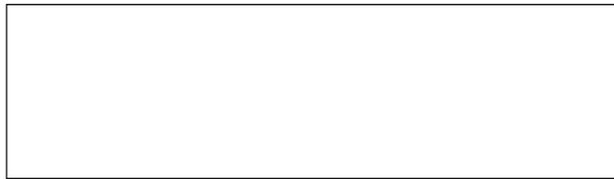




LUDWIG-
MAXIMILIANS-
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MÜNCHEN



Module Catalogue
Master's Programme: Logic and Philosophy of Science
(Master of Arts, M.A.)

(120 ECTS-Punkte)

Based on the *Prüfungs- und Studienordnung* of 19 July 2017

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Abbreviations and annotations

CP	Credit Points, ECTS credits
ECTS	European Credit Transfer and Accumulation System
h	hours
SoSe	summer semester
SWS	contact hours
WiSe	winter semester
WP	compulsory elective course
P	mandatory course

1. The ECTS credits assigned in the Module Catalogue are designated as follows: Credit Points not listed in parentheses are awarded when the pertinent examination of the module or module parts have/has been completed successfully. Credit Points in parentheses are listed for calculatory purposes only.
2. The semester for taking a module can either be binding or may be considered as a recommendation, depending on the applicable data in Anlage 2 of the *Prüfungs- und Studienordnung* for your Programme. In this Module catalogue, the options are indicated as „scheduled semester“ and „recommended semester“.
3. Please note: The Module Catalogue is merely intended to serve as an orientation whereas the provisions of the applicable version of the *Prüfungs- und Studienordnung* (in German only) of your Programme are legally binding. See: www.lmu.de/studienangebot and select your Programme.

Module: P 1 Master Forum I

Programme Master's Programme: Logic and Philosophy of Science
(Master of Arts, M.A.)

Related module parts

Course type	Course (mandatory)	Rotation	Contact hours	Self-study hours	ECTS
Colloquium	P 1.1 Central Topics in Logic and Philosophy of Science 1	WiSe	30 h (2 SWS)	150 h	(6)

For successful completion of the module, 6 ECTS credits have to be acquired. Class attendance averages about 2 contact hours. Including time for self-study, 180 hours have to be invested.

Module type Mandatory module with mandatory course

Usability of the Module in other Programmes None

Elective guidelines None

Entry requirements None

Semester Recommended semester: 1

Duration The completion of the module takes 1 semester.

Content This module introduces students to central topics logic and philosophy of science. A seminar in this module is typically composed of a formal/mathematical part (in which students learn the technical details of relevant formal techniques, such as decision and game theory, probability theory and statistics, etc.) and a philosophical part (serving as a motivation or an application of a particular formal technique).

Learning outcomes The goal of this module consists in familiarizing the students with standard positions in the literature as well as with the current (philosophical and scientific) research. In particular, students are trained to master certain mathematical techniques that are relevant to logic and philosophy of science. In general, students are trained (a) to perform a well-informed literature research, (b) to competently grasp the arguments in specialized philosophical and scientific debates (here, in current debates in either logic or philosophy of science), (c) to write original research papers (in preparation for academic publishing), and (d) to present academic content (in preparation for giving research talks at academic conferences).

Type of examination Thesis or written exam

Type of assessment	The successful completion of the module will be graded.
Requirements for the gain of ECTS credits	ECTS credits will be granted when the module examination (or the examination of pertinent mandatory and potential elective compulsory module parts) has/have been completed successfully.
Responsible contact	Prof. Dr. Dr. Hannes Leitgeb, Prof. Dr. Stephan Hartmann
Language(s)	English
Additional information	None

Module: P 2 Formal Methods I

Programme Master's Programme: Logic and Philosophy of Science
(Master of Arts, M.A.)

Related module parts

Course type	Course (mandatory)	Rotation	Contact hours	Self-study hours	ECTS
Lecture	P 2.1 Methods in Mathematical Philosophy 1	WiSe	30 h (2 SWS)	90 h	(4)
Exercise	P 2.2 Practice Session in Mathematical Philosophy 1	WiSe	15 h (1 SWS)	45 h	(2)

For successful completion of the module, 6 ECTS credits have to be acquired. Class attendance averages about 3 contact hours. Including time for self-study, 180 hours have to be invested.

Module type Mandatory module with mandatory courses

Usability of the Module in other Programmes None

Elective guidelines None

Entry requirements None

Semester Recommended semester: 1

Duration The completion of the module takes 1 semester.

Content This module introduces students to (a) the meta-theory of propositional and first order logic, (b) the basics of set theory, (c) the theory of definitions and (d) the basics of modal logic. All of the above mentioned items are necessary for the successful completion of the master program.

Learning outcomes The goal of this module consists in familiarizing the students with: (a) standard proof-techniques for obtaining meta-logical results, (b) gain familiarity with set-theoretic notions in theory and practice, (c) learning the rules for formally correct definitions (with applications in both logic and set-theory), and (d) becoming a first glance in vast and powerful subject of modal logic which is a formal basis for many philosophical debates today.

Type of examination Thesis or written exam

Type of assessment The successful completion of the module will be graded.

Requirements for the gain of ECTS credits ECTS credits will be granted when the module examination (or the examination of pertinent mandatory and potential elective compulsory module parts) has/have been completed

successfully.

Responsible contact	Prof. Dr. Dr. Hannes Leitgeb
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Language(s)	English
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Additional information	None
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Module: WP 1 Logic I

Programme Master's Programme: Logic and Philosophy of Science
(Master of Arts, M.A.)

Related module parts

Course type	Course (mandatory)	Rotation	Contact hours	Self-study hours	ECTS
Seminar	WP 1.1 Master Course Logic 1	WiSe	30 h (2 SWS)	240 h	(9)

For successful completion of the module, 9 ECTS credits have to be acquired. Class attendance averages about 2 contact hours. Including time for self-study, 270 hours have to be invested.

Module type Compulsory elective module with mandatory course

Usability of the Module in other Programmes None

Elective guidelines With regard to the compulsory elective modules WP 1 – WP 24, six compulsory elective modules must be taken. In doing so, two of them should be taken in the 1st, two of them should be taken in the 2nd and two of them should be taken in the 3rd semester.

Entry requirements None

Semester Recommended semester: 1

Duration The completion of the module takes 1 semester.

Content This module introduces students to current debates in logic. This is achieved by a both presenting the logical topics and proofs with mathematical rigor and a thorough mathematical/logical training of the students.

Typical subjects in this module are: modal logic, philosophical logics (such as epistemic logic, deontic logic, logic of conditionals, probability logic, relevant logic, etc.), theories of truth, set theory, constructive logics, arithmetic and recursion theory, incompleteness theorems.

Learning outcomes The goal of this module consists in familiarizing the students with standard positions in the literature as well as with the current (mathematical and logical) research. In particular, students are trained to master certain mathematical techniques that are relevant to logic. In general, students are trained (a) to perform a well-informed literature research, (b) to competently grasp the arguments in current debates in either logic, (c) to write original research papers (in preparation for academic publishing), and (d) to present academic content (in preparation for giving research talks at academic conferences).

Type of examination	Thesis or written exam
Type of assessment	The successful completion of the module will be graded.
Requirements for the gain of ECTS credits	ECTS credits will be granted when the module examination (or the examination of pertinent mandatory and potential elective compulsory module parts) has/have been completed successfully.
Responsible contact	Prof. Dr. Dr. Hannes Leitgeb
Language(s)	English
Additional information	None

Module: WP 2 Logic II

Programme Master's Programme: Logic and Philosophy of Science (Master of Arts, M.A.)

Related module parts

Course type	Course (mandatory)	Rotation	Contact hours	Self-study hours	ECTS
Seminar	WP 2.1 Master Course Logic 2	WiSe	30 h (2 SWS)	240 h	(9)

For successful completion of the module, 9 ECTS credits have to be acquired. Class attendance averages about 2 contact hours. Including time for self-study, 270 hours have to be invested.

Module type Compulsory elective module with mandatory course

Usability of the Module in other Programmes None

Elective guidelines With regard to the compulsory elective modules WP 1 – WP 24, six compulsory elective modules must be taken. In doing so, two of them should be taken in the 1st, two of them should be taken in the 2nd and two of them should be taken in the 3rd semester.

Entry requirements None

Semester Recommended semester: 1

Duration The completion of the module takes 1 semester.

Content This module further introduces students to current debates in logic. Moreover, this module deepens and expands the areas discussed in Logic I. This is achieved by both presenting the logical topics and proofs with mathematical rigor and a thorough mathematical/logical training of the students. Typical subjects in this module are: modal logic, philosophical logics (such as epistemic logic, deontic logic, logic of conditionals, probability logic, relevant logic, etc.), theories of truth, set theory, constructive logics, arithmetic and recursion theory, incompleteness theorems.

