LMU LUDWIG-MAXIMILIANS-UNIVERSITÄT MÜNCHEN

Module Catalogue

Master's Programme: Evolution, Ecology and Systematics

(Master of Science, M.Sc.)

(120 ECTS credits)

Based on the *Prüfungs- und Studienordnung* of 29. November 2019

88/434/---/M0/H/2018

Issued on 15. June 2020

Index

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
P	mandatory

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.

Overarching qualification goals of the master's course Evolution, Ecology and Systematics

The overarching educational goal of the master's degree course **Evolution, Ecology and Systematics** is the qualification of the students for a research-related professional activity in the different areas of evolutionary biology, ecology and systematics.

Graduates have acquired a broad knowledge and understanding in the course of their successful master's degree and their safe use in the following subject areas: microevolution and population genetics (evolutionary biology), distribution mechanisms and factors that determine the presence of organisms (ecology) and the origin of life and its Diversity (systematic). These areas of knowledge are also known on large scales, for example dynamics of ecosystems or the development of entire genomes over evolutionary time scales. Graduates have more specific knowledge and skills in at least one of the above-mentioned subject areas. This knowledge and skills are supplemented in other specializations such as anthropology, archeobiology, biomathematics, bioinformatics, genetics, microbiology, plant sciences, behavioral biology and zoology.

Graduates are able to use the common laboratory methods of evolutionary biology, ecology and systematics. This includes methods of molecular biology, population genetics, evolutionary biology, ecology, behavioral biology and zoology, as well as comprehensive statistical methods in bioinformatics for the analysis of genomic data, classic working methods such as microscopy techniques and systematic and ecological fieldwork. In addition to the application, the graduates can analyze problems that arise and existing methods can be adapted to new questions. Graduates can correctly implement the safety provisions of the various methods.
Graduates can use the usual evaluation methods and computer programs in the special fields of evolution, ecology or systematics and use it to analyze data, evaluate the results and derive new questions. The evaluation also includes processing the data with the appropriate statistical methods, presenting, and visualizing the results accordingly. Complex subject areas can be presented, discussed and assessed by the graduates in a subject-specific manner in both written and oral form. On this basis, they can derive and evaluate new questions and create and carry out corresponding experiments.

Based on the respective research data, the graduates are able to describe, to analyze, to evaluate, to summarize and to explain relationships. They have the ability to think in a networked manner and they have organization skills.

Graduates of the master's degree have trained analytical thinking and judgment skills, as well as practical research skills and knowledge of the methods and concepts of scientific research. They can work independently and scientifically in the research field of the course.

They can classify scientific findings critically, discuss them with colleagues in the specialist vocabulary and convey them to society in simple language. They have their own ethical awareness and values regarding the subject areas of the study program. This includes e.g. questions about climate change, loss of diversity, pollution and renaturation, development of sustainable resources, renewable raw materials, behavioral biology, animal protection and ethics and much more. They are empowered to take on leadership functions and to act in a responsible manner. Moreover, they are able to deal competently with questions from the areas of evolutionary biology, ecology or systematics in research at universities, research institutes and industry as well as in public and private companies.

Module: P 1 Analyse von Daten und Präsentation/Analysis of Data and Presentation techniques

Programme	Master's Programme: Evolution, Ecology and Systematics (Master of Science, M.Sc.)

Related module parts

Course type	Course (mandatory)	Rotation	Contact hours	Self-study hours	ECTS
Lecture	P 1.1 Vorbereitender Mathematik-Kurs/Preliminary math course	WiSe	15 h (1 SWS)	15 h	(1)
Seminar	P 1.2 Schlüsselqualifikationen 1: Seminar Präsentationsfähig keiten/Soft Skills 1: Seminar presentation skills	WiSe	30 h (2 SWS)	30 h	(2)
Lecture	P 1.3 Statistik – Vorlesung/Statistics - lecture	SoSe	30 h (2 SWS)	30 h	(2)
Practical course	P 1.4 Statistik – Übung/Statistsics practical course	SoSe	15 h (1 SWS)	15 h	(1)

For successful completion of the module 6 ECTS credits have to be acquired. Class attendance averages about 6 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	Master´s Programms: Molecular and Cellular Biology, Human Biology, Plant Sciences
Elective guidelines	None
Entry requirements	None
Semester	Recommended semester: 1
Duration	The completion of the module takes 2 semesters.
Content	In the mathematical basics lecture we briefly revise mathematical notations, functions (such as exp and log) and concepts (e.g. derivatives, integrals, differential equations) that are important for mathematical models of ecological and evolutionary processes. In several examples (e.g. Lotka-Volterra) we demonstrate how mathematical models can be specified and analyzed. In the statistics lecture, basic statistics, the principles of statistical testing and common statistical tests such as t-tests and chi-square tests are revised, but only very briefly as participants are supposed to have prior knowledge on statistics, e.g. from a statistics course taught in a bachelor's program. More advanced aspects of analyses of variance (ANOVAs) and linear regression are covered, including

	outlooks on generalized linear models and mixed-effects models. The theoretical model assumptions underlying these statistical methods are covered as well as aspects of their application in empirical projects, including experimental design, how to select a model and assess whether it is appropriate for a given data set, and how to visualize results. As a basis of a thorough understanding of statistical models and methods, but also of probabilistic models for biological processes in evolutionary biology, ecology and systematics, we cover basic probability theory. This includes the concept of random variables and their distributions, and calculation rules of expectation values, variances and covariances of combinations of random variables. For all statistical methods, including data visualizations, applications examples using the statistic software R are given in the lecture. In weekly exercise assignments (Übungsaufgaben) students practice to carry out statistical analyses with R. Further exercises shall improve the mathematical skills of the student and their understanding of probability theory as far as covered in the lecture. The students present their solutions and data analyses in the exercise classes (Übungen), where the solutions are then discussed.
Learning outcomes	In this module, students acquire a firm knowledge of fundamental statistical principles and methods. They understand the mathematical model assumptions and the rational underlying the statistical methods covered in the statistics lecture and are able to assess which of the methods are appropriate for analyzing a given data set. They can apply and critically assess statistical rationales and are able to reason why or why not any of the statistical methods taught in this module is appropriate for a given data set. Students can apply the statistics software R to carry out data analyses with the methods that are taught in the module, including visualizations of data and results. Furthermore, they are able to read and critically assess statistical analyses and mathematical method specifications in biological publications, including extensions of the statistical methods covered in this module. They can read and understand mathematical model specifications and analyses that may appear in other modules of the EES program. Furthermore, the students are able to give clearly structured and designed scientific presentations and have the skills to direct the attention of the audience to the contents and in particular the main message of their talk.
Type of examination	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	Dirk Metzler
Language(s)	English
Additional information	None

Module: WP 1 Evolutionsgenetik/Evolutionary genetics

Programme	Master's Programme: Evolution, Ecology and Systematics (Master of Science, M.Sc.)

Related module parts

Course type	Course (mandatory)	Rotation	Contact hours	Self-study hours	ECTS
Lecture	WP 1.1 Evolutionsgenetik – Vorlesung/Evolutionary genetics - lecture	WiSe	60 h (4 SWS)	120 h	(6)

For successful completion of the module 6 ECTS credits have to be acquired. Class attendance averages about 4 contact hours. Including time for self-study, 180 hours have to be invested.

Module type	Compulsory elective module with mandatory course
Usability of the module in other Programmes	Master´s Programms: Molecular and Cellular Biology, Human Biology, Plant Sciences
Elective guidelines	With regard to the elective modules WP 1 - WP 9, three modules must be taken. With regard to the elective modules WP 4 - WP 9, a maximum of one elective module may be taken. If you take the elective module WP 5, WP 6 or WP 7, you may not take the elective modules WP 21, WP 22 or WP 23. If you take the elective module WP 8, you may not take the elective modules WP 24, WP 25, WP 26, WP 27 or WP 28. If you take the elective module WP 9, you may not take the elective modules WP 29, WP 30 or WP 31.
Entry requirements	None
Semester	Recommended semester: 1
Duration	The completion of the module takes 1 semester.
Content	The lecture provides an introduction to evolutionary genetics and covers both classical and modern topics, including: natural selection, adaptation, genetic drift, neutral theory, human evolution, molecular evolution, speciation, quantitative genetics, and genome evolution.
Learning outcomes	Students become familiar with the terminology, theory and principles of evolutionary genetics at both the phenotypic and molecular level. The students are able to apply this knowledge in a given context, as well as evaluate and interpret the results of evolutionary genetic studies.
Type of examination	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	Jochen Wolf, John Parsch
Language(s)	English
Additional information	None

Module: WP 2 Evolutionsökologie/Evolutionary ecology

Programme	Master's Programme: Evolution, Ecology and Systematics (Master of Science, M.Sc.)

Related module parts

Course type	Course (mandatory)	Rotation	Contact hours	Self-study hours	ECTS
Lecture	WP 2.1 Evolutionsökologie – Vorlesung/Evolutionary ecology - lecture	WiSe	60 h (4 SWS)	120 h	(6)

For successful completion of the module 6 ECTS credits have to be acquired. Class attendance averages about 4 contact hours. Including time for self-study, 180 hours have to be invested.

Module type	Compulsory elective module with mandatory course
Usability of the module in other Programmes	Master´s Programms: Molecular and Cellular Biology, Human Biology, Plant Sciences
Elective guidelines	With regard to the elective modules WP 1 - WP 9, three modules must be taken. With regard to the elective modules WP 4 - WP 9, a maximum of one elective module may be taken. If you take the elective module WP 5, WP 6 or WP 7, you may not take the elective modules WP 21, WP 22 or WP 23. If you take the elective module WP 8, you may not take the elective modules WP 24, WP 25, WP 26, WP 27 or WP 28. If you take the elective module WP 9, you may not take the elective modules WP 29, WP 30 or WP 31.
Entry requirements	None
Semester	Recommended semester: 1
Duration	The completion of the module takes 1 semester.
Content	The first part is a broad perspective on the history of ideas and thinking in evolutionary biology, revealing the connections between the differnent disciplines in ecology and evolution, as well as their origins. From a scientific point of view, it examines the interplay between genetic changes and natural selection. The second part of the lecture is a primer on general principles of ecology. This part of the lecture is mainly repeating basic and general principles of ecology to bring EES students to a common knowledge base, independent of their educational background during their bachelor studies. Students will learn and discuss the relationships between the individual and its environment, the dynamics

	of populations and the structure and function of communities.
Learning outcomes	The students will have an intergrated view on multiple disciplines born from 19th century Natural Sciences, that examine the interactions between species, their genomes, their kins and their environment.
Type of examination	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	Dingemanse, Niels; Stibor, Herwig; Gompel, Nicolas;
Language(s)	English
Additional information	None

Module: WP 3 Daten und Herangehensweisen der Systematischen Biologie/Systematic Data and Evidence

Programme	Master's Programme: Evolution, Ecology and Systematics (Master of Science, M.Sc.)

Related module parts

Course type	Course (mandatory)	Rotation	Contact hours	Self-study hours	ECTS
Lecture	WP 3.1 Systematische Daten und Befunde – Vorlesung/ Systematic Data and Evidence	WiSe	60 h (4 SWS)	120 h	(6)

For successful completion of the module 6 ECTS credits have to be acquired. Class attendance averages about 4 contact hours. Including time for self-study, 180 hours have to be invested.

Module type	Compulsory elective module with mandatory course
Usability of the module in other Programmes	Master´s Programms: Molecular and Cellular Biology, Human Biology, Plant Sciences
Elective guidelines	With regard to the elective modules WP 1 - WP 9, three modules must be taken. With regard to the elective modules WP 4 - WP 9, a maximum of one elective module may be taken. If you take the elective module WP 5, WP 6 or WP 7, you may not take the elective modules WP 21, WP 22 or WP 23. If you take the elective module WP 8, you may not take the elective modules WP 24, WP 25, WP 26, WP 27 or WP 28. If you take the elective module WP 9, you may not take the elective modules WP 29, WP 30 or WP 31.
Entry requirements	None
Semester	Recommended semester: 1
Duration	The completion of the module takes 1 semester.
Content	A series of lectures will discuss the following topics: paleontological and biogeographical data; speciation and radiations; diversity hotspots; principles of phylogenetic tree inference; introduction to biological collecting and collections (including visits to the Bavarian Natural History collections); taxon-specific approaches and problems (e.g., species concepts in bacteria, species concepts in higher organisms, the morpho species concept in paleobiology); role of organismal interactions in the evolution of adaptation; role of systematics in evolutionary biology; the meaning of classification, indentification, nomenclature and taxonomy.

Learning outcomes	Participants will acquire an understanding of the kinds of data used to infer phylogenetic relationships and macroevolution. They will also understand and be able to discuss some problems in systematics and will know the role of systematics in evolutionary biology. Two-three short essays are part of the course requirements.
Type of examination	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	Haszprunar, Gerhard; Renner, Susanne; Grupe, Gisela
Language(s)	English
Additional information	None

Module: WP 4 Zoologie/Zoology

Programme	Master's Programme: Evolution, Ecology and Systematics (Master of Science, M.Sc.)

Related module parts

Course type	Course (mandatory)	Rotation	Contact hours	Self-study hours	ECTS
Lecture	WP 4.1 Zoologie – Vorlesung/Zoology - lecture	WiSe	30 h (2 SWS)	60 h	(3)
Practical course	WP 4.2 Zoologie – Übung/Zoology – practical course	WiSe	45 h (3 SWS)	45 h	(3)

For successful completion of the module 6 ECTS credits have to be acquired. Class attendance averages about 5 contact hours. Including time for self-study, 180 hours have to be invested.

Module type	Compulsory elective module with mandatory courses
Usability of the module in other Programmes	Master´s Programms: Molecular and Cellular Biology, Human Biology, Plant Sciences
Elective guidelines	With regard to the elective modules WP 1 - WP 9, three modules must be taken. With regard to the elective modules WP 4 - WP 9, a maximum of one elective module may be taken. If you take the elective module WP 5, WP 6 or WP 7, you may not take the elective modules WP 21, WP 22 or WP 23. If you take the elective module WP 8, you may not take the elective modules WP 24, WP 25, WP 26, WP 27 or WP 28. If you take the elective module WP 9, you may not take the elective modules WP 29, WP 30 or WP 31.
Entry requirements	None
Semester	Recommended semester: 1
Duration	The completion of the module takes 1 semester.
Content	Please refer to the elective course catalogue for the Master´s Programme.
Learning outcomes	Please refer to the elective course catalogue for the Master´s Programme.
Type of examination	Written exam 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	Please refer to the elective course catalogue for the Master´s Programme.
Language(s)	English
Additional information	None

Module: WP 5 Molekulare und zelluläre Biologie/Molecular and cellular Biology

Programme	Master's Programme: Evolution, Ecology and Systematics (Master of Science, M.Sc.)

Related module parts

Course type	Course (mandatory)	Rotation	Contact hours	Self-study hours	ECTS
Lecture	WP 5.1 Molekulare und zelluläre Biologie – Vorlesung/ Molecular and celllular Biology - lecture	WiSe	30 h (2 SWS)	60 h	(3)
Seminar	WP 5.2 Molekulare und zelluläre Biologie – Seminar/ Molecular and celllular Biology - seminar	WiSe	30 h (2 SWS)	60 h	(3)

For successful completion of the module 6 ECTS credits have to be acquired. Class attendance averages about 4 contact hours. Including time for self-study, 180 hours have to be invested.

Module type	Compulsory elective module with mandatory courses
Usability of the module in other Programmes	Master´s Programms: Molecular and Cellular Biology, Human Biology, Plant Sciences
Elective guidelines	With regard to the elective modules WP 1 - WP 9, three modules must be taken. With regard to the elective modules WP 4 - WP 9, a maximum of one elective module may be taken. If you take the elective module WP 5, WP 6 or WP 7, you may not take the elective modules WP 21, WP 22 or WP 23. If you take the elective module WP 8, you may not take the elective modules WP 24, WP 25, WP 26, WP 27 or WP 28. If you take the elective module WP 9, you may not take the elective modules WP 29, WP 30 or WP 31.
Entry requirements	None
Semester	Recommended semester: 1
Duration	The completion of the module takes 1 semester.
Content	Please refer to the elective course catalogue for the Master´s Programme Molecular and Cellular Biology.
Learning outcomes	Please refer to the elective course catalogue for the Master´s Programme Molecular and Cellular Biology.
Type of examination	Written exam 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	Please refer to the elective course catalogue for the Master´s Programme Molecular and Cellular Biology.
Language(s)	English
Additional information	None

Module: WP 6 Theorien der molekularen und zellulären Biologie/Theories in molecular and cellular Biology

Programme	Master's Programme: Evolution, Ecology and Systematics (Master of Science, M.Sc.)

