a course component and a largely independently conducted and research-oriented project component. In terms of content, both parts should be closely linked to one other.
- ad (a): Courses can be taken at a foreign university with an HPS or logic focus or at a German university where one of the programme's focuses is strongly represented. It has a total scope of 8 SWS or 24 CPs. Up to half of this amount can be taken trough free activities and formats initiated by the students themselves, supervised by lecturers and carried out jointly, such as 'reading groups', workshops, summer schools and lecture series.

	• ad (b): Project planning and implementation are largely independently organized by the student; the lecturers advise on the content orientation and methodological procedure. The project can take the form of intensive library research, consulting special databases and digitized text corpora, archival and museum research, or a combination of these activities. The students make a connection to the course topic(s) (a), which is documented in the form of a project report of approx. 10 - 15 pages. • The module offers students the possibility to combine teaching formats with practical research on a focal point of the programme, and to independently design suitable teaching formats and participate in their implementation.
4	**Teaching format** Project work and written presentation; seminar, lecture if applicable, lecture series, colloquia, workshops, summer schools, teaching formats organized by students independently (with supervision of the lecturers) to be combined with elements of research practice.
5	**Participation requirements** **Formally:** Completion of the modules BM1 and BM2, as well as one out of two elective modules from EM1 – EM3. **Content related:** The two basic modules must be completed, 2 elective modules must have been taken and one of them must also be completed so that the time for the research module is not burdened by the completion of written assignments, etc.
6	**Exam forms** The module is completed with a grade. The forms of examination depend on the chosen courses of the specialization; in addition, a project report needs to be written. The grading is based on the average value of the examination results of the courses chosen (with a weighting of 80%) and the individual project report supervised and graded by two lecturers (with a weighting of 20%).
7	**Requirements for award of credit points** a) successful completion of the chosen courses; b) successful completion of the project, documented in the project report.
8	**Use of module** (in other study programmes) • This module was created for the HPS+Logic MA programme. • In this module, topics and questions explored by the students in two of the modules EM1-3 (and building on general knowledge acquired in modules BM1-2) will be addressed independently in a research-oriented setting. This specialization will help students to choose a research topic for the Master thesis in the final module FM.
9	**Proportion of grade in the final grade** The module grade is included in the final grade with a share of 15%.
10	**Module representative and main lecturers** • Module representatives: *Prof. Dr. Jan Baedke, Prof. Dr. Heinrich Wansing* Main lecturers and mentors: Prof. Dr. Jan Baedke, Prof. Dr. Helmut Pulte, PD Dr. Nils Kürbis, Prof. Dr. Dolf Rami, Prof. Dunja Šešelja, Prof. Dr. Christian Straßer, Prof. Dr. Heinrich Wansing. Other lecturers of the involved chairs and cooperating departments will also offer • parts of the module.

11	**Other information**

Elective Module: "Internship Module"

Code	Workload	Credits	Semester	Frequency	Duration
IM	900 h	30 CP	3rd semester	Every semester	1 semester

1	Courses	Contact hours	Self-study	Group size
	Internship	520 h	380 h	-

2 Learning outcomes / competences

The students

- have documented and reflected on their experiences in the internship with reference to relevant content of the master programme in an internship report,
- understand the connections between theory and practice; but also their difference,
- are able to evaluate their practical experience with regard to a later professional activity,
- are especially able to identify the possible focal points of their internship activities (science management, science mediation, science promotion, science communication) and to relate them to the knowledge and methodological skills acquired in the master programme,
- know which hurdles must be overcome in practical work and know strategies to deal with them,
- are able to work within a (possibly larger) team and carry out their own practical project and represent it within a team,
- are able to develop strategies to communicate scientific content to the public in a philosophically and historically reflected form or to structurally promote scientific discourse,
- are capable of practice-oriented problem solving under time pressure by means of analytical-reflective competences.

3 Content

- 3-month internship,
- The internship should be directly related to one of the main topics of the master programme. It can be completed in institutions with a focus on 'knowledge transfer' (e.g., publishing houses, science editorial offices of newspapers, student laboratories, museums) and 'science promotion' (e.g., foundations, ministries) or also in archives,
- In this course, students are expected to supervise their own project with a clear scientific-theoretical, logical, historical, science-political or -sociological reference and to present it in an internship report, which can serve as the basis for the master's thesis,
- Students are supervised before, during and after the internship by two lecturers and, if necessary, supported in their internship search: 'Preparation' refers to the discussion of relevant issues of the specific internship site in the context of the master programme; 'supervision' refers to potential problems of internship implementation and expected outcomes; 'follow-up' refers to the evaluation of the internship experience in conjunction with discussion of the internship report.