Learning outcomes The goal of this module consists in familiarizing the students with standard positions in the literature as well as with the current (mathematical and logical) research. In particular, students are trained to master certain mathematical techniques that are relevant to logic. In general, students are trained (a) to perform a well-informed literature research, (b) to competently grasp the arguments in current debates in either logic, (c) to write original research papers (in preparation for academic publishing), and (d) to present academic content (in

preparation for giving research talks at academic conferences).

Type of examination

Thesis or written exam

Type of assessment

The successful completion of the module will be graded.

Requirements for the gain of ECTS credits

ECTS credits will be granted when the module examination (or the examination of pertinent mandatory and potential elective compulsory module parts) has/have been completed successfully.

Responsible contact

Prof. Dr. Dr. Hannes Leitgeb

Language(s)

English

Additional information

None

Module: WP 3 General Philosophy of Science I

Programme Master's Programme: Logic and Philosophy of Science (Master of Arts, M.A.)

Related module parts

Course type	Course (mandatory)	Rotation	Contact hours	Self-study hours	ECTS
Seminar	WP 3.1 Master Course General Philosophy of Science 1	WiSe	30 h (2 SWS)	240 h	(9)

For successful completion of the module, 9 ECTS credits have to be acquired. Class attendance averages about 2 contact hours. Including time for self-study, 270 hours have to be invested.

Module type Compulsory elective module with mandatory course

Usability of the Module in other Programmes None

Elective guidelines With regard to the compulsory elective modules WP 1 – WP 24, six compulsory elective modules must be taken. In doing so, two of them should be taken in the 1st, two of them should be taken in the 2nd and two of them should be taken in the 3rd semester.

Entry requirements None

Semester Recommended semester: 1

Duration The completion of the module takes 1 semester.

Content This module introduces students to the general philosophy of science. This subfield of philosophy of science deals with philosophical topics concerning several (perhaps all) scientific disciplines. The general philosophy of science includes (formal and social) epistemology, methodology, metaphysics, and ethics of science. The seminar in this module will focus on concrete subjects such as scientific reasoning, confirmation, explanation, models, theories, computer simulation, scientific realism, causation, probability, collaborative research, science and public policy, and risk assessment. In this module, we also offer seminars devoted to the work of influential philosophers of science (such as Carnap, Hempel and Popper) and "schools" (such as the Vienna Circle, Pragmatism, and Neo-Kantianism).

Learning outcomes The goal of this module consists in familiarizing the students with standard positions in the literature as well as with the current (philosophical and scientific) research. Students are trained (a) to perform a well-informed literature research, (b) to competently grasp the arguments in specialized

philosophical and scientific debates (typically concerning more than one scientific discipline), (c) to write original research papers (in preparation for academic publishing), and (d) to present academic content (in preparation for giving research talks at academic conferences).

Type of examination	Thesis or written exam
Type of assessment	The successful completion of the module will be graded.
Requirements for the gain of ECTS credits	ECTS credits will be granted when the module examination (or the examination of pertinent mandatory and potential elective compulsory module parts) has/have been completed successfully.
Responsible contact	Prof. Dr. Stephan Hartmann
Language(s)	English
Additional information	None

Module: WP 4 General Philosophy of Science II

Programme Master's Programme: Logic and Philosophy of Science (Master of Arts, M.A.)

Related module parts

Course type	Course (mandatory)	Rotation	Contact hours	Self-study hours	ECTS
Seminar	WP 4.1 Master Course General Philosophy of Science 2	WiSe	30 h (2 SWS)	240 h	(9)

For successful completion of the module, 9 ECTS credits have to be acquired. Class attendance averages about 2 contact hours. Including time for self-study, 270 hours have to be invested.

Module type Compulsory elective module with mandatory course

Usability of the Module in other Programmes None

Elective guidelines With regard to the compulsory elective modules WP 1 – WP 24, six compulsory elective modules must be taken. In doing so, two of them should be taken in the 1st, two of them should be taken in the 2nd and two of them should be taken in the 3rd semester.

Entry requirements None

Semester Recommended semester: 1

Duration The completion of the module takes 1 semester.

Content This module introduces students to the general philosophy of science. This module deepens and expands topics discussed in General Philosophy of Science I. This subfield of philosophy of science deals with philosophical topics concerning several (perhaps all) scientific disciplines. The general philosophy of science includes (formal and social) epistemology, methodology, metaphysics, and ethics of science. The seminar in this module will focus on concrete subjects such as scientific reasoning, confirmation, explanation, models, theories, computer simulation, scientific realism, causation, probability, collaborative research, science and public policy, and risk assessment. In this module, we also offer seminars devoted to the work of influential philosophers of science (such as Carnap, Hempel and Popper) and "schools" (such as the Vienna Circle, Pragmatism, and Neo-Kantianism).

Learning outcomes The goal of this module consists in familiarizing the students with standard positions in the literature as well as with the current (philosophical and scientific)

research. Students are trained (a) to perform a well-informed literature research, (b) to competently grasp the arguments in specialized philosophical and scientific debates (typically concerning more than one scientific discipline), (c) to write original research papers (in preparation for academic publishing), and (d) to present academic content (in preparation for giving research talks at academic conferences).

Type of examination	Thesis or written exam
Type of assessment	The successful completion of the module will be graded.
Requirements for the gain of ECTS credits	ECTS credits will be granted when the module examination (or the examination of pertinent mandatory and potential elective compulsory module parts) has/have been completed successfully.
Responsible contact	Prof. Dr. Stephan Hartmann
Language(s)	English
Additional information	None

Module: WP 5 Philosophy of the Special Sciences I

Programme Master's Programme: Logic and Philosophy of Science (Master of Arts, M.A.)

Related module parts

Course type	Course (mandatory)	Rotation	Contact hours	Self-study hours	ECTS
Seminar	WP 5.1 Master Course Philosophy of the Special Sciences 1	WiSe	30 h (2 SWS)	240 h	(9)

For successful completion of the module, 9 ECTS credits have to be acquired. Class attendance averages about 2 contact hours. Including time for self-study, 270 hours have to be invested.

Module type Compulsory elective module with mandatory course

Usability of the Module in other Programmes None

Elective guidelines With regard to the compulsory elective modules WP 1 – WP 24, six compulsory elective modules must be taken. In doing so, two of them should be taken in the 1st, two of them should be taken in the 2nd and two of them should be taken in the 3rd semester.

Entry requirements None

Semester Recommended semester: 1

Duration The completion of the module takes 1 semester.

Content This module introduces students to the philosophy of the special sciences – that is, to philosophical topics arising exclusively in one specific scientific discipline. The philosophy of the special sciences includes the philosophy of physics, climate science, chemistry, the life and medical sciences, psychology and the cognitive sciences, economics and the social sciences, computer science, and statistics. A seminar in this module will focus on concrete subjects such as specific problems of confirmation in the context of string theory, probabilities in quantum mechanics and statistical mechanics, simulations in climate science, randomized controlled trials in medical research, and frequentist versus Bayesian methods in statistics.

Learning outcomes The goal of this module consists in familiarizing the students with standard positions in the literature as well as with the current (philosophical and scientific) research. Students are trained (a) to perform a well-informed literature research, (b) to competently grasp

the arguments in specialized philosophical and scientific debates (here, in one specific scientific discipline), (c) to write original research papers (in preparation for academic publishing), and (d) to present academic content (in preparation for giving research talks at academic conferences).

Type of examination	Thesis or written exam
Type of assessment	The successful completion of the module will be graded.
Requirements for the gain of ECTS credits	ECTS credits will be granted when the module examination (or the examination of pertinent mandatory and potential elective compulsory module parts) has/have been completed successfully.
Responsible contact	Prof. Dr. Stephan Hartmann
Language(s)	English
Additional information	None

Module: WP 6 Philosophy of the Special Sciences II

Programme Master's Programme: Logic and Philosophy of Science (Master of Arts, M.A.)

Related module parts

Course type	Course (mandatory)	Rotation	Contact hours	Self-study hours	ECTS
Seminar	WP 6.1 Master Course Philosophy of the Special Sciences 2	WiSe	30 h (2 SWS)	240 h	(9)

For successful completion of the module, 9 ECTS credits have to be acquired. Class attendance averages about 2 contact hours. Including time for self-study, 270 hours have to be invested.

Module type Compulsory elective module with mandatory course

Usability of the Module in other Programmes None

Elective guidelines With regard to the compulsory elective modules WP 1 – WP 24, six compulsory elective modules must be taken. In doing so, two of them should be taken in the 1st, two of them should be taken in the 2nd and two of them should be taken in the 3rd semester.

Entry requirements None

Semester Recommended semester: 1

Duration The completion of the module takes 1 semester.

Content This module introduces students to the philosophy of the special sciences – that is, to philosophical topics arising exclusively in one specific scientific discipline. This module deepens and expands topics discussed in Philosophy of Special Sciences I. The philosophy of the special sciences includes the philosophy of physics, climate science, chemistry, the life and medical sciences, psychology and the cognitive sciences, economics and the social sciences, computer science, and statistics. A seminar in this module will focus on concrete subjects such as specific problems of confirmation in the context of string theory, probabilities in quantum mechanics and statistical mechanics, simulations in climate science, randomized controlled trials in medical research, and frequentist versus Bayesian methods in statistics.