Related module parts

Course type	Course (mandatory)	Rotation	Contact hours	Self-study hours	ECTS
Lecture	WP 6.1 Theorien der molekularen und zellulären Biologie 1 – Vorlesung/ Theories in molecular and cellular Biology 1 - lecture	WiSe	30 h (2 SWS)	60 h	(3)
Lecture	WP 6.2 Theorien der molekularen und zellulären Biologie 2 – Vorlesung/ Theories in molecular and cellular Biology 2 - lecture	WiSe	30 h (2 SWS)	60 h	(3)

For successful completion of the module 6 ECTS credits have to be acquired. Class attendance averages about 4 contact hours. Including time for self-study, 180 hours have to be invested.

Module type	Compulsory elective module with mandatory courses
Usability of the module in other Programmes	Master´s Programms: Molecular and Cellular Biology, Human Biology, Plant Sciences
Elective guidelines	With regard to the elective modules WP 1 - WP 9, three modules must be taken. With regard to the elective modules WP 4 - WP 9, a maximum of one elective module may be taken. If you take the elective module WP 5, WP 6 or WP 7, you may not take the elective modules WP 21, WP 22 or WP 23. If you take the elective module WP 8, you may not take the elective modules WP 24, WP 25, WP 26, WP 27 or WP 28. If you take the elective module WP 9, you may not take the elective modules WP 29, WP 30 or WP 31.
Entry requirements	None
Semester	Recommended semester: 1
Duration	The completion of the module takes 1 semester.
Content	Please refer to the elective course catalogue for the Master´s Programme Molecular and Cellular Biology.
Learning outcomes	Please refer to the elective course catalogue for the Master´s Programme Molecular and Cellular Biology.

Type of examination	Written exam or oral examination
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	Please refer to the elective course catalogue for the Master´s Programme Molecular and Cellular Biology.
Language(s)	English
Additional information	None

Module: WP 7 Methoden der molekularen und zellulären Biologie/Methods in molecular and cellular Biology

Programme	Master's Programme: Evolution, Ecology and Systematics (Master of Science, M.Sc.)

Related module parts

Course type	Course (mandatory)	Rotation	Contact hours	Self-study hours	ECTS
Seminar	WP 7.1 Methoden der molekularen und zellulären Biologie – Seminar/Methods in molecular and cellular Biology - seminar	WiSe	30 h (2 SWS)	60 h	(3)
Practical course	WP 7.2 Methoden der molekularen und zellulären Biologie – Übung/Methods in molecular and cellular Biology – practical course	WiSe	45 h (3 SWS)	45 h	(3)

For successful completion of the module 6 ECTS credits have to be acquired. Class attendance averages about 5 contact hours. Including time for self-study, 180 hours have to be invested.

Module type	Compulsory elective module with mandatory courses
Usability of the module in other Programmes	Master´s Programms: Molecular and Cellular Biology, Human Biology, Plant Sciences
Elective guidelines	With regard to the elective modules WP 1 - WP 9, three modules must be taken. With regard to the elective modules WP 4 - WP 9, a maximum of one elective module may be taken. If you take the elective module WP 5, WP 6 or WP 7, you may not take the elective modules WP 21, WP 22 or WP 23. If you take the elective module WP 8, you may not take the elective modules WP 24, WP 25, WP 26, WP 27 or WP 28. If you take the elective module WP 9, you may not take the elective modules WP 29, WP 30 or WP 31.
Entry requirements	None
Semester	Recommended semester: 1
Duration	The completion of the module takes 1 semester.
Content	Please refer to the elective course catalogue for the Master´s Programme Molecular and Cellular Biology.
Learning outcomes	Please refer to the elective course catalogue for the Master´s Programme Molecular and Cellular Biology.

Type of examination	Presentation and report
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	Please refer to the elective course catalogue for the Master´s Programme Molecular and Cellular Biology.
Language(s)	English
Additional information	None

Module: WP 8 Systemische Neurobiologie I/Systems Neurobiology I

Programme	Master's Programme: Evolution, Ecology and Systematics (Master of Science, M.Sc.)

Related module parts

Course type	Course (mandatory)	Rotation	Contact hours	Self-study hours	ECTS
Lecture	WP 8.1 Grundlagen der Neurowissenschaften 1 - Vorlesung/Fundamentals in Neuroscience 1 - Lecture	WiSe	60 h (4 SWS)	120 h	(6)

For successful completion of the module 6 ECTS credits have to be acquired. Class attendance averages about 4 contact hours. Including time for self-study, 180 hours have to be invested.

Module type	Compulsory elective module with mandatory course
Usability of the module in other Programmes	Master´s Programms: Molecular and Cellular Biology, Human Biology, Plant Sciences
Elective guidelines	With regard to the elective modules WP 1 - WP 9, three modules must be taken. With regard to the elective modules WP 4 - WP 9, a maximum of one elective module may be taken. If you take the elective module WP 5, WP 6 or WP 7, you may not take the elective modules WP 21, WP 22 or WP 23. If you take the elective module WP 8, you may not take the elective modules WP 24, WP 25, WP 26, WP 27 or WP 28. If you take the elective module WP 9, you may not take the elective modules WP 29, WP 30 or WP 31.
Entry requirements	None
Semester	Recommended semester: 1
Duration	The completion of the module takes 1 semester.
Content	Please refer to the elective course catalogue for the Master´s Programme Neurosciences.
Learning outcomes	Please refer to the elective course catalogue for the Master´s Programme Neurosciences.
Type of examination	Written exam or oral examination
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	Please refer to the elective course catalogue for the Master´s Programme Neurosciences.
Language(s)	English
Additional information	None

Module: WP 9 Theorien der Pflanzenwissenschaften/Theories in Plant Sciences

Programme	Master's Programme: Evolution, Ecology and Systematics (Master of Science, M.Sc.)

Related module parts

Course type	Course (mandatory)	Rotation	Contact hours	Self-study hours	ECTS
Lecture	WP 9.1 Theorien der Pflanzenwissenschaften 1 – Vorlesung/Theories in Plant Science 1 - lecture	WiSe	30 h (2 SWS)	60 h	(3)
Lecture	WP 9.2 Theorien der Pflanzenwissenschaften 2 – Vorlesung/Theories in Plant Sciences 2 - lecture	WiSe	30 h (2 SWS)	60 h	(3)

For successful completion of the module 6 ECTS credits have to be acquired. Class attendance averages about 4 contact hours. Including time for self-study, 180 hours have to be invested.

Module type	Compulsory elective module with mandatory courses
Usability of the module in other Programmes	Master´s Programms: Molecular and Cellular Biology, Human Biology, Plant Sciences
Elective guidelines	With regard to the elective modules WP 1 - WP 9, three modules must be taken. With regard to the elective modules WP 4 - WP 9, a maximum of one elective module may be taken. If you take the elective module WP 5, WP 6 or WP 7, you may not take the elective modules WP 21, WP 22 or WP 23. If you take the elective module WP 8, you may not take the elective modules WP 24, WP 25, WP 26, WP 27 or WP 28. If you take the elective module WP 9, you may not take the elective modules WP 29, WP 30 or WP 31.
Entry requirements	None
Semester	Recommended semester: 1
Duration	The completion of the module takes 1 semester.
Content	Please refer to the elective course catalogue for the Master´s Programme Plant Sciences.
Learning outcomes	Please refer to the elective course catalogue for the Master´s Programme Plant Sciences.
Type of examination	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	Please refer to the elective course catalogue for the Master´s Programme Plant Sciences.
Language(s)	English
Additional information	None

Module: WP 10 Forschungsmodul in Evolutionsbiologie, Ökologie und Systematik/Research module in Evolutionary Biology, Ecology and Systematics

Programme	Master's Programme: Evolution, Ecology and Systematics (Master of Science, M.Sc.)

Related module parts

Course type	Course (mandatory)	Rotation	Contact hours	Self-study hours	ECTS
Practical course	WP 10.1 Forschungspraktikum in Evolutionsbiologie, Ökologie und Systematik/Research course in Evolutionary Biology, Ecology and Systematics	WiSe	105 h (7 SWS)	105 h	(7)
Seminar	WP 10.2 Schlüsselqualifikationen 2: Seminar wissenschaftliches Schreiben/Soft Skills 2: Seminar scientific writing	WiSe	30 h (2 SWS)	30 h	(2)

For successful completion of the module 9 ECTS credits have to be acquired. Class attendance averages about 9 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	Master´s Programms: Molecular and Cellular Biology, Human Biology, Plant Sciences
Elective guidelines	With regard to the elective modules WP 10 - WP 31, modules with a total of 9 ECTS credits must be taken. If you take the elective module WP 21, WP 22 or WP 23, you may not take the elective modules WP 5, WP 6 or WP 7. With regard to the elective modules WP 25 – WP 27, you may only take one of these modules. If you take the elective module WP 29, WP 30 or WP 31, you may not take the elective module WP 9.
Entry requirements	None
Semester	Recommended semester: 1
Duration	The completion of the module takes 1 semester.
Content	In this module, students work in a research group, learn a method, and carry out a small project. They write a report and give a presentation about their work. In the writing

	course, students learn the skills necessary for writing a research report. In detail: Students get a thorough and hands-on introduction into a contemporary research project. They perform a literature search, read the relevant literature, and talk to the researchers in the group who are involved in the project. They learn about the methods in one of the subfields of Evolution, Ecology and Systematics and contribute a small sub-project of their own. They give a short presentation in the group in which they carried out the research. They write a report on the project and their own contribution. Students learn to carry out a literature search and write short reviews: concise summaries of several articles. Students will actively write a scientific paper following journal guidelines using their own findings (for example, resulting from a research couse project). They learn how to write the different parts of a scientific paper: abstract, introduction, material and methods, results, conclusion and discussion. Each meeting will focus on specific aspects of scientific writing, such as language and structure, through seminars and practical exercises. They receive feedback on the report and revise it.
Learning outcomes	Students are introduced to research in practice and acquire writing skills. They learn about everyday life in research and about the scientific background, research plan, and methods of a particular research project. They communicate about their work. Students are able to conduct a literature search. They are able to write reviews and gain skills necessary for writing a scientific paper. Learn how to organize, outline and write a scientific paper (language, flow, paragraphs and elements of a paper) Learn technical aspects (conduct literature search, use reference managers, format according to journal guidelines, etc.) Be aware of ethical issues (plagiarism, data fabrication) Familiarize with the publication process Learn how to give and handle feedback
Type of examination	Presentation and report
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	Chair of Evolutionary Biology

Language(s)	English
Additional information	None

Module: WP 11 Forschungsmodul in der molekularen und zellulären Biologie/Research module in molecular and cellular Biology

Programme	Master's Programme: Evolution, Ecology and Systematics (Master of Science, M.Sc.)

Related module parts

Course type	Course (mandatory)	Rotation	Contact hours	Self-study hours	ECTS
Practical course	WP 11.1 Forschungspraktikum in der molekularen und zellulären Biologie/Research course in molecular and cellular Biology	WiSe	105 h (7 SWS)	105 h	(7)
Seminar	WP 11.2 Schlüsselqualifikationen 2: Seminar wissenschaftliches Schreiben/Soft Skills 2: Seminar scientific writing	WiSe	30 h (2 SWS)	30 h	(2)

For successful completion of the module 9 ECTS credits have to be acquired. Class attendance averages about 9 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	Master´s Programms: Molecular and Cellular Biology, Human Biology, Plant Sciences
Elective guidelines	With regard to the elective modules WP 10 - WP 31, modules with a total of 9 ECTS credits must be taken. If you take the elective module WP 21, WP 22 or WP 23, you may not take the elective modules WP 5, WP 6 or WP 7. With regard to the elective modules WP 25 – WP 27, you may only take one of these modules. If you take the elective module WP 29, WP 30 or WP 31, you may not take the elective module WP 9.
Entry requirements	None
Semester	Recommended semester: 1
Duration	The completion of the module takes 1 semester.
Content	In this module, students work in a research group, learn a method, and carry out a small project. They write a report and give a presentation about their work. In the writing

	course, students learn the skills necessary for writing a research report. In detail: Students get a thorough and hands-on introduction into a contemporary research project. They perform a literature search, read the relevant literature, and talk to the researchers in the group who are involved in the project. They learn about the methods in one of the subfields of molecular and cellular biology and contribute a small sub-project of their own. They give a short presentation in the group in which they carried out the research. They write a report on the project and their own contribution. Students learn to carry out a literature search and write short reviews: concise summaries of several articles. Students will actively write a scientific paper following journal guidelines using their own findings (for example, resulting from a research couse project). They learn how to write the different parts of a scientific paper: abstract, introduction, material and methods, results, conclusion and discussion. Each meeting will focus on specific aspects of scientific writing, such as language and structure, through seminars and practical exercises. They receive feedback on the report and revise it.
Learning outcomes	Students are introduced to research in practice and acquire writing skills. They learn about everyday life in research and about the scientific background, research plan, and methods of a particular research project. They communicate about their work. Students are able to conduct a literature search. They are able to write reviews and gain skills necessary for writing a scientific paper. Learn how to organize, outline and write a scientific paper (language, flow, paragraphs and elements of a paper) Learn technical aspects (conduct literature search, use reference managers, format according to journal guidelines, etc.) Be aware of ethical issues (plagiarism, data fabrication) Familiarize with the publication process Learn how to give and handle feedback
Type of examination	Presentation and report
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	Supervisor from the specific research topic and teaching staff of skills course
Language(s)	English
Additional information	None

Module: WP 12 Forschungsmodul in der Neurobiologie/Research module in Neurobiology

Programme	Master's Programme: Evolution, Ecology and Systematics (Master of Science, M.Sc.)

Related module parts

Course type	Course (mandatory)	Rotation	Contact hours	Self-study hours	ECTS
Practical course	WP 12.1 Forschungspraktikum in der Neurobiologie/Research course in Neurobiology	WiSe	105 h (7 SWS)	105 h	(7)
Seminar	WP 12.2 Schlüsselqualifikationen 2: Seminar wissenschaftliches Schreiben/Soft Skills 2: Seminar scientific writing	WiSe	30 h (2 SWS)	30 h	(2)

For successful completion of the module 9 ECTS credits have to be acquired. Class attendance averages about 9 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	Master´s Programms: Molecular and Cellular Biology, Human Biology, Plant Sciences
Elective guidelines	With regard to the elective modules WP 10 - WP 31, modules with a total of 9 ECTS credits must be taken. If you take the elective module WP 21, WP 22 or WP 23, you may not take the elective modules WP 5, WP 6 or WP 7. With regard to the elective modules WP 25 – WP 27, you may only take one of these modules. If you take the elective module WP 29, WP 30 or WP 31, you may not take the elective module WP 9.
Entry requirements	None
Semester	Recommended semester: 1
Duration	The completion of the module takes 1 semester.
Content	In this module, students work in a research group, learn a method, and carry out a small project. They write a report and give a presentation about their work. In the writing course, students learn the skills necessary for writing a research report. In detail: Students get a thorough and hands-on introduction into a contemporary research project. They

	perform a literature search, read the relevant literature, and talk to the researchers in the group who are involved in the project. They learn about the methods in one of the subfields of neurosciences and contribute a small sub-project of their own. They give a short presentation in the group in which they carried out the research. They write a report on the project and their own contribution. Students learn to carry out a literature search and write short reviews: concise summaries of several articles. Students will actively write a scientific paper following journal guidelines using their own findings (for example, resulting from a research couse project). They learn how to write the different parts of a scientific paper: abstract, introduction, material and methods, results, conclusion and discussion. Each meeting will focus on specific aspects of scientific writing, such as language and structure, through seminars and practical exercises. They receive feedback on the report and revise it.
Learning outcomes	Students are introduced to research in practice and acquire writing skills. They learn about everyday life in research and about the scientific background, research plan, and methods of a particular research project. They communicate about their work. Students are able to conduct a literature search. They are able to write reviews and gain skills necessary for writing a scientific paper. Learn how to organize, outline and write a scientific paper (language, flow, paragraphs and elements of a paper) Learn technical aspects (conduct literature search, use reference managers, format according to journal guidelines, etc.) Be aware of ethical issues (plagiarism, data fabrication) Familiarize with the publication process Learn how to give and handle feedback
Type of examination	Presentation and report
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	Supervisor from the specific research topic and teaching staff of skills course
Language(s)	English
Additional information	None

Module: WP 13 Forschungsmodul in den Pflanzenwissenschaften/Research module in Plant Sciences

Programme	Master's Programme: Evolution, Ecology and Systematics (Master of Science, M.Sc.)