	• Ideally, the same lecturers also supervise the subsequent master's thesis.
4	**Teaching format** • Supervision by lecturers before and during the internship; afterwards: detailed discussion of the submitted internship report and the internship experience gained. • Provision of supplementary materials via the e-Learning platform.
5	**Participation Requirements** **Formally:** Completion of the modules BM1 and BM2, as well as one out of two elective modules from EM1 – EM3. **Content related:** The two basic modules must be completed, 2 elective modules must have been taken and one of them must also be completed so that the time for the internship module is not burdened by the completion of written assignments, etc.
6	**Exam forms** • Internship report: The report consists of an interim report and a final report. Both parts should be approximately 10 standard pages. In the report, essential elements of the internship are presented and critically reflected upon, • The interim report is submitted at the earliest after the third of the internship, at the latest after half of the internship. It presents and discusses initial internship experiences and compares these with prior expectations of the internship. • The final report, which is reviewed by the first supervisor, contains an evaluation of the internship experience in the context of the MA programme, and, if possible, should open up a perspective on a topic of the Master's thesis.
7	**Requirement for award of credit points** The internship must be confirmed by the employer as successful and the internship report must be submitted and graded.
8	**Use of module** (in other study programmes) • This module was created for the HPS+Logic MA programme. • In this module, topics and questions explored by the students in two of the modules EM1-3 (and building on general knowledge acquired in modules BM1-2) will be addressed independently in a practice-oriented setting. This specialization on activities in science management, science mediation, science promotion or science communication will help students to choose a practice-focused topic for the Master thesis in the final module FM.
9	**Proportion of grade in the final grade** The module grade is included in the final grade with a share of 15%.
10	**Module representative and main lecturers** Module representative: *Prof. Dr. Jan Baedke, Prof. Dr. Dolf Rami* Lecturers: In addition to the module supervisors other lecturers in the programme will also supervise the internships.
11	**Other information**

Mandatory module: "Final Module"

Code	Workload	Credits	Semester	Frequency	Duration
FM	900 h	30 CP	4th semester	According to demand (winter and summer term)	1 semester

1	Courses (module parts)	Contact hours	Self-study	Group size
	a) Colloquium/defence	30 h	30 h	20
	b) Master's thesis	-	840 h	

2 Learning outcomes / competences

The students

- have broad knowledge and good methodological skills in the different areas of the master programme,
- possess in-depth knowledge and detailed methodological skills in one of the focus areas of the master programme,
- are able to independently write a specialized research paper, reflect on the recent research debates and integrate them in an original way,
- are able to present the conception, structure and main results of their work in an adequate form and defend it appropriately to lecturers and other students in a scientific discussion,
- are able to productively take up suggestions for their own research topic and to represent independently developed theses to lecturers and students.

3 Content

- The module serves to complete the HPS+Logic programme. The content of the module is therefore largely determined by the thematic and professional emphasis set in the second year of study, which is in line with the topic of the Master's thesis. It can be on an area of philosophy of science, logic, history of science and history of logic, or on cultural and social science reflection on science or issues of science communication.
- The content of the module therefore also reflects the decision to be made in the third semester between the research and the internship module. The knowledge and experience gained there should be incorporated into both the Master's thesis and the final defence colloquium.
- The specification of the content of the Master's thesis is based on the particular interests of the students within the set focus of study and is done in consultation with the supervisor of the thesis.
- In the colloquium, students present the concept, work steps and methods as well as the main results of their Master's thesis, building on their study focus set in the second year of the programme.
- The oral examination at the end of the defence colloquium is based on the topic of the Master's thesis, but also draws on the broader scientific context of the topic, as developed in the course of programme.

4 Teaching format (activities)

- ad (a): Lecture with appropriate presentation and discussion,

	• ad (b): Independent writing of an approximately 80-page master's thesis.
5	**Participation requirement** **Formally:** Admission to the finale module according to § 16 of the examination regulations. Modules of the programme must have been completed to the extent of at least 80 CP. **Content related:** In the case of a research-oriented Master's thesis, the preceding research module should be fully completed, if possible.
6	**Exam forms** A graded defence of the Master's thesis; a positive assessment of the Master's thesis.
7	**Requirement for the award of credit points** • ad (a): Oral defence of the Master's thesis (30-40min presentation, plus max. 45min discussion), • ad (b): Passed Master's thesis (i.e., overall grade of 4.0 or better).
8	**Use of module** (in other study programmes) • The module cannot be studied as part of other programmes.
9	**Proportion of grade in the final grade** The grade of the Master's thesis is taken into account in the module grade with a share of 80%, the grade of the oral defence is taken into account in the module grade with a share of 20%. The overall grade of the final module is included in the final grade with a share of 35%.
10	**Module representative and main lecturers** • Module representative: *Prof. Dr. Jan Baedke, Prof. Dr. Heinrich Wansing* • Lecturers: Prof. Dr. Jan Baedke and Prof. Dr. Heinrich Wansing; and other lecturers that are supervisors of Master's theses, who then take part of their students' defence colloquia.
11	**Other information** The module is specifically designed for the HPS+Logic programme and can only be taken by students of this programme.