Learning outcomes The goal of this module consists in familiarizing the students with standard positions in the literature as well as with the current (philosophical and scientific)

research. Students are trained (a) to perform a well-informed literature research, (b) to competently grasp the arguments in specialized philosophical and scientific debates (here, in one specific scientific discipline), (c) to write original research papers (in preparation for academic publishing), and (d) to present academic content (in preparation for giving research talks at academic conferences).

Type of examination	Thesis or written exam
Type of assessment	The successful completion of the module will be graded.
Requirements for the gain of ECTS credits	ECTS credits will be granted when the module examination (or the examination of pertinent mandatory and potential elective compulsory module parts) has/have been completed successfully.
Responsible contact	Prof. Dr. Stephan Hartmann
Language(s)	English
Additional information	None

Module: P 3 Master Forum II

Programme Master's Programme: Logic and Philosophy of Science
(Master of Arts, M.A.)

Related module parts

Course type	Course (mandatory)	Rotation	Contact hours	Self-study hours	ECTS
Colloquium	P 3.1 Central Topics in Logic and Philosophy of Science 2	SoSe	30 h (2 SWS)	150 h	(6)

For successful completion of the module, 6 ECTS credits have to be acquired. Class attendance averages about 2 contact hours. Including time for self-study, 180 hours have to be invested.

Module type Mandatory module with mandatory course

Usability of the Module in other Programmes None

Elective guidelines None

Entry requirements None

Semester Recommended semester: 2

Duration The completion of the module takes 1 semester.

Content This module introduces students to central topics, logic and philosophy of science. In particular, this module further expands and deepens topics of the previous Master forum I. A seminar in this module is typically composed of a formal/mathematical part (in which students learn the technical details of relevant formal techniques, such as decision and game theory, probability theory and statistics, etc.) and a philosophical part (serving as a motivation or an application of a particular formal technique).

Learning outcomes The goal of this module consists in familiarizing the students with standard positions in the literature as well as with the current (philosophical and scientific) research. In particular, students are trained to master certain mathematical techniques that are relevant to logic and philosophy of science. In general, students are trained (a) to perform a well-informed literature research, (b) to competently grasp the arguments in specialized philosophical and scientific debates (here, in current debates in either logic or philosophy of science), (c) to write original research papers (in preparation for academic publishing), and (d) to present academic content (in preparation for giving research talks at academic conferences).

Type of examination	Thesis or written exam
Type of assessment	The successful completion of the module will be graded.
Requirements for the gain of ECTS credits	ECTS credits will be granted when the module examination (or the examination of pertinent mandatory and potential elective compulsory module parts) has/have been completed successfully.
Responsible contact	Prof. Dr. Dr. Hannes Leitgeb, Prof. Dr. Stephan Hartmann
Language(s)	English
Additional information	None

Module: P 4 Formal Methods II

Programme Master's Programme: Logic and Philosophy of Science
(Master of Arts, M.A.)

Related module parts

Course type	Course (mandatory)	Rotation	Contact hours	Self-study hours	ECTS
Lecture	P 4.1 Methods in Mathematical Philosophy 2	SoSe	30 h (2 SWS)	90 h	(4)
Exercise	P 4.2 Practice Session in Mathematical Philosophy 2	SoSe	15 h (1 SWS)	45 h	(2)

For successful completion of the module, 6 ECTS credits have to be acquired. Class attendance averages about 3 contact hours. Including time for self-study, 180 hours have to be invested.

Module type Mandatory module with mandatory courses

Usability of the Module in other Programmes None

Elective guidelines None

Entry requirements None

Semester Recommended semester: 2

Duration The completion of the module takes 1 semester.

Content This module introduces students to programming agent-based simulation and other useful programming techniques and basics in statistics. All of the above mentioned items and skills are necessary for the successful completion of the master program.

Learning outcomes The goal of this module consists in familiarizing the students with standard programming techniques and basic statistics. In particular, students are trained to master certain computational/statistical techniques that are relevant to logic and philosophy of science.

Type of examination Thesis or written exam

Type of assessment The successful completion of the module will be graded.

Requirements for the gain of ECTS credits ECTS credits will be granted when the module examination (or the examination of pertinent mandatory and potential elective compulsory module parts) has/have been completed successfully.

Responsible contact Prof. Dr. Stephan Hartmann

Language(s) English

Additional information None

Module: WP 7 Philosophy of Logic and Mathematics I

Programme Master's Programme: Logic and Philosophy of Science
(Master of Arts, M.A.)

Related module parts

Course type	Course (mandatory)	Rotation	Contact hours	Self-study hours	ECTS
Seminar	WP 7.1 Master Course Philosophy of Logic and Mathematics 1	SoSe	30 h (2 SWS)	240 h	(9)

For successful completion of the module, 9 ECTS credits have to be acquired. Class attendance averages about 2 contact hours. Including time for self-study, 270 hours have to be invested.

Module type Compulsory elective module with mandatory course

Usability of the Module in other Programmes None

Elective guidelines With regard to the compulsory elective modules WP 1 – WP 24, six compulsory elective modules must be taken. In doing so, two of them should be taken in the 1st, two of them should be taken in the 2nd and two of them should be taken in the 3rd semester.

Entry requirements None

Semester Recommended semester: 2

Duration The completion of the module takes 1 semester.

Content The focus of this module lies on the methodology, ontology and epistemology of formal sciences such as logic and mathematics. The goal here is not on the study of the formal details of a particular logical/mathematical theory but to study fundamental notions such as truth and proof in logic and mathematics. A typical course in this section is on the theorems of Gödel, Tarski and Gentzen and on current developments in the philosophy of logic and mathematics; such as, e.g. logical pluralism, semantic or syntactic foundation of logic, normativity of logic, foundations of mathematics.

Learning outcomes The goal of this module consists in familiarizing the students with standard positions in the literature as well as with the current (mathematical and logical) research. In particular, students are trained to master certain techniques that are relevant to mathematical philosophy. In general, students are trained (a) to perform a well-informed literature research, (b) to competently grasp the arguments in current debates in philosophy of logic and mathematics, (c) to write original

research papers (in preparation for academic publishing), and (d) to present academic content (in preparation for giving research talks at academic conferences).

Type of examination	Thesis or written exam
Type of assessment	The successful completion of the module will be graded.
Requirements for the gain of ECTS credits	ECTS credits will be granted when the module examination (or the examination of pertinent mandatory and potential elective compulsory module parts) has/have been completed successfully.
Responsible contact	Prof. Dr. Dr. Hannes Leitgeb
Language(s)	English
Additional information	None

Module: WP 8 Philosophy of Logic and Mathematics II

Programme Master's Programme: Logic and Philosophy of Science
(Master of Arts, M.A.)

Related module parts

Course type	Course (mandatory)	Rotation	Contact hours	Self-study hours	ECTS
Seminar	WP 8.1 Master Course Philosophy of Logic and Mathematics 2	SoSe	30 h (2 SWS)	240 h	(9)

For successful completion of the module, 9 ECTS credits have to be acquired. Class attendance averages about 2 contact hours. Including time for self-study, 270 hours have to be invested.

Module type Compulsory elective module with mandatory course

Usability of the Module in other Programmes None

Elective guidelines With regard to the compulsory elective modules WP 1 – WP 24, six compulsory elective modules must be taken. In doing so, two of them should be taken in the 1st, two of them should be taken in the 2nd and two of them should be taken in the 3rd semester.

Entry requirements None

Semester Recommended semester: 2

Duration The completion of the module takes 1 semester.

Content The focus of this module lies on the methodology, ontology and epistemology of formal sciences such as logic and mathematics. It deepens and expands topics discussed in the module Philosophy of Logic and Mathematics I. The goal here is not on the study of the formal details of a particular logical/mathematical theory but to study fundamental notions such as truth and proof in logic and mathematics. A typical course in this section is on the theorems of Gödel, Tarski and Gentzen and on current developments in the philosophy of logic and mathematics; such as, e.g. logical pluralism, semantic or syntactic foundation of logic, normativity of logic, foundations of mathematics.

Learning outcomes The goal of this module consists in familiarizing the students with standard positions in the literature as well as with the current (mathematical and logical) research. In particular, students are trained to master certain techniques that are relevant to mathematical philosophy. In general, students are trained (a) to perform a well-

informed literature research, (b) to competently grasp the arguments in current debates in philosophy of logic and mathematics, (c) to write original research papers (in preparation for academic publishing), and (d) to present academic content (in preparation for giving research talks at academic conferences).