Related module parts

Course type	Course (mandatory)	Rotation	Contact hours	Self-study hours	ECTS
Practical course	WP 13.1 Forschungspraktikum in den Pflanzenwissenschaften/ Research course in Plant Sciences	WiSe	105 h (7 SWS)	105 h	(7)
Seminar	WP 13.2 Schlüsselqualifikationen 2: Seminar wissenschaftliches Schreiben/Soft Skills 2: Seminar scientific writing	WiSe	30 h (2 SWS)	30 h	(2)

For successful completion of the module 9 ECTS credits have to be acquired. Class attendance averages about 9 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	Master´s Programms: Molecular and Cellular Biology, Human Biology, Plant Sciences
Elective guidelines	With regard to the elective modules WP 10 - WP 31, modules with a total of 9 ECTS credits must be taken. If you take the elective module WP 21, WP 22 or WP 23, you may not take the elective modules WP 5, WP 6 or WP 7. With regard to the elective modules WP 25 – WP 27, you may only take one of these modules. If you take the elective module WP 29, WP 30 or WP 31, you may not take the elective module WP 9.
Entry requirements	None
Semester	Recommended semester: 1
Duration	The completion of the module takes 1 semester.
Content	In this module, students work in a research group, learn a method, and carry out a small project. They write a report and give a presentation about their work. In the writing course, students learn the skills necessary for writing a research report.

	In detail: Students get a thorough and hands-on introduction into a contemporary research project. They perform a literature search, read the relevant literature, and talk to the researchers in the group who are involved in the project. They learn about the methods in one of the subfields of plant sciences and contribute a small sub-project of their own. They give a short presentation in the group in which they carried out the research. They write a report on the project and their own contribution. Students learn to carry out a literature search and write short reviews: concise summaries of several articles. Students will actively write a scientific paper following journal guidelines using their own findings (for example, resulting from a research couse project). They learn how to write the different parts of a scientific paper: abstract, introduction, material and methods, results, conclusion and discussion. Each meeting will focus on specific aspects of scientific writing, such as language and structure, through seminars and practical exercises. They receive feedback on the report and revise it.
Learning outcomes	Students are introduced to research in practice and acquire writing skills. They learn about everyday life in research and about the scientific background, research plan, and methods of a particular research project. They communicate about their work. Students are able to conduct a literature search. They are able to write reviews and gain skills necessary for writing a scientific paper. Learn how to organize, outline and write a scientific paper (language, flow, paragraphs and elements of a paper) Learn technical aspects (conduct literature search, use reference managers, format according to journal guidelines, etc.) Be aware of ethical issues (plagiarism, data fabrication) Familiarize with the publication process Learn how to give and handle feedback
Type of examination	Presentation and report
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	Supervisor from the specific research topic and teaching staff of skills course
Language(s)	English

Additional information	None

Module: WP 14 Theoretische Konzepte in Evolutionsbiologie, Ökologie und Systematik/Theoretical concepts in Evolutionary Biology, Ecology and Systematics

Programme	Master's Programme: Evolution, Ecology and Systematics (Master of Science, M.Sc.)

Related module parts

Course type	Course (mandatory)	Rotation	Contact hours	Self-study hours	ECTS
Lecture	WP 14.1 Theoretische Konzepte in Evolutionsbiologie, Ökologie und Systematik – Vorlesung/ Theoretical concepts in Evolutionary Biology, Ecology and Systematics - lecture	WiSe	30 h (2 SWS)	60 h	(3)

For successful completion of the module 3 ECTS credits have to be acquired. Class attendance averages about 2 contact hours. Including time for self-study, 90 hours have to be invested.

Module type	Compulsory elective module with mandatory course
Usability of the module in other Programmes	Master´s Programms: Molecular and Cellular Biology, Human Biology, Plant Sciences
Elective guidelines	With regard to the elective modules WP 10 - WP 31, modules with a total of 9 ECTS credits must be taken. If you take the elective module WP 21, WP 22 or WP 23, you may not take the elective modules WP 5, WP 6 or WP 7. With regard to the elective modules WP 25 – WP 27, you may only take one of these modules. If you take the elective module WP 29, WP 30 or WP 31, you may not take the elective module WP 9.
Entry requirements	None
Semester	Recommended semester: 1
Duration	The completion of the module takes 1 semester.
Content	Please refer to the elective course catalogue for the Master´s Programme.
Learning outcomes	Please refer to the elective course catalogue for the Master´s Programme.
Type of examination	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	Please refer to the elective course catalogue for the Master´s Programme.
Language(s)	English
Additional information	None

Module: WP 15 Einführung in die Mechanismen der Evolutionsbiologie, Ökologie und Systematik/Introduction to the mechanisms in Evolutionary Biology, Ecology and Systematics

Programme	Master's Programme: Evolution, Ecology and Systematics (Master of Science, M.Sc.)

Related module parts

Course type	Course (mandatory)	Rotation	Contact hours	Self-study hours	ECTS
Lecture	WP 15.1 Mechanismen in der Evolutionsbiologie, Ökologie und Systematik – Vorlesung/ Mechanisms in Evolutionary Biology, Ecology and Systematics - lecture	WiSe	30 h (2 SWS)	60 h	(3)

For successful completion of the module 3 ECTS credits have to be acquired. Class attendance averages about 2 contact hours. Including time for self-study, 90 hours have to be invested.

Module type	Compulsory elective module with mandatory course
Usability of the module in other Programmes	Master´s Programms: Molecular and Cellular Biology, Human Biology, Plant Sciences
Elective guidelines	With regard to the elective modules WP 10 - WP 31, modules with a total of 9 ECTS credits must be taken. If you take the elective module WP 21, WP 22 or WP 23, you may not take the elective modules WP 5, WP 6 or WP 7. With regard to the elective modules WP 25 – WP 27, you may only take one of these modules. If you take the elective module WP 29, WP 30 or WP 31, you may not take the elective module WP 9.
Entry requirements	None
Semester	Recommended semester: 1
Duration	The completion of the module takes 1 semester.
Content	Please refer to the elective course catalogue for the Master´s Programme.
Learning outcomes	Please refer to the elective course catalogue for the Master´s Programme.
Type of examination	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	Please refer to the elective course catalogue for the Master´s Programme.
Language(s)	English
Additional information	None

Module: WP 16 Methoden in der Evolutionsbiologie, Ökologie und Systematik/Methods in Evolutionary Biology, Ecology and Systematics

Programme	Master's Programme: Evolution, Ecology and Systematics (Master of Science, M.Sc.)

Related module parts

Course type	Course (mandatory)	Rotation	Contact hours	Self-study hours	ECTS
Practical course	WP 16.1 Methoden in der Evolutionsbiologie, Ökologie und Systematik – Übung/ Methods in Evolutionary Biology, Ecology and Systematics – practical course	WiSe	45 h (3 SWS)	45 h	(3)

For successful completion of the module 3 ECTS credits have to be acquired. Class attendance averages about 3 contact hours. Including time for self-study, 90 hours have to be invested.

Module type	Compulsory elective module with mandatory course
Usability of the module in other Programmes	Master´s Programms: Molecular and Cellular Biology, Human Biology, Plant Sciences
Elective guidelines	With regard to the elective modules WP 10 - WP 31, modules with a total of 9 ECTS credits must be taken. If you take the elective module WP 21, WP 22 or WP 23, you may not take the elective modules WP 5, WP 6 or WP 7. With regard to the elective modules WP 25 – WP 27, you may only take one of these modules. If you take the elective module WP 29, WP 30 or WP 31, you may not take the elective module WP 9.
Entry requirements	None
Semester	Recommended semester: 1
Duration	The completion of the module takes 1 semester.
Content	Please refer to the elective course catalogue for the Master´s Programme.
Learning outcomes	Please refer to the elective course catalogue for the Master´s Programme.
Type of examination	Report

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	Please refer to the elective course catalogue for the Master´s Programme.
Language(s)	English
Additional information	None

Module: WP 17 Wissenschaftliches Arbeiten in der Evolutionsbiologie, Ökologie und Systematik/Scientific work in Evolutionary Biology, Ecology and Systematics

Programme	Master's Programme: Evolution, Ecology and Systematics (Master of Science, M.Sc.)

Related module parts

Course type	Course (mandatory)	Rotation	Contact hours	Self-study hours	ECTS
Practical course	WP 17.1 Wissenschaftliches Arbeiten in der Evolutionsbiologie, Ökologie und Systematik – Übung/ Scientific work in Evolutionary Biology, Ecology and Systematics – practical course	WiSe	45 h (3 SWS)	45 h	(3)

For successful completion of the module 3 ECTS credits have to be acquired. Class attendance averages about 3 contact hours. Including time for self-study, 90 hours have to be invested.

Module type	Compulsory elective module with mandatory course
Usability of the module in other Programmes	Master´s Programms: Molecular and Cellular Biology, Human Biology, Plant Sciences
Elective guidelines	With regard to the elective modules WP 10 - WP 31, modules with a total of 9 ECTS credits must be taken. If you take the elective module WP 21, WP 22 or WP 23, you may not take the elective modules WP 5, WP 6 or WP 7. With regard to the elective modules WP 25 – WP 27, you may only take one of these modules. If you take the elective module WP 29, WP 30 or WP 31, you may not take the elective module WP 9.
Entry requirements	None
Semester	Recommended semester: 1
Duration	The completion of the module takes 1 semester.
Content	Please refer to the elective course catalogue for the Master´s Programme.
Learning outcomes	Please refer to the elective course catalogue for the Master´s Programme.
Type of examination	Report

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	Please refer to the elective course catalogue for the Master´s Programme.
Language(s)	English
Additional information	None

Module: WP 18 Aktuelle Publikationen in der Evolutionsbiologie, Ökologie und Systematik/Current publications on Evolutionary Biology, Ecology and Systematics

Programme	Master's Programme: Evolution, Ecology and Systematics (Master of Science, M.Sc.)

Related module parts

Course type	Course (mandatory)	Rotation	Contact hours	Self-study hours	ECTS
Seminar	WP 18.1 Aktuelle Publikationen in der Evolutionsbiologie, Ökologie und Systematik – Seminar/Current publications on Evolutionary Biology, Ecology and Systematics - seminar	WiSe	30 h (2 SWS)	60 h	(3)

For successful completion of the module 3 ECTS credits have to be acquired. Class attendance averages about 2 contact hours. Including time for self-study, 90 hours have to be invested.

Module type	Compulsory elective module with mandatory course
Usability of the module in other Programmes	Master´s Programms: Molecular and Cellular Biology, Human Biology, Plant Sciences
Elective guidelines	With regard to the elective modules WP 10 - WP 31, modules with a total of 9 ECTS credits must be taken. If you take the elective module WP 21, WP 22 or WP 23, you may not take the elective modules WP 5, WP 6 or WP 7. With regard to the elective modules WP 25 – WP 27, you may only take one of these modules. If you take the elective module WP 29, WP 30 or WP 31, you may not take the elective module WP 9.
Entry requirements	None
Semester	Recommended semester: 1
Duration	The completion of the module takes 1 semester.
Content	Please refer to the elective course catalogue for the Master´s Programme.
Learning outcomes	Please refer to the elective course catalogue for the Master´s Programme.
Type of examination	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	Please refer to the elective course catalogue for the Master´s Programme.
Language(s)	English
Additional information	None

Module: WP 19 Aktuelle Publikationen zu den Methoden von Evolutionsbiologie, Ökologie und Systematik/Current publications on the methods in Evolutionary Biology, Ecology and Systematics

Programme	Master's Programme: Evolution, Ecology and Systematics (Master of Science, M.Sc.)

Related module parts

Course type	Course (mandatory)	Rotation	Contact hours	Self-study hours	ECTS
Seminar	WP 19.1 Aktuelle Publikationen zu den Methoden von Evolutionsbiologie, Ökologie und Systematik – Seminar/ Current publications on the methods in Evolutionary Biology, Ecology and Systematics - seminar	WiSe	30 h (2 SWS)	60 h	(3)

For successful completion of the module 3 ECTS credits have to be acquired. Class attendance averages about 2 contact hours. Including time for self-study, 90 hours have to be invested.

Module type	Compulsory elective module with mandatory course
Usability of the module in other Programmes	Master´s Programms: Molecular and Cellular Biology, Human Biology, Plant Sciences
Elective guidelines	With regard to the elective modules WP 10 - WP 31, modules with a total of 9 ECTS credits must be taken. If you take the elective module WP 21, WP 22 or WP 23, you may not take the elective modules WP 5, WP 6 or WP 7. With regard to the elective modules WP 25 – WP 27, you may only take one of these modules. If you take the elective module WP 29, WP 30 or WP 31, you may not take the elective module WP 9.
Entry requirements	None
Semester	Recommended semester: 1
Duration	The completion of the module takes 1 semester.
Content	Please refer to the elective course catalogue for the Master´s Programme.
Learning outcomes	Please refer to the elective course catalogue for the Master´s Programme.

Type of examination	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	Please refer to the elective course catalogue for the Master´s Programme.
Language(s)	English
Additional information	None

Module: WP 20 Artkonzepte, Anpassungsmechanismen und Artbildung/Species, adaptation and speciation

Programme	Master's Programme: Evolution, Ecology and Systematics (Master of Science, M.Sc.)

Related module parts

Course type	Course (mandatory)	Rotation	Contact hours	Self-study hours	ECTS
Seminar	WP 20.1 Seminar: Artkonzepte, Anpassungsmechanismen und Artbildung/Seminar: Species, adaptation and speciation	WiSe	30 h (2 SWS)	60 h	(3)

For successful completion of the module 3 ECTS credits have to be acquired. Class attendance averages about 2 Contact hours. Including time for self-study, 90 Hours have to be invested.

Module type	Compulsory elective module with mandatory course
Usability of the module in other Programmes	Master´s Programms: Molecular and Cellular Biology, Human Biology, Plant Sciences
Elective guidelines	With regard to the elective modules WP 10 - WP 31, modules with a total of 9 ECTS credits must be taken. If you take the elective module WP 21, WP 22 or WP 23, you may not take the elective modules WP 5, WP 6 or WP 7. With regard to the elective modules WP 25 – WP 27, you may only take one of these modules. If you take the elective module WP 29, WP 30 or WP 31, you may not take the elective module WP 9.
Entry requirements	None
Semester	Recommended semester: 1
Duration	The completion of the module takes 1 semester.
Content	Please refer to the elective course catalogue for the Master´s Programme.
Learning outcomes	Please refer to the elective course catalogue for the Master´s Programme.
Type of examination	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	Please refer to the elective course catalogue for the Master´s Programme.
Language(s)	English
Additional information	None

Module: WP 21 Molekulare und zelluläre Biologie/Molecular and cellular Biology

Programme	Master's Programme: Evolution, Ecology and Systematics (Master of Science, M.Sc.)

Related module parts

Course type	Course (mandatory)	Rotation	Contact hours	Self-study hours	ECTS
Lecture	WP 21.1 Molekulare und zelluläre Biologie – Vorlesung/ Molecular and cellular Biology - lecture	WiSe	30 h (2 SWS)	60 h	(3)
Seminar	WP 21.2 Molekulare und zelluläre Biologie – Seminar/ Molecular and cellular Biology - seminar	WiSe	30 h (2 SWS)	60 h	(3)

For successful completion of the module 6 ECTS credits have to be acquired. Class attendance averages about 4 contact hours. Including time for self-study, 180 hours have to be invested.

Module type	Compulsory elective module with mandatory courses
Usability of the module in other Programmes	Master´s Programms: Molecular and Cellular Biology, Human Biology, Plant Sciences
Elective guidelines	With regard to the elective modules WP 10 - WP 31, modules with a total of 9 ECTS credits must be taken. If you take the elective module WP 21, WP 22 or WP 23, you may not take the elective modules WP 5, WP 6 or WP 7. With regard to the elective modules WP 25 – WP 27, you may only take one of these modules. If you take the elective module WP 29, WP 30 or WP 31, you may not take the elective module WP 9.
Entry requirements	None
Semester	Recommended semester: 1
Duration	The completion of the module takes 1 semester.
Content	Please refer to the elective course catalogue for the Master´s Programme Molecular and Cellular Biology.
Learning outcomes	Please refer to the elective course catalogue for the Master´s Programme Molecular and Cellular Biology.

Type of examination	Written exam 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	Please refer to the elective course catalogue for the Master´s Programme Molecular and Cellular Biology.
Language(s)	English
Additional information	None

Module: WP 22 Theorien der molekularen und zellulären Biologie/Theories in molecular and cellular Biology

Programme	Master's Programme: Evolution, Ecology and Systematics (Master of Science, M.Sc.)