Type of examination	Thesis or written exam
Type of assessment	The successful completion of the module will be graded.
Requirements for the gain of ECTS credits	ECTS credits will be granted when the module examination (or the examination of pertinent mandatory and potential elective compulsory module parts) has/have been completed successfully.
Responsible contact	Prof. Dr. Dr. Hannes Leitgeb
Language(s)	English
Additional information	None

Module: WP 9 Philosophy of Logic and Mathematics III

Programme Master's Programme: Logic and Philosophy of Science (Master of Arts, M.A.)

Related module parts

Course type	Course (mandatory)	Rotation	Contact hours	Self-study hours	ECTS
Seminar	WP 9.1 Master Course Philosophy of Logic and Mathematics 3	SoSe	30 h (2 SWS)	240 h	(9)

For successful completion of the module, 9 ECTS credits have to be acquired. Class attendance averages about 2 contact hours. Including time for self-study, 270 hours have to be invested.

Module type Compulsory elective module with mandatory course

Usability of the Module in other Programmes None

Elective guidelines With regard to the compulsory elective modules WP 1 – WP 24, six compulsory elective modules must be taken. In doing so, two of them should be taken in the 1st, two of them should be taken in the 2nd and two of them should be taken in the 3rd semester.

Entry requirements None

Semester Recommended semester: 2

Duration The completion of the module takes 1 semester.

Content The focus of this module lies on the methodology, ontology and epistemology of formal sciences such as logic and mathematics. It deepens and expands topics discussed in the modules Philosophy of Logic and Mathematics I and II. The goal here is not on the study of the formal details of a particular logical/mathematical theory but to study fundamental notions such as truth and proof in logic and mathematics. A typical course in this section is on the theorems of Gödel, Tarski and Gentzen and on current developments in the philosophy of logic and mathematics; such as, e.g. logical pluralism, semantic or syntactic foundation of logic, normativity of logic, foundations of mathematics.

Learning outcomes The goal of this module consists in familiarizing the students with standard positions in the literature as well as with the current (mathematical and logical) research. In particular, students are trained to master certain techniques that are relevant to mathematical philosophy. In general, students are trained (a) to perform a well-

informed literature research, (b) to competently grasp the arguments in current debates in philosophy of logic and mathematics, (c) to write original research papers (in preparation for academic publishing), and (d) to present academic content (in preparation for giving research talks at academic conferences).

Type of examination	Thesis or written exam
Type of assessment	The successful completion of the module will be graded.
Requirements for the gain of ECTS credits	ECTS credits will be granted when the module examination (or the examination of pertinent mandatory and potential elective compulsory module parts) has/have been completed successfully.
Responsible contact	Prof. Dr. Dr. Hannes Leitgeb
Language(s)	English
Additional information	None

Module: WP 10 Philosophy of Logic and Mathematics IV

Programme Master's Programme: Logic and Philosophy of Science
(Master of Arts, M.A.)

Related module parts

Course type	Course (mandatory)	Rotation	Contact hours	Self-study hours	ECTS
Seminar	WP 10.1 Master Course Philosophy of Logic and Mathematics 4	SoSe	30 h (2 SWS)	240 h	(9)

For successful completion of the module, 9 ECTS credits have to be acquired. Class attendance averages about 2 contact hours. Including time for self-study, 270 hours have to be invested.

Module type Compulsory elective module with mandatory course

Usability of the Module in other Programmes None

Elective guidelines With regard to the compulsory elective modules WP 1 – WP 24, six compulsory elective modules must be taken. In doing so, two of them should be taken in the 1st, two of them should be taken in the 2nd and two of them should be taken in the 3rd semester.

Entry requirements None

Semester Recommended semester: 2

Duration The completion of the module takes 1 semester.

Content The focus of this module lies on the methodology, ontology and epistemology of formal sciences such as logic and mathematics. It deepens and expands topics discussed in the modules Philosophy of Logic and Mathematics I-III. The goal here is not on the study of the formal details of a particular logical/mathematical theory but to study fundamental notions such as truth and proof in logic and mathematics. A typical course in this section is on the theorems of Gödel, Tarski and Gentzen and on current developments in the philosophy of logic and mathematics; such as, e.g. logical pluralism, semantic or syntactic foundation of logic, normativity of logic, foundations of mathematics.

Learning outcomes The goal of this module consists in familiarizing the students with standard positions in the literature as well as with the current (mathematical and logical) research. In particular, students are trained to master certain techniques that are relevant to mathematical philosophy. In general, students are trained (a) to perform a well-

informed literature research, (b) to competently grasp the arguments in current debates in philosophy of logic and mathematics, (c) to write original research papers (in preparation for academic publishing), and (d) to present academic content (in preparation for giving research talks at academic conferences).

Type of examination	Thesis or written exam
Type of assessment	The successful completion of the module will be graded.
Requirements for the gain of ECTS credits	ECTS credits will be granted when the module examination (or the examination of pertinent mandatory and potential elective compulsory module parts) has/have been completed successfully.
Responsible contact	Prof. Dr. Dr. Hannes Leitgeb
Language(s)	English
Additional information	None

Module: WP 11 Rational Choice and Formal Epistemology I

Programme Master's Programme: Logic and Philosophy of Science
(Master of Arts, M.A.)

Related module parts

Course type	Course (mandatory)	Rotation	Contact hours	Self-study hours	ECTS
Seminar	WP 11.1 Master Course Rational Choice and Formal Epistemology 1	SoSe	30 h (2 SWS)	240 h	(9)

For successful completion of the module, 9 ECTS credits have to be acquired. Class attendance averages about 2 contact hours. Including time for self-study, 270 hours have to be invested.

Module type Compulsory elective module with mandatory course

Usability of the Module in other Programmes None

Elective guidelines With regard to the compulsory elective modules WP 1 – WP 24, six compulsory elective modules must be taken. In doing so, two of them should be taken in the 1st, two of them should be taken in the 2nd and two of them should be taken in the 3rd semester.

Entry requirements None

Semester Recommended semester: 2

Duration The completion of the module takes 1 semester.

Content This module introduces students to topics in rational choice theory (and game theory) and formal epistemology. A seminar in this module is typically composed of a formal/mathematical part (in which students learn the technical details of relevant formal techniques, such as decision and game theory, probabilities and statistics, etc.) and a philosophical part (serving as a motivation or an application of a particular formal technique). It will focus on concrete subjects such as concepts of rationality, the concept of belief, rational belief revision, confirmation, evidence, coherence, reliability, among other topics.

Learning outcomes The goal of this module consists in familiarizing the students with standard positions in the literature as well as with the current (philosophical and scientific) research. In particular, students are trained to master certain formal techniques that are relevant to epistemology. In general, students are trained (a) to perform a well-informed literature research, (b) to competently grasp the

arguments in specialized philosophical and scientific debates (here, in one specific scientific discipline), (c) to write original research papers (in preparation for academic publishing), and (d) to present academic content (in preparation for giving research talks at academic conferences).

Type of examination	Thesis or written exam
Type of assessment	The successful completion of the module will be graded.
Requirements for the gain of ECTS credits	ECTS credits will be granted when the module examination (or the examination of pertinent mandatory and potential elective compulsory module parts) has/have been completed successfully.
Responsible contact	Prof. Dr. Stephan Hartmann
Language(s)	English
Additional information	None

Module: WP 12 Rational Choice and Formal Epistemology II

Programme Master's Programme: Logic and Philosophy of Science
(Master of Arts, M.A.)

Related module parts

Course type	Course (mandatory)	Rotation	Contact hours	Self-study hours	ECTS
Seminar	WP 12.1 Master Course Rational Choice and Formal Epistemology 2	SoSe	30 h (2 SWS)	240 h	(9)

For successful completion of the module, 9 ECTS credits have to be acquired. Class attendance averages about 2 contact hours. Including time for self-study, 270 hours have to be invested.

Module type Compulsory elective module with mandatory course

Usability of the Module in other Programmes None

Elective guidelines With regard to the compulsory elective modules WP 1 – WP 24, six compulsory elective modules must be taken. In doing so, two of them should be taken in the 1st, two of them should be taken in the 2nd and two of them should be taken in the 3rd semester.

Entry requirements None

Semester Recommended semester: 2

Duration The completion of the module takes 1 semester.

Content This module introduces students to topics in rational choice theory (and game theory) and formal epistemology. The module deepens and expands topics discussed in the module Rational Choice and Formal Epistemology I. A seminar in this module is typically composed of a formal/mathematical part (in which students learn the technical details of relevant formal techniques, such as decision and game theory, probabilities and statistics, etc.) and a philosophical part (serving as a motivation or an application of a particular formal technique). It will focus on concrete subjects such as concepts of rationality, the concept of belief, rational belief revision, confirmation, evidence, coherence, reliability, among other topics.

Learning outcomes The goal of this module consists in familiarizing the students with standard positions in the literature as well as with the current (philosophical and scientific) research. In particular, the module deepens and expands topics discussed in the module Rational Choice and Formal

Epistemology I. Students are trained to master certain formal techniques that are relevant to epistemology. In general, students are trained (a) to perform a well-informed literature research, (b) to competently grasp the arguments in specialized philosophical and scientific debates (here, in one specific scientific discipline), (c) to write original research papers (in preparation for academic publishing), and (d) to present academic content (in preparation for giving research talks at academic conferences).

Type of examination	Thesis or written exam
Type of assessment	The successful completion of the module will be graded.
Requirements for the gain of ECTS credits	ECTS credits will be granted when the module examination (or the examination of pertinent mandatory and potential elective compulsory module parts) has/have been completed successfully.
Responsible contact	Prof. Dr. Stephan Hartmann
Language(s)	English
Additional information	None

Module: WP 13 Rational Choice and Formal Epistemology III

Programme Master's Programme: Logic and Philosophy of Science
(Master of Arts, M.A.)

Related module parts

Course type	Course (mandatory)	Rotation	Contact hours	Self-study hours	ECTS
Seminar	WP 13.1 Master Course Rational Choice and Formal Epistemology 3	SoSe	30 h (2 SWS)	240 h	(9)

For successful completion of the module, 9 ECTS credits have to be acquired. Class attendance averages about 2 contact hours. Including time for self-study, 270 hours have to be invested.

Module type Compulsory elective module with mandatory course

Usability of the Module in other Programmes None

Elective guidelines With regard to the compulsory elective modules WP 1 – WP 24, six compulsory elective modules must be taken. In doing so, two of them should be taken in the 1st, two of them should be taken in the 2nd and two of them should be taken in the 3rd semester.

Entry requirements None

Semester Recommended semester: 2

Duration The completion of the module takes 1 semester.

Content This module introduces students to topics in rational choice theory (and game theory) and formal epistemology. A seminar in this module is typically composed of a formal/mathematical part (in which students learn the technical details of relevant formal techniques, such as decision and game theory, probabilities and statistics, etc.) and a philosophical part (serving as a motivation or an application of a particular formal technique). It will focus on concrete subjects such as concepts of rationality, the concept of belief, rational belief revision, confirmation, evidence, coherence, reliability, among other topics.

Learning outcomes The goal of this module consists in familiarizing the students with standard positions in the literature as well as with the current (philosophical and scientific) research. In particular, students are trained to master certain formal techniques that are relevant to epistemology. In general, students are trained (a) to perform a well-informed literature research, (b) to

competently grasp the arguments in specialized philosophical and scientific debates (here, in one specific scientific discipline), (c) to write original research papers (in preparation for academic publishing), and (d) to present academic content (in preparation for giving research talks at academic conferences).

Type of examination	Thesis or written exam
Type of assessment	The successful completion of the module will be graded.
Requirements for the gain of ECTS credits	ECTS credits will be granted when the module examination (or the examination of pertinent mandatory and potential elective compulsory module parts) has/have been completed successfully.
Responsible contact	Prof. Dr. Stephan Hartmann
Language(s)	English
Additional information	None

Module: WP 14 Rational Choice and Formal Epistemology IV

Programme Master's Programme: Logic and Philosophy of Science
(Master of Arts, M.A.)

Related module parts

Course type	Course (mandatory)	Rotation	Contact hours	Self-study hours	ECTS
Seminar	WP 14.1 Master Course Rational Choice and Formal Epistemology 4	SoSe	30 h (2 SWS)	240 h	(9)

For successful completion of the module, 9 ECTS credits have to be acquired. Class attendance averages about 2 contact hours. Including time for self-study, 270 hours have to be invested.

Module type Compulsory elective module with mandatory course

Usability of the Module in other Programmes None

Elective guidelines With regard to the compulsory elective modules WP 1 – WP 24, six compulsory elective modules must be taken. In doing so, two of them should be taken in the 1st, two of them should be taken in the 2nd and two of them should be taken in the 3rd semester.

Entry requirements None

Semester Recommended semester: 2

Duration The completion of the module takes 1 semester.

Content This module introduces students to topics in rational choice theory (and game theory) and formal epistemology. A seminar in this module is typically composed of a formal/mathematical part (in which students learn the technical details of relevant formal techniques, such as decision and game theory, probabilities and statistics, etc.) and a philosophical part (serving as a motivation or an application of a particular formal technique). It will focus on concrete subjects such as concepts of rationality, the concept of belief, rational belief revision, confirmation, evidence, coherence, reliability, among other topics.

Learning outcomes The goal of this module consists in familiarizing the students with standard positions in the literature as well as with the current (philosophical and scientific) research. In particular, students are trained to master certain formal techniques that are relevant to epistemology. In general, students are trained (a) to perform a well-informed literature research, (b) to

competently grasp the arguments in specialized philosophical and scientific debates, (c) to write original research papers (in preparation for academic publishing), and (d) to present academic content (in preparation for giving research talks at academic conferences).

Type of examination	Thesis or written exam
Type of assessment	The successful completion of the module will be graded.
Requirements for the gain of ECTS credits	ECTS credits will be granted when the module examination (or the examination of pertinent mandatory and potential elective compulsory module parts) has/have been completed successfully.
Responsible contact	Prof. Dr. Stephan Hartmann
Language(s)	English
Additional information	None

Module: WP 15 Themes in Analytic Philosophy I

Programme Master's Programme: Logic and Philosophy of Science (Master of Arts, M.A.)

Related module parts

Course type	Course (mandatory)	Rotation	Contact hours	Self-study hours	ECTS
Seminar	WP 15.1 Master Course Themes in Analytic Philosophy 1	SoSe	30 h (2 SWS)	240 h	(9)

For successful completion of the module, 9 ECTS credits have to be acquired. Class attendance averages about 2 contact hours. Including time for self-study, 270 hours have to be invested.

Module type Compulsory elective module with mandatory course

Usability of the Module in other Programmes None

Elective guidelines With regard to the compulsory elective modules WP 1 – WP 24, six compulsory elective modules must be taken. In doing so, two of them should be taken in the 1st, two of them should be taken in the 2nd and two of them should be taken in the 3rd semester.

Entry requirements None

Semester Recommended semester: 2

Duration The completion of the module takes 1 semester.

Content This module introduces students to central themes in analytic philosophy. Many central themes in logic and philosophy of science are (historically and systematically) rooted in the analytic tradition – particularly, topics in analytic philosophy of language (such as theories of truth and meaning), epistemology (such as theories knowledge and justification), and metaphysics (such as debates on realism and theories of causation). The central goal of this module is to emphasize the continuity and also the subtle differences between logic and philosophy of science, on the one hand, and analytic philosophy, on the other hand. Typical seminars are devoted to the work of influential analytic philosophers.

Learning outcomes The goal of this module consists in familiarizing the students with standard positions in the literature as well as with the current (philosophical and scientific) research. The overarching learning goal consists in making the students aware of the continuity and also

the subtle differences between logic and philosophy of science, on the one hand, and analytic philosophy, on the other hand. Students are trained (a) to perform a well-informed literature research, (b) to competently grasp the arguments in specialized philosophical and scientific debates, (c) to write original research papers (in preparation for academic publishing), and (d) to present academic content (in preparation for giving research talks at academic conferences).

Type of examination	Thesis or written exam
Type of assessment	The successful completion of the module will be graded.
Requirements for the gain of ECTS credits	ECTS credits will be granted when the module examination (or the examination of pertinent mandatory and potential elective compulsory module parts) has/have been completed successfully.
Responsible contact	Prof. Dr. Dr. Hannes Leitgeb, Prof. Dr. Stephan Hartmann
Language(s)	English
Additional information	None

Module: WP 16 Themes in Analytic Philosophy II

Programme

Master's Programme: Logic and Philosophy of Science
(Master of Arts, M.A.)

Related module parts

Course type	Course (mandatory)	Rotation	Contact hours	Self-study hours	ECTS
Seminar	WP 16.1 Master Course Themes in Analytic Philosophy 2	SoSe	30 h (2 SWS)	240 h	(9)

For successful completion of the module, 9 ECTS credits have to be acquired. Class attendance averages about 2 contact hours. Including time for self-study, 270 hours have to be invested.

Module type	Compulsory elective module with mandatory course
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Usability of the Module in other Programmes	None
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Elective guidelines	With regard to the compulsory elective modules WP 1 – WP 24, six compulsory elective modules must be taken. In doing so, two of them should be taken in the 1st, two of them should be taken in the 2nd and two of them should be taken in the 3rd semester.
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Entry requirements	None
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Semester	Recommended semester: 2
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Duration	The completion of the module takes 1 semester.
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Content	This module introduces students to central themes in analytic philosophy. The module deepens and expands topics discussed in module Themes in Analytic Philosophy I. Many central themes in logic and philosophy of science are (historically and systematically) rooted in the analytic tradition – particularly, topics in analytic philosophy of language (such as theories of truth and meaning), epistemology (such as theories knowledge and justification), and metaphysics (such as debates on realism and theories of causation). The central goal of this module is to emphasize the continuity and also the subtle differences between logic and philosophy of science, on the one hand, and analytic philosophy, on the other hand. Typical seminars are devoted to the work of influential analytic philosophers
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Learning outcomes	The goal of this module consists in familiarizing the students with standard positions in the literature as well as with the current (philosophical and scientific)
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research. The overarching learning goal consists in making the students aware of the continuity and also the subtle differences between logic and philosophy of science, on the one hand, and analytic philosophy, on the other hand. Students are trained (a) to perform a well-informed literature research, (b) to competently grasp the arguments in specialized philosophical and scientific debates, (c) to write original research papers (in preparation for academic publishing), and (d) to present academic content (in preparation for giving research talks at academic conferences).