Related module parts

Course type	Course (mandatory)	Rotation	Contact hours	Self-study hours	ECTS
Lecture	WP 22.1 Theorien der molekularen und zellulären Biologie 1 – Vorlesung/ Theories in molecular and cellular Biology 1 - lecture	WiSe	30 h (2 SWS)	60 h	(3)
Lecture	WP 22.2 Theorien der molekularen und zellulären Biologie 2 – Vorlesung/ Theories in molecular and cellular Biology 2 - lecture	WiSe	30 h (2 SWS)	60 h	(3)

For successful completion of the module 6 ECTS credits have to be acquired. Class attendance averages about 4 contact hours. Including time for self-study, 180 hours have to be invested.

Module type	Compulsory elective module with mandatory courses
Usability of the module in other Programmes	Master´s Programms: Molecular and Cellular Biology, Human Biology, Plant Sciences
Elective guidelines	With regard to the elective modules WP 10 - WP 31, modules with a total of 9 ECTS credits must be taken. If you take the elective module WP 21, WP 22 or WP 23, you may not take the elective modules WP 5, WP 6 or WP 7. With regard to the elective modules WP 25 – WP 27, you may only take one of these modules. If you take the elective module WP 29, WP 30 or WP 31, you may not take the elective module WP 9.
Entry requirements	None
Semester	Recommended semester: 1
Duration	The completion of the module takes 1 semester.
Content	Please refer to the elective course catalogue for the Master´s Programme Molecular and Cellular Biology.

Learning outcomes	Please refer to the elective course catalogue for the Master´s Programme Molecular and Cellular Biology.
Type of examination	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	Please refer to the elective course catalogue for the Master´s Programme Molecular and Cellular Biology.
Language(s)	English
Additional information	None

Module: WP 23 Methoden der molekularen und zellulären Biologie/Methods in molecular and cellular Biology

Programme	Master's Programme: Evolution, Ecology and Systematics (Master of Science, M.Sc.)

Related module parts

Course type	Course (mandatory)	Rotation	Contact hours	Self-study hours	ECTS
Seminar	WP 23.1 Methoden der molekularen und zellulären Biologie – Seminar/Methods in molecular and cellular Biology - seminar	WiSe	30 h (2 SWS)	60 h	(3)
Practical course	WP 23.2 Methoden der molekularen und zellulären Biologie – Übung/Methods in molecular and cellular Biology – practical course	WiSe	45 h (3 SWS)	45 h	(3)

For successful completion of the module 6 ECTS credits have to be acquired. Class attendance averages about 5 contact hours. Including time for self-study, 180 hours have to be invested.

Module type	Compulsory elective module with mandatory courses
Usability of the module in other Programmes	Master´s Programms: Molecular and Cellular Biology, Human Biology, Plant Sciences
Elective guidelines	With regard to the elective modules WP 10 - WP 31, modules with a total of 9 ECTS credits must be taken. If you take the elective module WP 21, WP 22 or WP 23, you may not take the elective modules WP 5, WP 6 or WP 7. With regard to the elective modules WP 25 – WP 27, you may only take one of these modules. If you take the elective module WP 29, WP 30 or WP 31, you may not take the elective module WP 9.
Entry requirements	None
Semester	Recommended semester: 1
Duration	The completion of the module takes 1 semester.
Content	Please refer to the elective course catalogue for the Master´s Programme Molecular and Cellular Biology.

Learning outcomes	Please refer to the elective course catalogue for the Master´s Programme Molecular and Cellular Biology.
Type of examination	Presentation and report
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	Please refer to the elective course catalogue for the Master´s Programme Molecular and Cellular Biology.
Language(s)	English
Additional information	None

Module: WP 24 Neurobiologie/Neurobiology

Programme	Master's Programme: Evolution, Ecology and Systematics (Master of Science, M.Sc.)

Related module parts

Course type	Course (mandatory)	Rotation	Contact hours	Self-study hours	ECTS
Lecture	WP 24.1 Grundlagen der Neurowissenschaften 1 – Vorlesung/Fundamentals in Neuroscience 1 - Lecture	WiSe	60 h (4 SWS)	120 h	(6)

For successful completion of the module 6 ECTS credits have to be acquired. Class attendance averages about 4 contact hours. Including time for self-study, 180 hours have to be invested.

Module type	Compulsory elective module with mandatory course
Usability of the module in other Programmes	Master´s Programms: Molecular and Cellular Biology, Human Biology, Plant Sciences
Elective guidelines	With regard to the elective modules WP 10 - WP 31, modules with a total of 9 ECTS credits must be taken. If you take the elective module WP 21, WP 22 or WP 23, you may not take the elective modules WP 5, WP 6 or WP 7. With regard to the elective modules WP 25 – WP 27, you may only take one of these modules. If you take the elective module WP 29, WP 30 or WP 31, you may not take the elective module WP 9.
Entry requirements	None
Semester	Recommended semester: 1
Duration	The completion of the module takes 1 semester.
Content	Please refer to the elective course catalogue for the Master´s Programme Neurosciences.
Learning outcomes	Please refer to the elective course catalogue for the Master´s Programme Neurosciences.
Type of examination	Written exam or oral examination
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	Please refer to the elective course catalogue for the Master´s Programme: Neurosciences
Language(s)	English
Additional information	None

Module: WP 25 Theorien der Neurobiologie I/Theories in Neurobiology I

Programme	Master's Programme: Evolution, Ecology and Systematics (Master of Science, M.Sc.)

Related module parts

Course type	Course (mandatory)	Rotation	Contact hours	Self-study hours	ECTS
Lecture	WP 25.1 Systemneurowissenschaften 1-Vorlesung/Systems Neuroscience 1 - Lecture	WiSe	30 h (2 SWS)	60 h	(3)
Lecture	WP 25.2 Theoretische Biophysik und zelluläre Physiologie – Vorlesung/Theoretical Biophysics and Cellular Physiology - Lecture	WiSe	30 h (2 SWS)	60 h	(3)

For successful completion of the module 6 ECTS credits have to be acquired. Class attendance averages about 4 contact hours. Including time for self-study, 180 hours have to be invested.

Module type	Compulsory elective module with mandatory courses
Usability of the module in other Programmes	Master´s Programms: Molecular and Cellular Biology, Human Biology, Plant Sciences
Elective guidelines	With regard to the elective modules WP 10 - WP 31, modules with a total of 9 ECTS credits must be taken. If you take the elective module WP 21, WP 22 or WP 23, you may not take the elective modules WP 5, WP 6 or WP 7. With regard to the elective modules WP 25 – WP 27, you may only take one of these modules. If you take the elective module WP 29, WP 30 or WP 31, you may not take the elective module WP 9.
Entry requirements	None
Semester	Recommended semester: 1
Duration	The completion of the module takes 1 semester.
Content	Please refer to the elective course catalogue for the Master´s Programme Neurosciences
Learning outcomes	Please refer to the elective course catalogue for the Master´s Programme Neurosciences

Type of examination	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	Please refer to the elective course catalogue for the master program neurosciences
Language(s)	English
Additional information	None

Module: WP 26 Theorien der Neurobiologie II/Theories in Neurobiology II

Programme	Master's Programme: Evolution, Ecology and Systematics (Master of Science, M.Sc.)

Related module parts

Course type	Course (mandatory)	Rotation	Contact hours	Self-study hours	ECTS
Lecture	WP 26.1 Systemneurowissenschaften 1 – Vorlesung/Systems Neuroscience 1 - Lecture	WiSe	30 h (2 SWS)	60 h	(3)
Lecture	WP 26.2 Der neuronale Code - Vorlesung/The Neural Code - Lecture	WiSe	30 h (2 SWS)	60 h	(3)

For successful completion of the module 6 ECTS credits have to be acquired. Class attendance averages about 4 contact hours. Including time for self-study, 180 hours have to be invested.

Module type	Compulsory elective module with mandatory courses
Usability of the module in other Programmes	Master´s Programms: Molecular and Cellular Biology, Human Biology, Plant Sciences
Elective guidelines	With regard to the elective modules WP 10 - WP 31, modules with a total of 9 ECTS credits must be taken. If you take the elective module WP 21, WP 22 or WP 23, you may not take the elective modules WP 5, WP 6 or WP 7. With regard to the elective modules WP 25 – WP 27, you may only take one of these modules. If you take the elective module WP 29, WP 30 or WP 31, you may not take the elective module WP 9.
Entry requirements	None
Semester	Recommended semester: 1
Duration	The completion of the module takes 1 semester.
Content	Please refer to the elective course catalogue for the Master´s Programme Neurosciences.
Learning outcomes	Please refer to the elective course catalogue for the Master´s Programme Neurosciences.
Type of examination	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	Please refer to the elective course catalogue for the master program neurosciences.
Language(s)	English
Additional information	None

Module: WP 27 Theorien der Neurobiologie III/Theories in Neurobiology III

Programme	Master's Programme: Evolution, Ecology and Systematics (Master of Science, M.Sc.)

Related module parts

Course type	Course (mandatory)	Rotation	Contact hours	Self-study hours	ECTS
Lecture	WP 27.1 Theoretische Biophysik und zelluläre Physiologie – Vorlesung/Theoretical Biophysics and Cellular Physiology - Lecture	WiSe	30 h (2 SWS)	60 h	(3)
Lecture	WP 27.2 Der neuronale Code – Vorlesung/The Neural Code - Lecture	WiSe	30 h (2 SWS)	60 h	(3)

For successful completion of the module 6 ECTS credits have to be acquired. Class attendance averages about 4 contact hours. Including time for self-study, 180 hours have to be invested.

Module type	Compulsory elective module with mandatory courses
Usability of the module in other Programmes	Master´s Programms: Molecular and Cellular Biology, Human Biology, Plant Sciences
Elective guidelines	With regard to the elective modules WP 10 - WP 31, modules with a total of 9 ECTS credits must be taken. If you take the elective module WP 21, WP 22 or WP 23, you may not take the elective modules WP 5, WP 6 or WP 7. With regard to the elective modules WP 25 – WP 27, you may only take one of these modules. If you take the elective module WP 29, WP 30 or WP 31, you may not take the elective module WP 9.
Entry requirements	None
Semester	Recommended semester: 1
Duration	The completion of the module takes 1 semester.
Content	Please refer to the elective course catalogue for the Master´s Programme Neurosciences.
Learning outcomes	Please refer to the elective course catalogue for the Master´s Programme Neurosciences.

Type of examination	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	Please refer to the elective course catalogue for the master program neurosciences
Language(s)	English
Additional information	None

Module: WP 28 Methoden der Neurobiologie/Methods in Neurobiology

Programme	Master's Programme: Evolution, Ecology and Systematics (Master of Science, M.Sc.)

Related module parts

Course type	Course (mandatory)	Rotation	Contact hours	Self-study hours	ECTS
Seminar	WP 28.1 Intersisziplinäres Training 5 – Seminar/Interdisciplinary Training 5 - Seminar	WiSe and SoSe	30 h (2 SWS)	60 h	(3)
Practical course	WP 28.2 Methoden der Neurobiologie – Übung/Methods in Neurobiology – practical course	WiSe and SoSe	45 h (3 SWS)	45 h	(3)

For successful completion of the module 6 ECTS credits have to be acquired. Class attendance averages about 5 contact hours. Including time for self-study, 180 hours have to be invested.

Module type	Compulsory elective module with mandatory courses
Usability of the module in other Programmes	Master´s Programms: Molecular and Cellular Biology, Human Biology, Plant Sciences
Elective guidelines	With regard to the elective modules WP 10 - WP 31, modules with a total of 9 ECTS credits must be taken. If you take the elective module WP 21, WP 22 or WP 23, you may not take the elective modules WP 5, WP 6 or WP 7. With regard to the elective modules WP 25 – WP 27, you may only take one of these modules. If you take the elective module WP 29, WP 30 or WP 31, you may not take the elective module WP 9.
Entry requirements	None
Semester	Recommended semester: 1
Duration	The completion of the module takes 1 semester.
Content	Please refer to the elective course catalogue for the Master´s Programme Neurosciences.
Learning outcomes	Please refer to the elective course catalogue for the Master´s Programme Neurosciences.
Type of examination	Presentation and report

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	Please refer to the elective course catalogue for the master program neurosciences
Language(s)	English
Additional information	None

Module: WP 29 Pflanzenwissenschaften/Plant Sciences

Programme	Master's Programme: Evolution, Ecology and Systematics (Master of Science, M.Sc.)

Related module parts

Course type	Course (mandatory)	Rotation	Contact hours	Self-study hours	ECTS
Lecture	WP 29.1 Pflanzenwissenschaften – Vorlesung/Plant Sciences - lecture	WiSe	30 h (2 SWS)	60 h	(3)
Seminar	WP 29.2 Pflanzenwissenschaften – Seminar/Plant Sciences - seminar	WiSe	30 h (2 SWS)	60 h	(3)

For successful completion of the module 6 ECTS credits have to be acquired. Class attendance averages about 4 contact hours. Including time for self-study, 180 hours have to be invested.

Module type	Compulsory elective module with mandatory courses
Usability of the module in other Programmes	Master´s Programms: Molecular and Cellular Biology, Human Biology, Plant Sciences
Elective guidelines	With regard to the elective modules WP 10 - WP 31, modules with a total of 9 ECTS credits must be taken. If you take the elective module WP 21, WP 22 or WP 23, you may not take the elective modules WP 5, WP 6 or WP 7. With regard to the elective modules WP 25 – WP 27, you may only take one of these modules. If you take the elective module WP 29, WP 30 or WP 31, you may not take the elective module WP 9.
Entry requirements	None
Semester	Recommended semester: 1
Duration	The completion of the module takes 1 semester.
Content	Please refer to the elective course catalogue for the Master´s Programme Plant Sciences.
Learning outcomes	Please refer to the elective course catalogue for the Master´s Programme Plant Sciences.
Type of examination	Written exam 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	Please refer to the elective course catalogue for the Master´s Programme Plant Sciences.
Language(s)	English
Additional information	None

Module: WP 30 Theorien der Pflanzenwissenschaften/Theories in Plant Sciences

Programme	Master's Programme: Evolution, Ecology and Systematics (Master of Science, M.Sc.)

Related module parts

Course type	Course (mandatory)	Rotation	Contact hours	Self-study hours	ECTS
Lecture	WP 30.1 Theorien der Pflanzenwissenschaften 1 – Vorlesung/Theories in Plant Sciences 1 - lecture	WiSe	30 h (2 SWS)	60 h	(3)
Lecture	WP 30.2 Theorien der Pflanzenwissenschaften 2 – Vorlesung/Theories in Plant Sciences 2 - lecture	WiSe	30 h (2 SWS)	60 h	(3)

For successful completion of the module 6 ECTS credits have to be acquired. Class attendance averages about 4 contact hours. Including time for self-study, 180 hours have to be invested.

Module type	Compulsory elective module with mandatory courses
Usability of the module in other Programmes	Master´s Programms: Molecular and Cellular Biology, Human Biology, Plant Sciences
Elective guidelines	With regard to the elective modules WP 10 - WP 31, modules with a total of 9 ECTS credits must be taken. If you take the elective module WP 21, WP 22 or WP 23, you may not take the elective modules WP 5, WP 6 or WP 7. With regard to the elective modules WP 25 – WP 27, you may only take one of these modules. If you take the elective module WP 29, WP 30 or WP 31, you may not take the elective module WP 9.
Entry requirements	None
Semester	Recommended semester: 1
Duration	The completion of the module takes 1 semester.
Content	Please refer to the elective course catalogue for the Master´s Programme Plant Sciences.
Learning outcomes	Please refer to the elective course catalogue for the Master´s Programme Plant Sciences.
Type of examination	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	Please refer to the elective course catalogue for the Master´s Programme Plant Sciences.
Language(s)	English
Additional information	None

Module: WP 31 Methoden der Pflanzenwissenschaften/Methods in Plant Sciences

Programme	Master's Programme: Evolution, Ecology and Systematics (Master of Science, M.Sc.)

Related module parts

Course type	Course (mandatory)	Rotation	Contact hours	Self-study hours	ECTS
Seminar	WP 31.1 Methoden der Pflanzenwissenschaften – Seminar/ Methods in Plant Sciences - seminar	WiSe	30 h (2 SWS)	60 h	(3)
Practical course	WP 31.2 Methoden der Pflanzenwissenschaften – Übung/Methods in Plant Sciences – practical course	WiSe	45 h (3 SWS)	45 h	(3)

For successful completion of the module 6 ECTS credits have to be acquired. Class attendance averages about 5 contact hours. Including time for self-study, 180 hours have to be invested.