Type of examination	Thesis or written exam
Type of assessment	The successful completion of the module will be graded.
Requirements for the gain of ECTS credits	ECTS credits will be granted when the module examination (or the examination of pertinent mandatory and potential elective compulsory module parts) has/have been completed successfully.
Responsible contact	Prof. Dr. Hannes Leitgeb, Prof. Dr. Stephan Hartmann
Language(s)	English
Additional information	None

Module: WP 17 Themes in Analytic Philosophy III

Programme Master's Programme: Logic and Philosophy of Science (Master of Arts, M.A.)

Related module parts

Course type	Course (mandatory)	Rotation	Contact hours	Self-study hours	ECTS
Seminar	WP 17.1 Master Course Themes in Analytic Philosophy 3	SoSe	30 h (2 SWS)	240 h	(9)

For successful completion of the module, 9 ECTS credits have to be acquired. Class attendance averages about 2 contact hours. Including time for self-study, 270 hours have to be invested.

Module type Compulsory elective module with mandatory courses

Usability of the Module in other Programmes None

Elective guidelines With regard to the compulsory elective modules WP 1 – WP 24, six compulsory elective modules must be taken. In doing so, two of them should be taken in the 1st, two of them should be taken in the 2nd and two of them should be taken in the 3rd semester.

Entry requirements None

Semester Recommended semester: 2

Duration The completion of the module takes 1 semester.

Content This module introduces students to central themes in analytic philosophy. The module deepens and expands topics discussed in module Themes in Analytic Philosophy I and II. Many central themes in logic and philosophy of science are (historically and systematically) rooted in the analytic tradition – particularly, topics in analytic philosophy of language (such as theories of truth and meaning), epistemology (such as theories of knowledge and justification), and metaphysics (such as debates on realism and theories of causation). The central goal of this module is to emphasize the continuity and also the subtle differences between logic and philosophy of science, on the one hand, and analytic philosophy, on the other hand. Typical seminars are devoted to the work of influential analytic philosophers.

Learning outcomes The goal of this module consists in familiarizing the students with standard positions in the literature as well as with the current (philosophical and scientific)

research. The overarching learning goal consists in making the students aware of the continuity and also the subtle differences between logic and philosophy of science, on the one hand, and analytic philosophy, on the other hand. Students are trained (a) to perform a well-informed literature research, (b) to competently grasp the arguments in specialized philosophical and scientific debates, (c) to write original research papers (in preparation for academic publishing), and (d) to present academic content (in preparation for giving research talks at academic conferences).

Type of examination	Thesis or written exam
Type of assessment	The successful completion of the module will be graded.
Requirements for the gain of ECTS credits	ECTS credits will be granted when the module examination (or the examination of pertinent mandatory and potential elective compulsory module parts) has/have been completed successfully.
Responsible contact	Prof. Dr. Hannes Leitgeb, Prof. Dr. Stephan Hartmann
Language(s)	English
Additional information	None

Module: WP 18 Themes in Analytic Philosophy IV

Programme Master's Programme: Logic and Philosophy of Science (Master of Arts, M.A.)

Related module parts

Course type	Course (mandatory)	Rotation	Contact hours	Self-study hours	ECTS
Seminar	WP 18.1 Master Course Themes in Analytic Philosophy 4	SoSe	30 h (2 SWS)	240 h	(9)

For successful completion of the module, 9 ECTS credits have to be acquired. Class attendance averages about 2 contact hours. Including time for self-study, 270 hours have to be invested.

Module type Compulsory elective module with mandatory courses

Usability of the Module in other Programmes None

Elective guidelines With regard to the compulsory elective modules WP 1 – WP 24, six compulsory elective modules must be taken. In doing so, two of them should be taken in the 1st, two of them should be taken in the 2nd and two of them should be taken in the 3rd semester.

Entry requirements None

Semester Recommended semester: 2

Duration The completion of the module takes 1 semester.

Content This module introduces students to central themes in analytic philosophy. The module deepens and expands topics discussed in module Themes in Analytic Philosophy I-III. Many central themes in logic and philosophy of science are (historically and systematically) rooted in the analytic tradition – particularly, topics in analytic philosophy of language (such as theories of truth and meaning), epistemology (such as theories knowledge and justification), and metaphysics (such as debates on realism and theories of causation). The central goal of this module is to emphasize the continuity and also the subtle differences between logic and philosophy of science, on the one hand, and analytic philosophy, on the other hand. Typical seminars are devoted to the work of influential analytic philosophers.

Learning outcomes The goal of this module consists in familiarizing the students with standard positions in the literature as well as with the current (philosophical and scientific)

research. The overarching learning goal consists in making the students aware of the continuity and also the subtle differences between logic and philosophy of science, on the one hand, and analytic philosophy, on the other hand. Students are trained (a) to perform a well-informed literature research, (b) to competently grasp the arguments in specialized philosophical and scientific debates, (c) to write original research papers (in preparation for academic publishing), and (d) to present academic content (in preparation for giving research talks at academic conferences).

Type of examination	Thesis or written exam
Type of assessment	The successful completion of the module will be graded.
Requirements for the gain of ECTS credits	ECTS credits will be granted when the module examination (or the examination of pertinent mandatory and potential elective compulsory module parts) has/have been completed successfully.
Responsible contact	Prof. Dr. Dr. Hannes Leitgeb, Prof. Dr. Stephan Hartmann
Language(s)	English
Additional information	None

Module: P 5 Master Forum III

Programme Master's Programme: Logic and Philosophy of Science
(Master of Arts, M.A.)

Related module parts

Course type	Course (mandatory)	Rotation	Contact hours	Self-study hours	ECTS
Colloquium	P 5.1 Central Topics in Logic and Philosophy of Science 3	WiSe	30 h (2 SWS)	150 h	(6)

For successful completion of the module, 6 ECTS credits have to be acquired. Class attendance averages about 2 contact hours. Including time for self-study, 180 hours have to be invested.

Module type Mandatory module with mandatory course

Usability of the Module in other Programmes None

Elective guidelines None

Entry requirements None

Semester Recommended semester: 3

Duration The completion of the module takes 1 semester.

Content This module introduces students to central topics logic and philosophy of science. A seminar in this module is typically composed of a formal/mathematical part (in which students learn the technical details of relevant formal techniques, such as decision and game theory, probability theory and statistics, etc.) and a philosophical part (serving as a motivation or an application of a particular formal technique). In particular, this module further expands and deepens topics of the previous Master forums.

Learning outcomes The goal of this module consists in familiarizing the students with standard positions in the literature as well as with the current (philosophical and scientific) research. In particular, students are trained to master certain mathematical techniques that are relevant to logic and philosophy of science. In general, students are trained (a) to perform a well-informed literature research, (b) to competently grasp the arguments in specialized philosophical and scientific debates (here, in current debates in either logic or philosophy of science), (c) to write original research papers (in preparation for academic publishing), and (d) to present academic content (in preparation for giving research talks at

academic conferences).

Type of examination

Thesis or written exam

Type of assessment

The successful completion of the module will be graded.

Requirements for the gain of ECTS credits

ECTS credits will be granted when the module examination (or the examination of pertinent mandatory and potential elective compulsory module parts) has/have been completed successfully.

Responsible contact

Prof. Dr. Dr. Hannes Leitgeb, Prof. Dr. Stephan Hartmann

Language(s)

English

Additional information

None

Module: P 6 Preparation of the Master Thesis

Programme Master's Programme: Logic and Philosophy of Science
(Master of Arts, M.A.)

Related module parts

Course type	Course (mandatory)	Rotation	Contact hours	Self-study hours	ECTS
Exercise	P 6.1 Current Literature and Research Questions	WiSe	30 h (2 SWS)	150 h	(6)

For successful completion of the module, 6 ECTS credits have to be acquired. Class attendance averages about 2 contact hours. Including time for self-study, 180 hours have to be invested.

Module type Mandatory module with mandatory course

Usability of the Module in other Programmes None

Elective guidelines None

Entry requirements None

Semester Recommended semester: 3

Duration The completion of the module takes 1 semester.

Content The students are prepared to write the master thesis. This includes regular meetings of the students and their supervisors. The focus in this module is on developing the research questions, structuring the master thesis and finding a suitable methodology in order to achieve a proper master thesis.

Learning outcomes The goal of this module consists in the preparation of the master thesis. In general, students are trained (a) to perform a well-informed literature research on the subject matter of the master thesis, (b) to competently grasp the arguments in current debates of the master thesis' subject matter, (c) to write an original master thesis (ideally as a preparation for academic publishing), and (d) to present academic content (in preparation for giving research talks at academic conferences).

Type of examination Exposé

Type of assessment The successful completion of the module will be graded.

Requirements for the gain of ECTS credits ECTS credits will be granted when the module examination (or the examination of pertinent mandatory and potential elective compulsory module parts) has/have been completed

successfully.

Responsible contact

The supervisor of the Master thesis.

Language(s)

English

Additional information

None

Module: WP 19 Logic III

Programme Master's Programme: Logic and Philosophy of Science (Master of Arts, M.A.)

Related module parts

Course type	Course (mandatory)	Rotation	Contact hours	Self-study hours	ECTS
Seminar	WP 19.1 Master Course Logic 3	WiSe	30 h (2 SWS)	240 h	(9)

For successful completion of the module, 9 ECTS credits have to be acquired. Class attendance averages about 2 contact hours. Including time for self-study, 270 hours have to be invested.

Module type Compulsory elective module with mandatory course

Usability of the Module in other Programmes None

Elective guidelines With regard to the compulsory elective modules WP 1 – WP 24, six compulsory elective modules must be taken. In doing so, two of them should be taken in the 1st, two of them should be taken in the 2nd and two of them should be taken in the 3rd semester.

Entry requirements None

Semester Recommended semester: 3

Duration The completion of the module takes 1 semester.

Content This module further introduces students to current debates in logic. Moreover, this module deepens and expands the areas discussed in modules Logic I and II. This is achieved by both presenting the logical topics and proofs with mathematical rigor and a thorough mathematical/logical training of the students. Typical subjects in this module are: modal logic, philosophical logics (such as epistemic logic, deontic logic, logic of conditionals, probability logic, relevant logic, etc.), theories of truth, set theory, constructive logics, arithmetic and recursion theory, incompleteness theorems.

Learning outcomes The goal of this module consists in familiarizing the students with standard positions in the literature as well as with the current (mathematical and logical) research. In particular, students are trained to master certain mathematical techniques that are relevant to logic. In general, students are trained (a) to perform a well-informed literature research, (b) to competently grasp the arguments in current debates in either logic, (c) to write original research papers (in preparation for academic

publishing), and (d) to present academic content (in preparation for giving research talks at academic conferences).

Type of examination	Thesis or written exam
Type of assessment	The successful completion of the module will be graded.
Requirements for the gain of ECTS credits	ECTS credits will be granted when the module examination (or the examination of pertinent mandatory and potential elective compulsory module parts) has/have been completed successfully.
Responsible contact	Prof. Dr. Dr. Hannes Leitgeb
Language(s)	English
Additional information	None

Module: WP 20 Logic IV

Programme Master's Programme: Logic and Philosophy of Science (Master of Arts, M.A.)

Related module parts

Course type	Course (mandatory)	Rotation	Contact hours	Self-study hours	ECTS
Seminar	WP 20.1 Master Course Logic 4	WiSe	30 h (2 SWS)	240 h	(9)

For successful completion of the module, 9 ECTS credits have to be acquired. Class attendance averages about 2 contact hours. Including time for self-study, 270 hours have to be invested.

Module type Compulsory elective module with mandatory course

Usability of the Module in other Programmes None

Elective guidelines With regard to the compulsory elective modules WP 1 – WP 24, six compulsory elective modules must be taken. In doing so, two of them should be taken in the 1st, two of them should be taken in the 2nd and two of them should be taken in the 3rd semester.

Entry requirements None

Semester Recommended semester: 3

Duration The completion of the module takes 1 semester.

Content This module further introduces students to current debates in logic. Moreover, this module deepens and expands the areas discussed in modules Logic I-III. This is achieved by both presenting the logical topics and proofs with mathematical rigor and a thorough mathematical/logical training of the students. Typical subjects in this module are: modal logic, philosophical logics (such as epistemic logic, deontic logic, logic of conditionals, probability logic, relevant logic, etc.), theories of truth, set theory, constructive logics, arithmetic and recursion theory, incompleteness theorems.

Learning outcomes The goal of this module consists in familiarizing the students with standard positions in the literature as well as with the current (mathematical and logical) research. In particular, students are trained to master certain mathematical techniques that are relevant to logic. In general, students are trained (a) to perform a well-informed literature research, (b) to competently grasp the arguments in current debates in either logic, (c) to write original research papers (in preparation for academic

publishing), and (d) to present academic content (in preparation for giving research talks at academic conferences).

Type of examination	Thesis or written exam
Type of assessment	The successful completion of the module will be graded.
Requirements for the gain of ECTS credits	ECTS credits will be granted when the module examination (or the examination of pertinent mandatory and potential elective compulsory module parts) has/have been completed successfully.
Responsible contact	Prof. Dr. Dr. Hannes Leitgeb
Language(s)	English
Additional information	None

Module: WP 21 General Philosophy of Science III

Programme Master's Programme: Logic and Philosophy of Science (Master of Arts, M.A.)

Related module parts

Course type	Course (mandatory)	Rotation	Contact hours	Self-study hours	ECTS
Seminar	WP 21.1 Master Course General Philosophy of Science 3	WiSe	30 h (2 SWS)	240 h	(9)

For successful completion of the module, 9 ECTS credits have to be acquired. Class attendance averages about 2 contact hours. Including time for self-study, 270 hours have to be invested.

Module type Compulsory elective module with mandatory course

Usability of the Module in other Programmes None

Elective guidelines With regard to the compulsory elective modules WP 1 – WP 24, six compulsory elective modules must be taken. In doing so, two of them should be taken in the 1st, two of them should be taken in the 2nd and two of them should be taken in the 3rd semester.

Entry requirements None

Semester Recommended semester: 3

Duration The completion of the module takes 1 semester.

Content This module introduces students to the general philosophy of science. This module deepens and expands topics discussed in General Philosophy of Science I and II. This subfield of philosophy of science deals with philosophical topics concerning several (perhaps all) scientific disciplines. The general philosophy of science includes (formal and social) epistemology, methodology, metaphysics, and ethics of science. The seminar in this module will focus on concrete subjects such as scientific reasoning, confirmation, explanation, models, theories, computer simulation, scientific realism, causation, probability, collaborative research, science and public policy, and risk assessment. Typically, the seminar is devoted to the work of influential philosophers of science (such as Carnap, Hempel and Popper) and "schools" (such as the Vienna Circle, Pragmatism, and Neo-Kantianism).

Learning outcomes The goal of this module consists in familiarizing the students with standard positions in the literature as well

as with the current (philosophical and scientific) research. Students are trained (a) to perform a well-informed literature research, (b) to competently grasp the arguments in specialized philosophical and scientific debates (typically concerning more than one scientific discipline), (c) to write original research papers (in preparation for academic publishing), and (d) to present academic content (in preparation for giving research talks at academic conferences).

Type of examination	Thesis or written exam
Type of assessment	The successful completion of the module will be graded.
Requirements for the gain of ECTS credits	ECTS credits will be granted when the module examination (or the examination of pertinent mandatory and potential elective compulsory module parts) has/have been completed successfully.
Responsible contact	Prof. Dr. Stephan Hartmann
Language(s)	English
Additional information	None

Module: WP 22 General Philosophy of Science IV

Programme Master's Programme: Logic and Philosophy of Science (Master of Arts, M.A.)

Related module parts

Course type	Course (mandatory)	Rotation	Contact hours	Self-study hours	ECTS
Seminar	WP 22.1 Master Course General Philosophy of Science 4	WiSe	30 h (2 SWS)	240 h	(9)

For successful completion of the module, 9 ECTS credits have to be acquired. Class attendance averages about 2 contact hours. Including time for self-study, 270 hours have to be invested.

Module type Compulsory elective module with mandatory course

Usability of the Module in other Programmes None

Elective guidelines With regard to the compulsory elective modules WP 1 – WP 24, six compulsory elective modules must be taken. In doing so, two of them should be taken in the 1st, two of them should be taken in the 2nd and two of them should be taken in the 3rd semester.

Entry requirements None

Semester Recommended semester: 3

Duration The completion of the module takes 1 semester.

Content This module introduces students to the general philosophy of science. This module deepens and expands topics discussed in General Philosophy of Science I-III. This subfield of philosophy of science deals with philosophical topics concerning several (perhaps all) scientific disciplines. The general philosophy of science includes (formal and social) epistemology, methodology, metaphysics, and ethics of science. The seminar in this module will focus on concrete subjects such as scientific reasoning, confirmation, explanation, models, theories, computer simulation, scientific realism, causation, probability, collaborative research, science and public policy, and risk assessment. Typically, the seminar is devoted to the work of influential philosophers of science (such as Carnap, Hempel and Popper) and "schools" (such as the Vienna Circle, Pragmatism, and Neo-Kantianism).