Module type	Compulsory elective module with mandatory courses
Usability of the module in other Programmes	Master´s Programms: Molecular and Cellular Biology, Human Biology, Plant Sciences
Elective guidelines	With regard to the elective modules WP 10 - WP 31, modules with a total of 9 ECTS credits must be taken. If you take the elective module WP 21, WP 22 or WP 23, you may not take the elective modules WP 5, WP 6 or WP 7. With regard to the elective modules WP 25 – WP 27, you may only take one of these modules. If you take the elective module WP 29, WP 30 or WP 31, you may not take the elective module WP 9.
Entry requirements	None
Semester	Recommended semester: 1
Duration	The completion of the module takes 1 semester.
Content	Please refer to the elective course catalogue for the Master´s Programme Plant Sciences.
Learning outcomes	Please refer to the elective course catalogue for the Master´s Programme Plant Sciences.
Type of examination	Presentation and report

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	Please refer to the elective course catalogue for the Master´s Programme Plant Sciences.
Language(s)	English
Additional information	None

Module: P 2 Ökosysteme und Interaktionen von Organismen/Ecosystems and organismic interactions

Programme	Master's Programme: Evolution, Ecology and Systematics (Master of Science, M.Sc.)

Related module parts

Course type	Course (mandatory)	Rotation	Contact hours	Self-study hours	ECTS
Excursion	P 2.1 Exkursion	SoSe	15 h (1 SWS)	15 h	(1)
Seminar	P 2.2 Seminar zur Exkursion/Seminar to excursion	SoSe	30 h (2 SWS)	30 h	(2)
Seminar	P 2.3 Seminar: Globale Veränderungen/Seminar: Global change	SoSe	30 h (2 SWS)	60 h	(3)

For successful completion of the module 6 ECTS credits have to be acquired. Class attendance averages about 5 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	Master´s Programms: Molecular and Cellular Biology, Human Biology, Plant Sciences
Elective guidelines	None
Entry requirements	None
Semester	Recommended semester: 2
Duration	The completion of the module takes 1 semester.
Content	The lectures will provide the students with overview and background knowledge about the most important topics in statistics for biologists. In the practical course they will apply the knowledge they have gathered, while getting familiar with main statistics software. The topics of this lecture are applied statistical testing, analysis of variance, regression and likelihood methods. The students subsequently participate in an interdisciplinary one-week excursion. They will investigate an ecosystem from different angles, carry out small scientific projects and analyze their data statistically.
Learning outcomes	In this module, students acquire a firm knowledge of fundamental statistical principles and methods. Students learn how to use the statistics software R and to apply their knowledge to practical course problems. They learn to apply and critically assess statistical rationales. In addition, they are introduced to a number of field methods and to the identification of relevant taxa.

Type of examination	Report 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	Dingemanse, Niels; Stibor, Herwig; Stockenreiter, Maria
Language(s)	English
Additional information	None

Module: WP 32 Vertiefendes Forschungsmodul in Evolutionsbiologie, Ökologie und Systematik/Advanced research module in Evolutionary Biology, Ecology and Systematics

Programme	Master's Programme: Evolution, Ecology and Systematics (Master of Science, M.Sc.)

Related module parts

Course type	Course (mandatory)	Rotation	Contact hours	Self-study hours	ECTS
Practical course	WP 32.1 Vertiefendes Forschungspraktikum in Evolutionsbiologie, Ökologie und Systematik/Advanced research course in Evolutionary Biology, Ecology and Systematics	SoSe	180 h (12 SWS)	120 h	(10)
Seminar	WP 32.2 Schlüsselqualifikationen 3: Seminar Präsentationsfähigkeiten Poster/Soft Skills 3: Seminar presentation skills	SoSe	30 h (2 SWS)	30 h	(2)

For successful completion of the module 12 ECTS credits have to be acquired. Class attendance averages about 14 contact hours. Including time for self-study, 360 hours have to be invested.

Module type	Compulsory elective module with mandatory courses
Usability of the module in other Programmes	Master´s Programms: Molecular and Cellular Biology, Human Biology, Plant Sciences
Elective guidelines	With regard to the elective modules WP 32 - WP 59, modules with a total of 21 ECTS credits must be taken. If you do not take the elective module WP, WP 11, WP 12 or WP 13, you have to take one elective module from WP 32 - WP 25 and elective modules with a total of 9 ECTS credits from the elective modules WP 36 - WP 59. With regard to the elective modules WP 53 – WP 55, you may only take one of these modules.
Entry requirements	None
Semester	Recommended semester: 2
Duration	The completion of the module takes 1 semester.
Content	Students conduct a semester-long independent research project, write a manuscript, and present a poster. The projects are more advanced than the projects in module WP10, requiring more time and background knowledge.

	Specific knowledge from courses offered in the first semester of the EES Master's program may be required, depending on the group in which the project is conducted. Students who did module WP10, should carry out their WP32.1 project in a different group than the project in WP10.1. Projects usually will be suggested by the project supervisor, but should be developed further by the student. In detail: Students carry out a research project on a topic in the fields of Evolution, Ecology and Systematics. They perform a literature search and read the relevant literature. They write a research plan, discuss it with various members of the research group and carry it out. They write a report in the style of a scientific manuscript about their work. Students learn how to make an informative and visually-attractive poster, as would be presented at a scientific conference. They also learn to use computer software for layout and making figures. They apply this knowledge by preparing a poster about their research project, which is presented at the annual EES conference.
Learning outcomes	Students gain research experience and are able to plan and conduct an independent research project. Students know how to present their work in a scientifically structured report and as a poster, including layout for tables and figures. They have advanced knowledge in a subfield of Evolution, Ecology and Systematics, and have the skills needed to apply typical research methods in this field. Based on this knowledge and these skills they are able to critically assess research projects and results in this field. Students are able to prepare a poster including layout and figures using standard software.
Type of examination	Presentation and report
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	Chair of Systematic Botany
Language(s)	English
Additional information	None

Module: WP 33 Vertiefendes Forschungsmodul in der molekularen und zellulären Biologie/Advanced research module in molecular and cellular Biology

Programme	Master's Programme: Evolution, Ecology and Systematics (Master of Science, M.Sc.)

Related module parts

Course type	Course (mandatory)	Rotation	Contact hours	Self-study hours	ECTS
Practical course	WP 33.1 Vertiefendes Forschungspraktikum in der molekularen und zellulären Biologie/Advanced research course in molecular and cellular Biology	SoSe	180 h (12 SWS)	120 h	(10)
Seminar	WP 33.2 Schlüsselqualifikationen 3: Seminar Präsentationsfähigkeiten Poster/Soft Skills 3: Seminar presentation skills	SoSe	30 h (2 SWS)	30 h	(2)

For successful completion of the module 12 ECTS credits have to be acquired. Class attendance averages about 14 contact hours. Including time for self-study, 360 hours have to be invested.

Module type	Compulsory elective module with mandatory courses
Usability of the module in other Programmes	Master´s Programms: Molecular and Cellular Biology, Human Biology, Plant Sciences
Elective guidelines	With regard to the elective modules WP 32 - WP 59, modules with a total of 21 ECTS credits must be taken. If you do not take the elective module WP, WP 11, WP 12 or WP 13, you have to take one elective module from WP 32 - WP 25 and elective modules with a total of 9 ECTS credits from the elective modules WP 36 - WP 59. With regard to the elective modules WP 53 – WP 55, you may only take one of these modules.
Entry requirements	None
Semester	Recommended semester: 2
Duration	The completion of the module takes 1 semester.
Content	Students conduct a semester-long independent research project, write a manuscript, and present a poster. The projects are more advanced than the projects in module WP10, requiring more time and background knowledge. Specific knowledge from courses offered in the first

	semester of the Molecular and Cellular Biology Master's program may be required, depending on the group in which the project is conducted. Students who did module WP10, should carry out their WP 32.1 project in a different group than the project in WP 10.1. Projects usually will be suggested by the project supervisor, but should be developed further by the student. In detail: Students carry out a research project on a topic in the fields of Molecular and Cellular Biology. They perform a literature search and read the relevant literature. They write a research plan, discuss it with various members of the research group and carry it out. They write a report in the style of a scientific manuscript about their work. Students learn how to make an informative and visually-attractive poster, as would be presented at a scientific conference. They also learn to use computer software for layout and making figures. They apply this knowledge by preparing a poster about their research project, which is presented at the annual EES conference.
Learning outcomes	Students gain research experience and are able to plan and conduct an independent research project. Students know how to present their work in a scientifically structured report and as a poster, including layout for tables and figures. They have advanced knowledge in a subfield of Molecular and Cellular Biology, and have the skills needed to apply typical research methods in this field. Based on this knowledge and these skills they are able to critically assess research projects and results in this field. Students are able to prepare a poster including layout and figures using standard software.
Type of examination	Presentation and report
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	Supervisor from the specific research topic and teaching staff of skills course
Language(s)	English
Additional information	None

Module: WP 34 Vertiefendes Forschungsmodul Neurobiologie/Advanced research module Neurobiology

Programme	Master's Programme: Evolution, Ecology and Systematics (Master of Science, M.Sc.)

Related module parts

Course type	Course (mandatory)	Rotation	Contact hours	Self-study hours	ECTS
Practical course	WP 34.1 Vertiefendes Forschungspraktikum in der Neurobiologie/Advanced research course Neurobiology	SoSe	180 h (12 SWS)	120 h	(10)
Seminar	WP 34.2 Schlüsselqualifikationen 3: Seminar Präsentationsfähigkeiten Poster/Soft Skills 3: Seminar presentation skills poster	SoSe	30 h (2 SWS)	30 h	(2)

For successful completion of the module 12 ECTS credits have to be acquired. Class attendance averages about 14 contact hours. Including time for self-study, 360 hours have to be invested.

Module type	Compulsory elective module with mandatory courses
Usability of the module in other Programmes	Master´s Programms: Molecular and Cellular Biology, Human Biology, Plant Sciences
Elective guidelines	With regard to the elective modules WP 32 - WP 59, modules with a total of 21 ECTS credits must be taken. If you do not take the elective module WP, WP 11, WP 12 or WP 13, you have to take one elective module from WP 32 - WP 25 and elective modules with a total of 9 ECTS credits from the elective modules WP 36 - WP 59. With regard to the elective modules WP 53 – WP 55, you may only take one of these modules.
Entry requirements	None
Semester	Recommended semester: 2
Duration	The completion of the module takes 1 semester.
Content	Students conduct a semester-long independent research project, write a manuscript, and present a poster. The projects are more advanced than the projects in module WP10, requiring more time and background knowledge. Specific knowledge from courses offered in the first semester of the Neurobiology Master's program may be required, depending on the group in which the project is conducted. Students who did module WP10, should carry

	out their WP 32.1 project in a different group than the project in WP 10.1. Projects usually will be suggested by the project supervisor, but should be developed further by the student. In detail: Students carry out a research project on a topic in the field of Neurobiology. They perform a literature search and read the relevant literature. They write a research plan, discuss it with various members of the research group and carry it out. They write a report in the style of a scientific manuscript about their work. Students learn how to make an informative and visually-attractive poster, as would be presented at a scientific conference. They also learn to use computer software for layout and making figures. They apply this knowledge by preparing a poster about their research project, which is presented at the annual EES conference.
Learning outcomes	Students gain research experience and are able to plan and conduct an independent research project. Students know how to present their work in a scientifically structured report and as a poster, including layout for tables and figures. They have advanced knowledge in a subfield of Neurobiology, and have the skills needed to apply typical research methods in this field. Based on this knowledge and these skills they are able to critically assess research projects and results in this field. Students are able to prepare a poster including layout and figures using standard software.
Type of examination	Presentation and report
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	Supervisor from the specific research topic and teaching staff of skills course
Language(s)	English
Additional information	None

Module: WP 35 Vertiefendes Forschungsmodul Pflanzenwissenschaften/Advanced research module Plant Sciences

Programme	Master's Programme: Evolution, Ecology and Systematics (Master of Science, M.Sc.)

Related module parts

Course type	Course (mandatory)	Rotation	Contact hours	Self-study hours	ECTS
Practical course	WP 35.1 Vertiefendes Forschungspraktikum Pflanzenwissenschaften/ Advanced research course Plant Sciences	SoSe	180 h (12 SWS)	120 h	(10)
Seminar	WP 35.2 Schlüsselqualifikationen 3: Seminar Präsentationsfähigkeiten Poster/ Soft Skills 3: Seminar presentation skills poster	SoSe	30 h (2 SWS)	30 h	(2)

For successful completion of the module 12 ECTS credits have to be acquired. Class attendance averages about 14 contact hours. Including time for self-study, 360 hours have to be invested.

Module type	Compulsory elective module with mandatory courses
Usability of the module in other Programmes	Master´s Programms: Molecular and Cellular Biology, Human Biology, Plant Sciences
Elective guidelines	With regard to the elective modules WP 32 - WP 59, modules with a total of 21 ECTS credits must be taken. If you do not take the elective module WP, WP 11, WP 12 or WP 13, you have to take one elective module from WP 32 - WP 25 and elective modules with a total of 9 ECTS credits from the elective modules WP 36 - WP 59. With regard to the elective modules WP 53 – WP 55, you may only take one of these modules.
Entry requirements	None
Semester	Recommended semester: 2
Duration	The completion of the module takes 1 semester.
Content	Students conduct a semester-long independent research project, write a manuscript, and present a poster. The projects are more advanced than the projects in module WP10, requiring more time and background knowledge. Specific knowledge from courses offered in the first semester of the Plant Sciences Master's program may be

	required, depending on the group in which the project is conducted. Students who did module WP10, should carry out their WP 32.1 project in a different group than the project in WP 10.1. Projects usually will be suggested by the project supervisor, but should be developed further by the student. In detail: Students carry out a research project on a topic in the field of Plant Sciences. They perform a literature search and read the relevant literature. They write a research plan, discuss it with various members of the research group and carry it out. They write a report in the style of a scientific manuscript about their work. Students learn how to make an informative and visually-attractive poster, as would be presented at a scientific conference. They also learn to use computer software for layout and making figures. They apply this knowledge by preparing a poster about their research project, which is presented at the annual EES conference.
Learning outcomes	Students gain research experience and are able to plan and conduct an independent research project. Students know how to present their work in a scientifically structured report and as a poster, including layout for tables and figures. They have advanced knowledge in a subfield of Plant Sciences, and have the skills needed to apply typical research methods in this field. Based on this knowledge and these skills they are able to critically assess research projects and results in this field. Students are able to prepare a poster including layout and figures using standard software.
Type of examination	Presentation and report
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	Supervisor from the specific research topic and teaching staff of skills course
Language(s)	English
Additional information	None

Module: WP 36 Vertiefende evolutionäre Genomforschung/Advanced evolutionary genomics

Programme	Master's Programme: Evolution, Ecology and Systematics (Master of Science, M.Sc.)

Related module parts

Course type	Course (mandatory)	Rotation	Contact hours	Self-study hours	ECTS
Lecture	WP 36.1 Vertiefende evolutionäre Genomforschung – Vorlesung/Advanced evolutionary genomics - lecture	SoSe	30 h (2 SWS)	60 h	(3)
Practical course	WP 36.2 Vertiefende evolutionäre Genomforschung – Übung/Advanced evolutionary genomics – practical course	SoSe	30 h (2 SWS)	60 h	(3)

For successful completion of the module 6 ECTS credits have to be acquired. Class attendance averages about 4 contact hours. Including time for self-study, 180 hours have to be invested.

Module type	Compulsory elective module with mandatory courses
Usability of the module in other Programmes	Master´s Programms: Molecular and Cellular Biology, Human Biology, Plant Sciences
Elective guidelines	With regard to the elective modules WP 32 - WP 59, modules with a total of 21 ECTS credits must be taken. If you do not take the elective module WP, WP 11, WP 12 or WP 13, you have to take one elective module from WP 32 - WP 25 and elective modules with a total of 9 ECTS credits from the elective modules WP 36 - WP 59. With regard to the elective modules WP 53 – WP 55, you may only take one of these modules.
Entry requirements	None
Semester	Recommended semester: 2
Duration	The completion of the module takes 1 semester.
Content	Please refer to the elective course catalogue for the Master´s Programme.
Learning outcomes	Please refer to the elective course catalogue for the Master´s Programme.
Type of examination	Written exam 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	Please refer to the elective course catalogue for the Master´s Programme.
Language(s)	English
Additional information	None

Module: WP 37 Vertiefende Methoden der evolutionären Genomforschung/Advanced methods in evolutionary genomics

Programme	Master's Programme: Evolution, Ecology and Systematics (Master of Science, M.Sc.)

Related module parts

Course type	Course (mandatory)	Rotation	Contact hours	Self-study hours	ECTS
Lecture	WP 37.1 Vertiefende Methoden der evolutionären Genomforschung – Vorlesung/ Advanced methods in evolutionary genomics - lecture	SoSe	30 h (2 SWS)	60 h	(3)
Practical course	WP 37.2 Vertiefende Methoden der evolutionären Genomforschung – Übung/ Advanced methods in evolutionary genomics – practical course	SoSe	30 h (2 SWS)	60 h	(3)

For successful completion of the module 6 ECTS credits have to be acquired. Class attendance averages about 4 contact hours. Including time for self-study, 180 hours have to be invested.

Module type	Compulsory elective module with mandatory courses
Usability of the module in other Programmes	Master´s Programms: Molecular and Cellular Biology, Human Biology, Plant Sciences
Elective guidelines	With regard to the elective modules WP 32 - WP 59, modules with a total of 21 ECTS credits must be taken. If you do not take the elective module WP, WP 11, WP 12 or WP 13, you have to take one elective module from WP 32 - WP 25 and elective modules with a total of 9 ECTS credits from the elective modules WP 36 - WP 59. With regard to the elective modules WP 53 – WP 55, you may only take one of these modules.
Entry requirements	None
Semester	Recommended semester: 2
Duration	The completion of the module takes 1 semester.
Content	Please refer to the elective course catalogue for the Master´s Programme.
Learning outcomes	Please refer to the elective course catalogue for the Master´s Programme.

Type of examination	Written exam 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	Please refer to the elective course catalogue for the Master´s Programme.
Language(s)	English
Additional information	None

Module: WP 38 Vertiefende Techniken der evolutionären Genomforschung/Advanced techniques in evolutionary genomics

Programme	Master's Programme: Evolution, Ecology and Systematics (Master of Science, M.Sc.)

Related module parts

Course type	Course (mandatory)	Rotation	Contact hours	Self-study hours	ECTS
Lecture	WP 38.1 Vertiefende Techniken der evolutionären Genomforschung – Vorlesung/ Advanced techniques in evolutionary genomics - lecture	SoSe	15 h (1 SWS)	45 h	(2)
Practical course	WP 38.2 Vertiefende Techniken der evolutionären Genomforschung – Übung/ Advanced techniques in evolutionary genomics – practical course	SoSe	30 h (2 SWS)	0 h	(1)

For successful completion of the module 3 ECTS credits have to be acquired. Class attendance averages about 3 contact hours. Including time for self-study, 90 hours have to be invested.

Module type	Compulsory elective module with mandatory courses
Usability of the module in other Programmes	Master´s Programms: Molecular and Cellular Biology, Human Biology, Plant Sciences
Elective guidelines	With regard to the elective modules WP 32 - WP 59, modules with a total of 21 ECTS credits must be taken. If you do not take the elective module WP, WP 11, WP 12 or WP 13, you have to take one elective module from WP 32 - WP 25 and elective modules with a total of 9 ECTS credits from the elective modules WP 36 - WP 59. With regard to the elective modules WP 53 – WP 55, you may only take one of these modules.
Entry requirements	None
Semester	Recommended semester: 2
Duration	The completion of the module takes 1 semester.
Content	Please refer to the elective course catalogue for the Master´s Programme.
Learning outcomes	Please refer to the elective course catalogue for the Master´s Programme.

Type of examination	Written exam 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	Please refer to the elective course catalogue for the Master´s Programme.
Language(s)	English
Additional information	None

Module: WP 39 Vertiefende Themen der Evolutionsbiologie, Ökologie und Systematik/Advanced topics in Evolutionary Biology, Ecology and Systematics

Programme	Master's Programme: Evolution, Ecology and Systematics (Master of Science, M.Sc.)

Related module parts

Course type	Course (mandatory)	Rotation	Contact hours	Self-study hours	ECTS
Lecture	WP 39.1 Vertiefende Themen der Evolutionsbiologie, Ökologie und Systematik – Vorlesung/Advanced topics in Evolutionary Biology, Ecology and Systematics - lecture	SoSe	30 h (2 SWS)	60 h	(3)

For successful completion of the module 3 ECTS credits have to be acquired. Class attendance averages about 2 contact hours. Including time for self-study, 90 hours have to be invested.

Module type	Compulsory elective module with mandatory course
Usability of the module in other Programmes	Master´s Programms: Molecular and Cellular Biology, Human Biology, Plant Sciences
Elective guidelines	With regard to the elective modules WP 32 - WP 59, modules with a total of 21 ECTS credits must be taken. If you do not take the elective module WP, WP 11, WP 12 or WP 13, you have to take one elective module from WP 32 - WP 25 and elective modules with a total of 9 ECTS credits from the elective modules WP 36 - WP 59. With regard to the elective modules WP 53 – WP 55, you may only take one of these modules.
Entry requirements	None
Semester	Recommended semester: 2
Duration	The completion of the module takes 1 semester.
Content	Please refer to the elective course catalogue for the Master´s Programme.
Learning outcomes	Please refer to the elective course catalogue for the Master´s Programme.
Type of examination	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	Please refer to the elective course catalogue for the Master´s Programme.
Language(s)	English
Additional information	None

Module: WP 40 Vertiefende Konzepte der Evolutionsbiologie, Ökologie und Systematik/Advanced concepts in Evolutionary Biology, Ecology and Systematics

Programme	Master's Programme: Evolution, Ecology and Systematics (Master of Science, M.Sc.)

Related module parts

Course type	Course (mandatory)	Rotation	Contact hours	Self-study hours	ECTS
Lecture	WP 40.1 Vertiefende Konzepte der Evolutionsbiologie, Ökologie und Systematik – Vorlesung/Advanced concepts in Evolutionary Biology, Ecology and Systematics - lecture	SoSe	30 h (2 SWS)	60 h	(3)

For successful completion of the module 3 ECTS credits have to be acquired. Class attendance averages about 2 contact hours. Including time for self-study, 90 hours have to be invested.

Module type	Compulsory elective module with mandatory course
Usability of the module in other Programmes	Master´s Programms: Molecular and Cellular Biology, Human Biology, Plant Sciences
Elective guidelines	With regard to the elective modules WP 32 - WP 59, modules with a total of 21 ECTS credits must be taken. If you do not take the elective module WP, WP 11, WP 12 or WP 13, you have to take one elective module from WP 32 - WP 25 and elective modules with a total of 9 ECTS credits from the elective modules WP 36 - WP 59. With regard to the elective modules WP 53 – WP 55, you may only take one of these modules.
Entry requirements	None
Semester	Recommended semester: 2
Duration	The completion of the module takes 1 semester.
Content	Please refer to the elective course catalogue for the Master´s Programme.
Learning outcomes	Please refer to the elective course catalogue for the Master´s Programme.
Type of examination	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	Please refer to the elective course catalogue for the Master´s Programme.
Language(s)	English
Additional information	None

Module: WP 41 Vertiefende Theorien der Evolutionsbiologie, Ökologie und Systematik/Advanced theories in Evolutionary Biology, Ecology and Systematics

Programme	Master's Programme: Evolution, Ecology and Systematics (Master of Science, M.Sc.)

Related module parts

Course type	Course (mandatory)	Rotation	Contact hours	Self-study hours	ECTS
Lecture	WP 41.1 Vertiefende Theorien der Evolutionsbiologie, Ökologie und Systematik – Vorlesung/Advanced theories in Evolutionary Biology, Ecology and Systematics - lecture	SoSe	30 h (2 SWS)	60 h	(3)

For successful completion of the module 3 ECTS credits have to be acquired. Class attendance averages about 2 contact hours. Including time for self-study, 90 hours have to be invested.

Module type	Compulsory elective module with mandatory course
Usability of the module in other Programmes	Master´s Programms: Molecular and Cellular Biology, Human Biology, Plant Sciences
Elective guidelines	With regard to the elective modules WP 32 - WP 59, modules with a total of 21 ECTS credits must be taken. If you do not take the elective module WP, WP 11, WP 12 or WP 13, you have to take one elective module from WP 32 - WP 25 and elective modules with a total of 9 ECTS credits from the elective modules WP 36 - WP 59. With regard to the elective modules WP 53 – WP 55, you may only take one of these modules.
Entry requirements	None
Semester	Recommended semester: 2
Duration	The completion of the module takes 1 semester.
Content	Please refer to the elective course catalogue for the Master´s Programme.
Learning outcomes	Please refer to the elective course catalogue for the Master´s Programme.
Type of examination	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	Please refer to the elective course catalogue for the Master´s Programme.
Language(s)	English
Additional information	None

Module: WP 42 Aktuelle Publikationen zu vertiefenden Forschungsthemen der Evolutionsbiologie, Ökologie und Systematik/Current publications on advanced research topics in Evolutionary Biology, Ecology and Systematics

Programme	Master's Programme: Evolution, Ecology and Systematics (Master of Science, M.Sc.)

Related module parts

Course type	Course (mandatory)	Rotation	Contact hours	Self-study hours	ECTS
Seminar	WP 42.1 Aktuelle Publikationen zu vertiefenden Forschungsthemen der Evolutionsbiologie, Ökologie und Systematik – Seminar/ Current publications on advanced research topics in Evolutionary Biology, Ecology and Systematics - seminar	SoSe	30 h (2 SWS)	60 h	(3)

For successful completion of the module 3 ECTS credits have to be acquired. Class attendance averages about 2 contact hours. Including time for self-study, 90 hours have to be invested.

Module type	Compulsory elective module with mandatory course
Usability of the module in other Programmes	Master´s Programms: Molecular and Cellular Biology, Human Biology, Plant Sciences
Elective guidelines	With regard to the elective modules WP 32 - WP 59, modules with a total of 21 ECTS credits must be taken. If you do not take the elective module WP, WP 11, WP 12 or WP 13, you have to take one elective module from WP 32 - WP 25 and elective modules with a total of 9 ECTS credits from the elective modules WP 36 - WP 59. With regard to the elective modules WP 53 – WP 55, you may only take one of these modules.
Entry requirements	None
Semester	Recommended semester: 2
Duration	The completion of the module takes 1 semester.
Content	Please refer to the elective course catalogue for the Master´s Programme.
Learning outcomes	Please refer to the elective course catalogue for the Master´s Programme.

Type of examination	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	Please refer to the elective course catalogue for the Master´s Programme.
Language(s)	English
Additional information	None

Module: WP 43 Aktuelle Publikationen zu vertiefenden Methoden der Evolutionsbiologie, Ökologie und Systematik/ Current publications on advanced methods in Evolutionary Biology, Ecology and Systematics

Programme	Master's Programme: Evolution, Ecology and Systematics (Master of Science, M.Sc.)

Related module parts

Course type	Course (mandatory)	Rotation	Contact hours	Self-study hours	ECTS
Seminar	WP 43.1 Aktuelle Publikationen zu vertiefenden Methoden der Evolutionsbiologie, Ökologie und Systematik – Seminar/ Current publications on advanced methods in Evolutionary Biology, Ecology and Systematics – seminar	SoSe	30 h (2 SWS)	60 h	(3)

For successful completion of the module 3 ECTS credits have to be acquired. Class attendance averages about 2 contact hours. Including time for self-study, 90 hours have to be invested.

Module type	Compulsory elective module with mandatory course
Usability of the module in other Programmes	Master´s Programms: Molecular and Cellular Biology, Human Biology, Plant Sciences
Elective guidelines	With regard to the elective modules WP 32 - WP 59, modules with a total of 21 ECTS credits must be taken. If you do not take the elective module WP, WP 11, WP 12 or WP 13, you have to take one elective module from WP 32 - WP 25 and elective modules with a total of 9 ECTS credits from the elective modules WP 36 - WP 59. With regard to the elective modules WP 53 – WP 55, you may only take one of these modules.
Entry requirements	None
Semester	Recommended semester: 2
Duration	The completion of the module takes 1 semester.
Content	Please refer to the elective course catalogue for the Master´s Programme.
Learning outcomes	Please refer to the elective course catalogue for the Master´s Programme.

Type of examination	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	Please refer to the elective course catalogue for the Master´s Programme..
Language(s)	English
Additional information	None

Module: WP 44 Aktuelle Publikationen zu vertiefenden Auswertungsverfahren der Evolutionsbiologie, Ökologie und Systematik/Current publications on advanced analysis techniques in Evolutionary Biology, Ecology and Systematics

Programme	Master's Programme: Evolution, Ecology and Systematics (Master of Science, M.Sc.)

Related module parts

Course type	Course (mandatory)	Rotation	Contact hours	Self-study hours	ECTS
Seminar	WP 44.1 Aktuelle Publikationen zu vertiefenden Auswertungsverfahren der Evolutionsbiologie, Ökologie und Systematik – Seminar/ Current publications on advanced analysis techniques in Evolutionary Biology, Ecology and Systematics - seminar	SoSe	30 h (2 SWS)	60 h	(3)

For successful completion of the module 3 ECTS credits have to be acquired. Class attendance averages about 2 contact hours. Including time for self-study, 90 hours have to be invested.

Module type	Compulsory elective module with mandatory course
Usability of the module in other Programmes	Master´s Programms: Molecular and Cellular Biology, Human Biology, Plant Sciences
Elective guidelines	With regard to the elective modules WP 32 - WP 59, modules with a total of 21 ECTS credits must be taken. If you do not take the elective module WP, WP 11, WP 12 or WP 13, you have to take one elective module from WP 32 - WP 25 and elective modules with a total of 9 ECTS credits from the elective modules WP 36 - WP 59. With regard to the elective modules WP 53 – WP 55, you may only take one of these modules.
Entry requirements	None
Semester	Recommended semester: 2
Duration	The completion of the module takes 1 semester.
Content	Please refer to the elective course catalogue for the Master´s Programme.
Learning outcomes	Please refer to the elective course catalogue for the Master´s Programme.

Type of examination	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	Please refer to the elective course catalogue for the Master´s Programme.
Language(s)	English
Additional information	None

Module: WP 45 Vertiefende Methoden der Evolutionsbiologie, Ökologie und Systematik/Advanced methods in Evolutionary Biology, Ecology and Systematics

Programme	Master's Programme: Evolution, Ecology and Systematics (Master of Science, M.Sc.)

Related module parts

Course type	Course (mandatory)	Rotation	Contact hours	Self-study hours	ECTS
Practical course	WP 45.1 Vertiefende Methoden der Evolutionsbiologie, Ökologie und Systematik – Übung/Advanced methods in Evolutionary Biology, Ecology and Systematics – practical course	SoSe	45 h (3 SWS)	45 h	(3)

For successful completion of the module 3 ECTS credits have to be acquired. Class attendance averages about 3 contact hours. Including time for self-study, 90 hours have to be invested.

Module type	Compulsory elective module with mandatory course
Usability of the module in other Programmes	Master´s Programms: Molecular and Cellular Biology, Human Biology, Plant Sciences
Elective guidelines	With regard to the elective modules WP 32 - WP 59, modules with a total of 21 ECTS credits must be taken. If you do not take the elective module WP, WP 11, WP 12 or WP 13, you have to take one elective module from WP 32 - WP 25 and elective modules with a total of 9 ECTS credits from the elective modules WP 36 - WP 59. With regard to the elective modules WP 53 – WP 55, you may only take one of these modules.
Entry requirements	None
Semester	Recommended semester: 2
Duration	The completion of the module takes 1 semester.
Content	Please refer to the elective course catalogue for the Master´s Programme.
Learning outcomes	Please refer to the elective course catalogue for the Master´s Programme.
Type of examination	Report
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	Please refer to the elective course catalogue for the Master´s Programme.
Language(s)	English
Additional information	None

Module: WP 46 Vertiefende Techniken der Evolutionsbiologie, Ökologie und Systematik/Advanced techniques in Evolutionary Biology, Evolution and Systematics

Programme	Master's Programme: Evolution, Ecology and Systematics (Master of Science, M.Sc.)

Related module parts

Course type	Course (mandatory)	Rotation	Contact hours	Self-study hours	ECTS
Practical course	WP 46.1 Vertiefende Techniken der Evolutionsbiologie, Ökologie und Systematik – Übung/Advanced techniques in Evolutionary Biology, Evolution and Systematics – practical course	SoSe	45 h (3 SWS)	45 h	(3)

For successful completion of the module 3 ECTS credits have to be acquired. Class attendance averages about 3 contact hours. Including time for self-study, 90 hours have to be invested.

Module type	Compulsory elective module with mandatory course
Usability of the module in other Programmes	Master´s Programms: Molecular and Cellular Biology, Human Biology, Plant Sciences
Elective guidelines	With regard to the elective modules WP 32 - WP 59, modules with a total of 21 ECTS credits must be taken. If you do not take the elective module WP, WP 11, WP 12 or WP 13, you have to take one elective module from WP 32 - WP 25 and elective modules with a total of 9 ECTS credits from the elective modules WP 36 - WP 59. With regard to the elective modules WP 53 – WP 55, you may only take one of these modules.
Entry requirements	None
Semester	Recommended semester: 2
Duration	The completion of the module takes 1 semester.
Content	Please refer to the elective course catalogue for the Master´s Programme.
Learning outcomes	Please refer to the elective course catalogue for the Master´s Programme.
Type of examination	Report
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	Please refer to the elective course catalogue for the Master´s Programme.
Language(s)	English
Additional information	None

Module: WP 47 Vertiefende Verfahren der Evolutionsbiologie, Ökologie und Systematik/Advanced procedures in Evolutionary Biology, Evolution and Systematics

Programme	Master's Programme: Evolution, Ecology and Systematics (Master of Science, M.Sc.)