Learning outcomes The goal of this module consists in familiarizing the students with standard positions in the literature as well

as with the current (philosophical and scientific) research. Students are trained (a) to perform a well-informed literature research, (b) to competently grasp the arguments in specialized philosophical and scientific debates (typically concerning more than one scientific discipline), (c) to write original research papers (in preparation for academic publishing), and (d) to present academic content (in preparation for giving research talks at academic conferences).

Type of examination	Thesis or written exam
Type of assessment	The successful completion of the module will be graded.
Requirements for the gain of ECTS credits	ECTS credits will be granted when the module examination (or the examination of pertinent mandatory and potential elective compulsory module parts) has/have been completed successfully.
Responsible contact	Prof. Dr. Stephan Hartmann
Language(s)	English
Additional information	None

Module: WP 23 Philosophy of the Special Sciences III

Programme Master's Programme: Logic and Philosophy of Science (Master of Arts, M.A.)

Related module parts

Course type	Course (mandatory)	Rotation	Contact hours	Self-study hours	ECTS
Seminar	WP 23.1 Master Course Philosophy of the Special Sciences 3	WiSe	30 h (2 SWS)	240 h	(9)

For successful completion of the module, 9 ECTS credits have to be acquired. Class attendance averages about 2 contact hours. Including time for self-study, 270 hours have to be invested.

Module type Compulsory elective module with mandatory course

Usability of the Module in other Programmes None

Elective guidelines With regard to the compulsory elective modules WP 1 – WP 24, six compulsory elective modules must be taken. In doing so, two of them should be taken in the 1st, two of them should be taken in the 2nd and two of them should be taken in the 3rd semester.

Entry requirements None

Semester Recommended semester: 3

Duration The completion of the module takes 1 semester.

Content This module introduces students to the philosophy of the special sciences – that is, to philosophical topics arising exclusively in one specific scientific disciplines. This module deepens and expands topics discussed in Philosophy of Special Sciences I and II. The philosophy of the special sciences includes the philosophy of physics, climate science, chemistry, the life and medical sciences, psychology and the cognitive sciences, economics and the social sciences, computer science, and statistics. A typical seminar in this module will focus on concrete subjects such as specific problems of confirmation in the context of string theory, probabilities in quantum mechanics and statistical mechanics, simulations in climate science, randomized controlled trials in medical research, and frequentist versus Bayesian methods in statistics.

Learning outcomes The goal of this module consists in familiarizing the students with standard positions in the literature as well as with the current (philosophical and scientific)

research. Students are trained (a) to perform a well-informed literature research, (b) to competently grasp the arguments in specialized philosophical and scientific debates (here, in one specific scientific discipline), (c) to write original research papers (in preparation for academic publishing), and (d) to present academic content (in preparation for giving research talks at academic conferences).

Type of examination	Thesis or written exam
Type of assessment	The successful completion of the module will be graded.
Requirements for the gain of ECTS credits	ECTS credits will be granted when the module examination (or the examination of pertinent mandatory and potential elective compulsory module parts) has/have been completed successfully.
Responsible contact	Prof. Dr. Stephan Hartmann
Language(s)	English
Additional information	None

Module: WP 24 Philosophy of the Special Sciences IV

Programme Master's Programme: Logic and Philosophy of Science (Master of Arts, M.A.)

Related module parts

Course type	Course (mandatory)	Rotation	Contact hours	Self-study hours	ECTS
Seminar	WP 24.1 Master Course Philosophy of the Special Sciences 4	WiSe	30 h (2 SWS)	240 h	(9)

For successful completion of the module, 9 ECTS credits have to be acquired. Class attendance averages about 2 contact hours. Including time for self-study, 270 hours have to be invested.

Module type Compulsory elective module with mandatory course

Usability of the Module in other Programmes None

Elective guidelines With regard to the compulsory elective modules WP 1 – WP 24, six compulsory elective modules must be taken. In doing so, two of them should be taken in the 1st, two of them should be taken in the 2nd and two of them should be taken in the 3rd semester.

Entry requirements None

Semester Recommended semester: 3

Duration The completion of the module takes 1 semester.

Content This module introduces students to the philosophy of the special sciences – that is, to philosophical topics arising exclusively in one specific scientific disciplines. This module deepens and expands topics discussed in Philosophy of Special Sciences I-III. The philosophy of the special sciences includes the philosophy of physics, climate science, chemistry, the life and medical sciences, psychology and the cognitive sciences, economics and the social sciences, computer science, and statistics. A typical seminar in this module will focus on concrete subjects such as specific problems of confirmation in the context of string theory, probabilities in quantum mechanics and statistical mechanics, simulations in climate science, randomized controlled trials in medical research, and frequentist versus Bayesian methods in statistics.

Learning outcomes The goal of this module consists in familiarizing the students with standard positions in the literature as well as with the current (philosophical and scientific)

research. Students are trained (a) to perform a well-informed literature research, (b) to competently grasp the arguments in specialized philosophical and scientific debates (here, in one specific scientific discipline), (c) to write original research papers (in preparation for academic publishing), and (d) to present academic content (in preparation for giving research talks at academic conferences).

Type of examination	Thesis or written exam
Type of assessment	The successful completion of the module will be graded.
Requirements for the gain of ECTS credits	ECTS credits will be granted when the module examination (or the examination of pertinent mandatory and potential elective compulsory module parts) has/have been completed successfully.
Responsible contact	Prof. Dr. Stephan Hartmann
Language(s)	English
Additional information	None

Module: P 7 Master Forum IV

Programme Master's Programme: Logic and Philosophy of Science
(Master of Arts, M.A.)

Related module parts

Course type	Course (mandatory)	Rotation	Contact hours	Self-study hours	ECTS
Colloquium	P 7.1 Central Topics in Logic and Philosophy of Science 4	SoSe	30 h (2 SWS)	150 h	(6)

For successful completion of the module, 6 ECTS credits have to be acquired. Class attendance averages about 2 contact hours. Including time for self-study, 180 hours have to be invested.

Module type Mandatory module with mandatory course

Usability of the Module in other Programmes None

Elective guidelines None

Entry requirements None

Semester Recommended semester: 4

Duration The completion of the module takes 1 semester.

Content This module introduces students to central topics logic and philosophy of science. A seminar in this module is typically composed of a formal/mathematical part (in which students learn the technical details of relevant formal techniques, such as decision and game theory, probability theory and statistics, etc.) and a philosophical part (serving as a motivation or an application of a particular formal technique). In particular, this module further expands and deepens topics of the previous Master forum.

Learning outcomes The goal of this module consists in familiarizing the students with standard positions in the literature as well as with the current (philosophical and scientific) research. In particular, students are trained to master certain mathematical techniques that are relevant to logic and philosophy of science. In general, students are trained (a) to perform a well-informed literature research, (b) to competently grasp the arguments in specialized philosophical and scientific debates (here, in current debates in either logic or philosophy of science), (c) to write original research papers (in preparation for academic publishing), and (d) to present academic content (in preparation for giving research talks at

academic conferences).

Type of examination	Thesis or written exam
Type of assessment	The successful completion of the module will be graded.
Requirements for the gain of ECTS credits	ECTS credits will be granted when the module examination (or the examination of pertinent mandatory and potential elective compulsory module parts) has/have been completed successfully.
Responsible contact	Prof. Dr. Dr. Hannes Leitgeb, Prof. Dr. Stephan Hartmann
Language(s)	English
Additional information	None

Module: P 8 Final Module

Programme Master's Programme: Logic and Philosophy of Science (Master of Arts, M.A.)

Related module parts

Course type	Course (mandatory)	Rotation	Contact hours	Self-study hours	ECTS
Master's thesis	P 8.1 Master Thesis	SoSe	-	600 h	(20)
Thesis defense	P 8.2 Disputation	SoSe	-	120 h	(4)

For successful completion of the module, 24 ECTS credits have to be acquired. Class attendance averages about 0 contact hours. Including time for self-study, 720 hours have to be invested.

Module type Mandatory module with mandatory courses

Usability of the Module in other Programmes None

Elective guidelines None

Entry requirements None

Semester Recommended semester: 4

Duration The completion of the module takes 1 semester.

Content This module contains (a) the completion of the Master thesis and (b) the disputation and the grading of the Master thesis.

Learning outcomes The goal of the final module consists in enabling the student to conduct self-directed and original research. As in the case of other modules, the writing of the Master thesis train the students to (a) to perform a well-informed literature research, (b) to competently grasp the arguments in specialized philosophical and scientific debates, (c) to write research papers (in preparation for academic publishing), and (d) to create academic content that can be presented as a research talks at academic conferences.

Type of examination Thesis and presentation

Type of assessment The successful completion of the module will be graded.

Requirements for the gain of ECTS credits ECTS credits will be granted when the module examination (or the examination of pertinent mandatory and potential elective compulsory module parts) has/have

been completed successfully.

Responsible contact

The supervisor of the Master thesis.

Language(s)

English

Additional information

None