Related module parts

Course type	Course (mandatory)	Rotation	Contact hours	Self-study hours	ECTS
Practical course	WP 47.1 Vertiefende Verfahren der Evolutionsbiologie, Ökologie und Systematik – Übung/Advanced procedures in Evolutionary Biology, Evolution and Systematics – practical course	SoSe	45 h (3 SWS)	45 h	(3)

For successful completion of the module 3 ECTS credits have to be acquired. Class attendance averages about 3 contact hours. Including time for self-study, 90 hours have to be invested.

Module type	Compulsory elective module with mandatory course
Usability of the module in other Programmes	Master´s Programms: Molecular and Cellular Biology, Human Biology, Plant Sciences
Elective guidelines	With regard to the elective modules WP 32 - WP 59, modules with a total of 21 ECTS credits must be taken. If you do not take the elective module WP, WP 11, WP 12 or WP 13, you have to take one elective module from WP 32 - WP 25 and elective modules with a total of 9 ECTS credits from the elective modules WP 36 - WP 59. With regard to the elective modules WP 53 – WP 55, you may only take one of these modules.
Entry requirements	None
Semester	Recommended semester: 2
Duration	The completion of the module takes 1 semester.
Content	Please refer to the elective course catalogue for the Master´s Programme.
Learning outcomes	Please refer to the elective course catalogue for the Master´s Programme.
Type of examination	Report
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	Please refer to the elective course catalogue for the Master´s Programme.
Language(s)	English
Additional information	None

Module: WP 48 Vertiefende Analysen der Evolutionsbiologie, Ökologie und Systematik/Advanced analyses in Evolutionary Biology, Evolution and Systematics

Programme	Master's Programme: Evolution, Ecology and Systematics (Master of Science, M.Sc.)

Related module parts

Course type	Course (mandatory)	Rotation	Contact hours	Self-study hours	ECTS
Practical course	WP 48.1 Vertiefende Analysen der Evolutionsbiologie, Ökologie und Systematik – Übung/ Advanced analyses in Evolutionary Biology, Evolution and Systematics – practical course	SoSe	45 h (3 SWS)	45 h	(3)

For successful completion of the module 3 ECTS credits have to be acquired. Class attendance averages about 3 contact hours. Including time for self-study, 90 hours have to be invested.

Module type	Compulsory elective module with mandatory course
Usability of the module in other Programmes	Master´s Programms: Molecular and Cellular Biology, Human Biology, Plant Sciences
Elective guidelines	With regard to the elective modules WP 32 - WP 59, modules with a total of 21 ECTS credits must be taken. If you do not take the elective module WP, WP 11, WP 12 or WP 13, you have to take one elective module from WP 32 - WP 25 and elective modules with a total of 9 ECTS credits from the elective modules WP 36 - WP 59. With regard to the elective modules WP 53 – WP 55, you may only take one of these modules.
Entry requirements	None
Semester	Recommended semester: 2
Duration	The completion of the module takes 1 semester.
Content	Please refer to the elective course catalogue for the Master´s Programme.
Learning outcomes	Please refer to the elective course catalogue for the Master´s Programme.
Type of examination	Report
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	Please refer to the elective course catalogue for the Master´s Programme.
Language(s)	English
Additional information	None

Module: WP 49 Vertiefende Anwendungen der Evolutionsbiologie, Ökologie und Systematik/Advanced applications in Evolutionary Biology, Evolution and Systematics

Programme	Master's Programme: Evolution, Ecology and Systematics (Master of Science, M.Sc.)

Related module parts

Course type	Course (mandatory)	Rotation	Contact hours	Self-study hours	ECTS
Practical course	WP 49.1 Vertiefende Anwendungen der Evolutionsbiologie, Ökologie und Systematik – Übung/ Advanced applications in Evolutionary Biology, Evolution and Systematics – practical course	SoSe	45 h (3 SWS)	45 h	(3)

For successful completion of the module 3 ECTS credits have to be acquired. Class attendance averages about 3 contact hours. Including time for self-study, 90 hours have to be invested.

Module type	Compulsory elective module with mandatory course
Usability of the module in other Programmes	Master´s Programms: Molecular and Cellular Biology, Human Biology, Plant Sciences
Elective guidelines	With regard to the elective modules WP 32 - WP 59, modules with a total of 21 ECTS credits must be taken. If you do not take the elective module WP, WP 11, WP 12 or WP 13, you have to take one elective module from WP 32 - WP 25 and elective modules with a total of 9 ECTS credits from the elective modules WP 36 - WP 59. With regard to the elective modules WP 53 – WP 55, you may only take one of these modules.
Entry requirements	None
Semester	Recommended semester: 2
Duration	The completion of the module takes 1 semester.
Content	Please refer to the elective course catalogue for the Master´s Programme.
Learning outcomes	Please refer to the elective course catalogue for the Master´s Programme.
Type of examination	Report

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	Please refer to the elective course catalogue for the Master´s Programme.
Language(s)	English
Additional information	None

Module: WP 50 Vertiefende molekulare und zelluläre Biologie/Advanced molecular and cellular Biology

Programme	Master's Programme: Evolution, Ecology and Systematics (Master of Science, M.Sc.)

Related module parts

Course type	Course (mandatory)	Rotation	Contact hours	Self-study hours	ECTS
Lecture	WP 50.1 Vertiefende molekulare und zelluläre Biologie – Vorlesung/Advanced molecular and cellular Biology - lecture	SoSe	30 h (2 SWS)	60 h	(3)
Seminar	WP 50.2 Vertiefende molekulare und zelluläre Biologie – Seminar/Advanced molecular and cellular Biology - seminar	SoSe	30 h (2 SWS)	60 h	(3)

For successful completion of the module 6 ECTS credits have to be acquired. Class attendance averages about 4 contact hours. Including time for self-study, 180 hours have to be invested.

Module type	Compulsory elective module with mandatory courses
Usability of the module in other Programmes	Master´s Programms: Molecular and Cellular Biology, Human Biology, Plant Sciences
Elective guidelines	With regard to the elective modules WP 32 - WP 59, modules with a total of 21 ECTS credits must be taken. If you do not take the elective module WP, WP 11, WP 12 or WP 13, you have to take one elective module from WP 32 - WP 25 and elective modules with a total of 9 ECTS credits from the elective modules WP 36 - WP 59. With regard to the elective modules WP 53 – WP 55, you may only take one of these modules.
Entry requirements	None
Semester	Recommended semester: 2
Duration	The completion of the module takes 1 semester.
Content	Please refer to the elective course catalogue for the Master´s Programme Molecular and Cellular Biology.
Learning outcomes	Please refer to the elective course catalogue for the Master´s Programme Molecular and Cellular Biology.

Type of examination	Written exam 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	Please refer to the elective course catalogue for the Master´s Programme Molecular and Cellular Biology.
Language(s)	English
Additional information	None

Module: WP 51 Vertiefende Theorien der molekularen und zellulären Biologie/Advanced theories in molecular and cellular Biology

Programme	Master's Programme: Evolution, Ecology and Systematics (Master of Science, M.Sc.)

Related module parts

Course type	Course (mandatory)	Rotation	Contact hours	Self-study hours	ECTS
Lecture	WP 51.1 Vertiefende Theorien der molekularen und zellulären Biologie 1 – Vorlesung/ Advanced theories in molecular and cellular Biology 1 - lecture	SoSe	30 h (2 SWS)	60 h	(3)
Lecture	WP 51.2 Vertiefende Theorien der molekularen und zellulären Biologie 2 – Vorlesung/ Advanced theories in molecular and cellular Biology 2 - lecture	SoSe	30 h (2 SWS)	60 h	(3)

For successful completion of the module 6 ECTS credits have to be acquired. Class attendance averages about 4 contact hours. Including time for self-study, 180 hours have to be invested.

Module type	Compulsory elective module with mandatory courses
Usability of the module in other Programmes	Master´s Programms: Molecular and Cellular Biology, Human Biology, Plant Sciences
Elective guidelines	With regard to the elective modules WP 32 - WP 59, modules with a total of 21 ECTS credits must be taken. If you do not take the elective module WP, WP 11, WP 12 or WP 13, you have to take one elective module from WP 32 - WP 25 and elective modules with a total of 9 ECTS credits from the elective modules WP 36 - WP 59. With regard to the elective modules WP 53 – WP 55, you may only take one of these modules.
Entry requirements	None
Semester	Recommended semester: 2
Duration	The completion of the module takes 1 semester.

Content	Please refer to the elective course catalogue for the Master´s Programme Molecular and Cellular Biology.
Learning outcomes	Please refer to the elective course catalogue for the Master´s Programme Molecular and Cellular Biology.
Type of examination	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	Please refer to the elective course catalogue for the Master´s Programme Molecular and Cellular Biology.
Language(s)	English
Additional information	None

Module: WP 52 Vertiefende Methoden der molekularen und zellulären Biologie/Advanced methods in molecular and cellular Biology

Programme	Master's Programme: Evolution, Ecology and Systematics (Master of Science, M.Sc.)

Related module parts

Course type	Course (mandatory)	Rotation	Contact hours	Self-study hours	ECTS
Seminar	WP 52.1 Vertiefende Methoden der molekularen und zellulären Biologie – Seminar/Advanced methods in molecular and cellular Biology - seminar	SoSe	30 h (2 SWS)	60 h	(3)
Practical course	WP 52.2 Vertiefende Methoden der molekularen und zellulären Biologie – Übung/Advanced methods in molecular and cellular Biology – practical course	SoSe	45 h (3 SWS)	45 h	(3)

For successful completion of the module 6 ECTS credits have to be acquired. Class attendance averages about 5 contact hours. Including time for self-study, 180 hours have to be invested.

Module type	Compulsory elective module with mandatory courses
Usability of the module in other Programmes	Master´s Programms: Molecular and Cellular Biology, Human Biology, Plant Sciences
Elective guidelines	With regard to the elective modules WP 32 - WP 59, modules with a total of 21 ECTS credits must be taken. If you do not take the elective module WP, WP 11, WP 12 or WP 13, you have to take one elective module from WP 32 - WP 25 and elective modules with a total of 9 ECTS credits from the elective modules WP 36 - WP 59. With regard to the elective modules WP 53 – WP 55, you may only take one of these modules.
Entry requirements	None
Semester	Recommended semester: 2
Duration	The completion of the module takes 1 semester.

Content	Please refer to the elective course catalogue for the Master´s Programme Molecular and Cellular Biology.
Learning outcomes	Please refer to the elective course catalogue for the Master´s Programme Molecular and Cellular Biology.
Type of examination	Presentation and report
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	Please refer to the elective course catalogue for the Master´s Programme Molecular and Cellular Biology.
Language(s)	English
Additional information	None

Module: WP 53 Vertiefende Theorien der Neurobiologie I/Advanced theories in Neurobiology I

Programme	Master's Programme: Evolution, Ecology and Systematics (Master of Science, M.Sc.)

Related module parts

Course type	Course (mandatory)	Rotation	Contact hours	Self-study hours	ECTS
Lecture	WP 53.1 Spezielle Methoden der systemischen, zellulären und molekularen Neurowissenschaften für Experten – Vorlesung/Special Methods in Systemic, Cellular and Molecular Neuroscience for Experts - Lecture	SoSe	30 h (2 SWS)	60 h	(3)
Lecture	WP 53.2 Maschinelles Lernen und Analyse Neuraler Daten – Vorlesung/Machine Learning and Analysis of Neural Data - Lecture	SoSe	30 h (2 SWS)	60 h	(3)

For successful completion of the module 6 ECTS credits have to be acquired. Class attendance averages about 4 contact hours. Including time for self-study, 180 hours have to be invested.

Module type	Compulsory elective module with mandatory courses
Usability of the module in other Programmes	Master´s Programms: Molecular and Cellular Biology, Human Biology, Plant Sciences
Elective guidelines	With regard to the elective modules WP 32 - WP 59, modules with a total of 21 ECTS credits must be taken. If you do not take the elective module WP, WP 11, WP 12 or WP 13, you have to take one elective module from WP 32 - WP 25 and elective modules with a total of 9 ECTS credits from the elective modules WP 36 - WP 59. With regard to the elective modules WP 53 – WP 55, you may only take one of these modules.
Entry requirements	None
Semester	Recommended semester: 2
Duration	The completion of the module takes 1 semester.
Content	Please refer to the elective course catalogue for the Master´s Programme Neurosciences.

Learning outcomes	Please refer to the elective course catalogue for the Master´s Programme Neurosciences.
Type of examination	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	Please refer to the elective course catalogue for the Master´s Programme Neurosciences.
Language(s)	English
Additional information	None

Module: WP 54 Vertiefende Theorien der Neurobiologie II/Advanced theories in Neurobiology II

Programme	Master's Programme: Evolution, Ecology and Systematics (Master of Science, M.Sc.)

Related module parts

Course type	Course (mandatory)	Rotation	Contact hours	Self-study hours	ECTS
Lecture	WP 54.1 Spezielle Methoden der systemischen, zellulären und molekularen Neurowissenschaften für Experten – Vorlesung/Special Methods in Systemic, Cellular and Molecular Neuroscience for Experts - Lecture	SoSe	30 h (2 SWS)	60 h	(3)
Lecture	WP 54.2 Mathematische Modelle Neuraler Systeme und Kognitiver Funktionen – Vorlesung/Mathematical Models of Neural Systems and Cognitive Functions - Lecture	SoSe	30 h (2 SWS)	60 h	(3)

For successful completion of the module 6 ECTS credits have to be acquired. Class attendance averages about 4 Contact hours. Including time for self-study, 180 hours have to be invested.

Module type	Compulsory elective module with mandatory courses
Usability of the module in other Programmes	Master´s Programms: Molecular and Cellular Biology, Human Biology, Plant Sciences
Elective guidelines	With regard to the elective modules WP 32 - WP 59, modules with a total of 21 ECTS credits must be taken. If you do not take the elective module WP, WP 11, WP 12 or WP 13, you have to take one elective module from WP 32 - WP 25 and elective modules with a total of 9 ECTS credits from the elective modules WP 36 - WP 59. With regard to the elective modules WP 53 – WP 55, you may only take one of these modules.
Entry requirements	None
Semester	Recommended semester: 2
Duration	The completion of the module takes 1 semester.
Content	Please refer to the elective course catalogue for the Master´s Programme Neurosciences.

Learning outcomes	Please refer to the elective course catalogue for the Master´s Programme Neurosciences.
Type of examination	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	Please refer to the elective course catalogue for the Master´s Programme Neurosciences.
Language(s)	English
Additional information	None

Module: WP 55 Vertiefende Theorien der Neurobiologie III/Advanced theories in Neurobiology III

Programme	Master's Programme: Evolution, Ecology and Systematics (Master of Science, M.Sc.)

Related module parts

Course type	Course (mandatory)	Rotation	Contact hours	Self-study hours	ECTS
Lecture	WP 55.1 Maschinelles Lernen und Analyse Neuraler Daten – Vorlesung/Machine Learning and Analysis of Neural Data - Lecture	SoSe	30 h (2 SWS)	60 h	(3)
Lecture	WP 55.2 Mathematische Modelle Neuraler Systeme und Kognitiver Funktionen – Vorlesung/Mathematical Models of Neural Systems and Cognitive Functions - Lecture	SoSe	30 h (2 SWS)	60 h	(3)

For successful completion of the module 6 ECTS credits have to be acquired. Class attendance averages about 4 contact hours. Including time for self-study, 180 hours have to be invested.

Module type	Compulsory elective module with mandatory courses
Usability of the module in other Programmes	Master´s Programms: Molecular and Cellular Biology, Human Biology, Plant Sciences
Elective guidelines	With regard to the elective modules WP 32 - WP 59, modules with a total of 21 ECTS credits must be taken. If you do not take the elective module WP, WP 11, WP 12 or WP 13, you have to take one elective module from WP 32 - WP 25 and elective modules with a total of 9 ECTS credits from the elective modules WP 36 - WP 59. With regard to the elective modules WP 53 – WP 55, you may only take one of these modules.
Entry requirements	None
Semester	Recommended semester: 2
Duration	The completion of the module takes 1 semester.
Content	Please refer to the elective course catalogue for the Master´s Programme Neurosciences.
Learning outcomes	Please refer to the elective course catalogue for the Master´s Programme Neurosciences.

Type of examination	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	Please refer to the elective course catalogue for the Master´s Programme Neurosciences.
Language(s)	English
Additional information	None

Module: WP 56 Vertiefende Methoden der Neurobiologie/Advanced methods in Neurobiology

Programme	Master's Programme: Evolution, Ecology and Systematics (Master of Science, M.Sc.)

Related module parts

Course type	Course (mandatory)	Rotation	Contact hours	Self-study hours	ECTS
Seminar	WP 56.1 Spezielle Methoden der systemischen, zellulären und molekularen Neurowissenschaften für Experten – Seminar/Special Methods in Systemic, Cellular and Molecular Neuroscience for Experts - Seminar	SoSe	30 h (2 SWS)	60 h	(3)
Practical course	WP 56.2 Maschinelles Lernen und Analyse Neuraler Daten – Übung/Machine Learning and Analysis of Neural Data - Practical Course	SoSe	45 h (3 SWS)	45 h	(3)

For successful completion of the module 6 ECTS credits have to be acquired. Class attendance averages about 5 contact hours. Including time for self-study, 180 hours have to be invested.

Module type	Compulsory elective module with mandatory courses
Usability of the module in other Programmes	Master´s Programms: Molecular and Cellular Biology, Human Biology, Plant Sciences
Elective guidelines	With regard to the elective modules WP 32 - WP 59, modules with a total of 21 ECTS credits must be taken. If you do not take the elective module WP, WP 11, WP 12 or WP 13, you have to take one elective module from WP 32 - WP 25 and elective modules with a total of 9 ECTS credits from the elective modules WP 36 - WP 59. With regard to the elective modules WP 53 – WP 55, you may only take one of these modules.
Entry requirements	None
Semester	Recommended semester: 2
Duration	The completion of the module takes 1 semester.
Content	Please refer to the elective course catalogue for the Master´s Programme Neurosciences.

Learning outcomes	Please refer to the elective course catalogue for the Master´s Programme Neurosciences.
Type of examination	Presentation and report
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	Please refer to the elective course catalogue for the Master´s Programme Neurosciences.
Language(s)	English
Additional information	None

Module: WP 57 Vertiefende Pflanzenwissenschaften/Advanced Plant Sciences

Programme	Master's Programme: Evolution, Ecology and Systematics (Master of Science, M.Sc.)

Related module parts

Course type	Course (mandatory)	Rotation	Contact hours	Self-study hours	ECTS
Lecture	WP 57.1 Vertiefende Pflanzenwissenschaften – Vorlesung/Advanced Plant Sciences - lecture	SoSe	30 h (2 SWS)	60 h	(3)
Seminar	WP 57.2 Vertiefende Pflanzenwissenschaften – Seminar/Advanced Plant Sciences - seminar	SoSe	30 h (2 SWS)	60 h	(3)

For successful completion of the module 6 ECTS credits have to be acquired. Class attendance averages about 4 contact hours. Including time for self-study, 180 hours have to be invested.

Module type	Compulsory elective module with mandatory courses
Usability of the module in other Programmes	Master´s Programms: Molecular and Cellular Biology, Human Biology, Plant Sciences
Elective guidelines	With regard to the elective modules WP 32 - WP 59, modules with a total of 21 ECTS credits must be taken. If you do not take the elective module WP, WP 11, WP 12 or WP 13, you have to take one elective module from WP 32 - WP 25 and elective modules with a total of 9 ECTS credits from the elective modules WP 36 - WP 59. With regard to the elective modules WP 53 – WP 55, you may only take one of these modules.
Entry requirements	None
Semester	Recommended semester: 2
Duration	The completion of the module takes 1 semester.
Content	Please refer to the elective course catalogue for the Master´s Programme Plant Sciences.
Learning outcomes	Please refer to the elective course catalogue for the Master´s Programme Plant Sciences.
Type of examination	Written exam 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	Please refer to the elective course catalogue for the Master´s Programme Plant Sciences.
Language(s)	English
Additional information	None

Module: WP 58 Vertiefende Theorien der Pflanzenwissenschaften/Advanced theories in Plant Sciences

Programme	Master's Programme: Evolution, Ecology and Systematics (Master of Science, M.Sc.)

Related module parts

Course type	Course (mandatory)	Rotation	Contact hours	Self-study hours	ECTS
Lecture	WP 58.1 Vertiefende Theorien der Pflanzenwissenschaften 1 – Vorlesung/Advanced theories in Plant Sciences 1 - lecture	SoSe	30 h (2 SWS)	60 h	(3)
Lecture	WP 58.2 Vertiefende Theorien der Pflanzenwissenschaften 2 – Vorlesung/Advanced theories in Plant Sciences 2 - lecture	SoSe	30 h (2 SWS)	60 h	(3)

For successful completion of the module 6 ECTS credits have to be acquired. Class attendance averages about 4 contact hours. Including time for self-study, 180 hours have to be invested.

Module type	Compulsory elective module with mandatory courses
Usability of the module in other Programmes	Master´s Programms: Molecular and Cellular Biology, Human Biology, Plant Sciences
Elective guidelines	With regard to the celective modules WP 32 - WP 59, modules with a total of 21 ECTS credits must be taken. If you do not take the elective module WP, WP 11, WP 12 or WP 13, you have to take one elective module from WP 32 - WP 25 and elective modules with a total of 9 ECTS credits from the elective modules WP 36 - WP 59. With regard to the elective modules WP 53 – WP 55, you may only take one of these modules.
Entry requirements	None
Semester	Recommended semester: 2
Duration	The completion of the module takes 1 semester.
Content	Please refer to the elective course catalogue for the Master´s Programme Plant Sciences.
Learning outcomes	Please refer to the elective course catalogue for the Master´s Programme Plant Sciences.
Type of examination	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	Please refer to the elective course catalogue for the Master´s Programme Plant Sciences.
Language(s)	English
Additional information	None

Module: WP 59 Vertiefende Methoden der Pflanzenwissenschaften/Advanced methods in Plant Sciences

Programme	Master's Programme: Evolution, Ecology and Systematics (Master of Science, M.Sc.)

Related module parts

Course type	Course (mandatory)	Rotation	Contact hours	Self-study hours	ECTS
Seminar	WP 59.1 Vertiefende Methoden der Pflanzenwissenschaften – Seminar/Advanced methods in Plant Sciences - seminar	SoSe	30 h (2 SWS)	60 h	(3)
Practical course	WP 59.2 Vertiefende Methoden der Pflanzenwissenschaften – Übung/Advanced methods in Plant Sciences – practical course	SoSe	45 h (3 SWS)	45 h	(3)

For successful completion of the module 6 ECTS credits have to be acquired. Class attendance averages about 5 contact hours. Including time for self-study, 180 hours have to be invested.

Module type	Compulsory elective module with mandatory courses
Usability of the module in other Programmes	Master´s Programms: Molecular and Cellular Biology, Human Biology, Plant Sciences
Elective guidelines	With regard to the elective modules WP 32 - WP 59, modules with a total of 21 ECTS credits must be taken. If you do not take the elective module WP, WP 11, WP 12 or WP 13, you have to take one elective module from WP 32 - WP 25 and elective modules with a total of 9 ECTS credits from the elective modules WP 36 - WP 59. With regard to the elective modules WP 53 – WP 55, you may only take one of these modules.
Entry requirements	None
Semester	Recommended semester: 2
Duration	The completion of the module takes 1 semester.
Content	Please refer to the elective course catalogue for the Master´s Programme Plant Sciences.
Learning outcomes	Please refer to the elective course catalogue for the Master´s Programme Plant Sciences.
Type of examination	Presentation and report

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	Please refer to the elective course catalogue for the Master´s Programme Plant Sciences.
Language(s)	English
Additional information	None

Module: P 3 Aktuelle Themen der Evolutionsbiologie, Ökologie und Systematik/Current topics in Evolutionary Biology, Ecology and Systematics

Programme	Master's Programme: Evolution, Ecology and Systematics (Master of Science, M.Sc.)

Related module parts

Course type	Course (mandatory)	Rotation	Contact hours	Self-study hours	ECTS
Seminar	P 3.1 Seminar - Aktuelle Themen der Evolutionsbiologie, Ökologie und Systematik/ Current topics in Evolutionary Biology, Ecology and Systematics - seminar	WiSe	30 h (2 SWS)	60 h	(3)

For successful completion of the module 3 ECTS credits have to be acquired. Class attendance averages about 2 contact hours. Including time for self-study, 90 hours have to be invested.

Module type	Mandatory module with mandatory courses
Usability of the module in other Programmes	Master´s Programms: Molecular and Cellular Biology, Human Biology, Plant Sciences
Elective guidelines	None
Entry requirements	None
Semester	Recommended semester: 3
Duration	The completion of the module takes 1 semester.
Content	In this seminar, groups of two students will choose a topic in ecology or evolution, read 5-10 papers on the topic, discuss the topic with the lecturer one week later, and prepare a 30-min presentation again one week later. Another group of two students will survey the topic prior to the presentation, and prepare 5-10 questions as opponents. One group will present each course day. Each day, a third group is allocated to chairing each session. Two hours are allocated for the course every week throughout the semester. The daily structure will be that one hour will be allocated to the presentation (30 mins) plus discussion (15 mins) plus feedback (15 mins). Afterwards, 45-mins will be allocated for the lecturer to discuss and provide feedback to group presenting next week.
Learning outcomes	Students learn how to acquire an authoritative overview of research fields of interest by means of literature search,

	critical discussion of papers, identification of outstanding research questions, summarizing research by means of an oral presentation, and will learn to lead and participate in scientific discussions.
Type of examination	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	Dingemanse, Nils
Language(s)	English
Additional information	None

Module: WP 60 Spezielle Themen der evolutionären Genomforschung/Special topics in evolutionary genomics

Programme	Master's Programme: Evolution, Ecology and Systematics (Master of Science, M.Sc.)

Related module parts

Course type	Course (mandatory)	Rotation	Contact hours	Self-study hours	ECTS
Lecture	WP 60.1 Spezielle Themen der evolutionären Genomforschung – Vorlesung/ Special topics in evolutionary genomics - lecture	WiSe	15 h (1 SWS)	45 h	(2)
Practical course	WP 60.2 Spezielle Themen der evolutionären Genomforschung – Übung/Special topics in evolutionary genomics – practical course	WiSe	30 h (2 SWS)	0 h	(1)

For successful completion of the module 3 ECTS credits have to be acquired. Class attendance averages about 3 contact hours. Including time for self-study, 90 hours have to be invested.

Module type	Compulsory elective module with mandatory courses
Usability of the module in other Programmes	Master´s Programms: Molecular and Cellular Biology, Human Biology, Plant Sciences
Elective guidelines	With regard to the elective modules WP 60 - WP 82, five elective modules must be taken.
Entry requirements	None
Semester	Recommended semester: 3
Duration	The completion of the module takes 1 semester.
Content	Please refer to the elective course catalogue for the Master´s Programme.
Learning outcomes	Please refer to the elective course catalogue for the Master´s Programme.
Type of examination	Written exam 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	Please refer to the elective course catalogue for the Master´s Programme.
Language(s)	English
Additional information	None

Module: WP 61 Spezielle Themen der statistischen und bioinformatischen Methoden/Special topics of statistical and bioinformatical methods

Programme	Master's Programme: Evolution, Ecology and Systematics (Master of Science, M.Sc.)

Related module parts

Course type	Course (mandatory)	Rotation	Contact hours	Self-study hours	ECTS
Lecture	WP 61.1 Spezielle Themen der statistischen und bioinformatischen Methoden – Vorlesung/ Special topics of statistical and bioinformatical methods - lecture	WiSe	15 h (1 SWS)	45 h	(2)
Practical course	WP 61.2 Spezielle Themen der statistischen und bioinformatischen Methoden – Übung/ Special topics of statistical and bioinformatical methods – practical course	WiSe	30 h (2 SWS)	0 h	(1)

For successful completion of the module 3 ECTS credits have to be acquired. Class attendance averages about 3 contact hours. Including time for self-study, 90 hours have to be invested.

Module type	Compulsory elective module with mandatory courses
Usability of the module in other Programmes	Master´s Programms: Molecular and Cellular Biology, Human Biology, Plant Sciences
Elective guidelines	With regard to the elective modules WP 60 - WP 82, five elective modules must be taken.
Entry requirements	None
Semester	Recommended semester: 3
Duration	The completion of the module takes 1 semester.
Content	Please refer to the elective course catalogue for the Master´s Programme.
Learning outcomes	Please refer to the elective course catalogue for the Master´s Programme.
Type of examination	Written exam 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	Please refer to the elective course catalogue for the Master´s Programme..
Language(s)	English
Additional information	None

Module: WP 62 Spezielle Methoden der Phylogenie und Evolutionsbiologie/Special methods in Phylogeny and Evolutionary Biology

Programme	Master's Programme: Evolution, Ecology and Systematics (Master of Science, M.Sc.)

Related module parts

Course type	Course (mandatory)	Rotation	Contact hours	Self-study hours	ECTS
Lecture	WP 62.1 Spezielle Methoden der Phylogenie und Evolutionsbiologie – Vorlesung/ Special methods in Phylogeny and Evolutionary Biology - lecture	WiSe	15 h (1 SWS)	45 h	(2)
Practical course	WP 62.2 Spezielle Methoden der Phylogenie und Evolutionsbiologie – Übung/ Special methods in Phylogeny and Evolutionary Biology – practical course	WiSe	30 h (2 SWS)	0 h	(1)

For successful completion of the module 3 ECTS credits have to be acquired. Class attendance averages about 3 contact hours. Including time for self-study, 90 hours have to be invested.

Module type	Compulsory elective module with mandatory courses
Usability of the module in other Programmes	Master´s Programms: Molecular and Cellular Biology, Human Biology, Plant Sciences
Elective guidelines	With regard to the elective modules WP 60 - WP 82, five elective modules must be taken.
Entry requirements	None
Semester	Recommended semester: 3
Duration	The completion of the module takes 1 semester.
Content	Please refer to the elective course catalogue for the Master´s Programme.
Learning outcomes	Please refer to the elective course catalogue for the Master´s Programme.
Type of examination	Written exam 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	Please refer to the elective course catalogue for the Master´s Programme.
Language(s)	English
Additional information	None

Module: WP 63 Angewandte statistische und bioinformatische Methoden/Applied methods in Statistics and Bioinformatics

Programme	Master's Programme: Evolution, Ecology and Systematics (Master of Science, M.Sc.)

Related module parts

Course type	Course (mandatory)	Rotation	Contact hours	Self-study hours	ECTS
Lecture	WP 63.1 Statistische und bioinformatische Methoden – Vorlesung/Statistical and bioinformatical methods - lecture	WiSe	15 h (1 SWS)	45 h	(2)
Practical course	WP 63.2 Statistische und bioinformatische Methoden – Übung/Statistical and bioinformatical methods – practical course	WiSe	30 h (2 SWS)	0 h	(1)

For successful completion of the module 3 ECTS credits have to be acquired. Class attendance averages about 3 contact hours. Including time for self-study, 90 hours have to be invested.

Module type	Compulsory elective module with mandatory courses
Usability of the module in other Programmes	Master´s Programms: Molecular and Cellular Biology, Human Biology, Plant Sciences
Elective guidelines	With regard to the elective modules WP 60 - WP 82, five elective modules must be taken.
Entry requirements	None
Semester	Recommended semester: 3
Duration	The completion of the module takes 1 semester.
Content	Please refer to the elective course catalogue for the Master´s Programme.
Learning outcomes	Please refer to the elective course catalogue for the Master´s Programme.
Type of examination	Written exam 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	Please refer to the elective course catalogue for the Master´s Programme.
Language(s)	English
Additional information	None

Module: WP 64 Spezielle Themen der Evolutionsbiologie, Ökologie und Systematik/Special topics in Evolutionary Biology, Ecology and Systematics

Programme	Master's Programme: Evolution, Ecology and Systematics (Master of Science, M.Sc.)

Related module parts

Course type	Course (mandatory)	Rotation	Contact hours	Self-study hours	ECTS
Lecture	WP 64.1 Spezielle Themen der Evolutionsbiologie, Ökologie und Systematik – Vorlesung/ Special topics in Evolutionary Biology, Ecology and Systematics - lecture	WiSe	30 h (2 SWS)	60 h	(3)

For successful completion of the module 3 ECTS credits have to be acquired. Class attendance averages about 2 contact hours. Including time for self-study, 90 hours have to be invested.

Module type	Compulsory elective module with mandatory course
Usability of the module in other Programmes	Master´s Programms: Molecular and Cellular Biology, Human Biology, Plant Sciences
Elective guidelines	With regard to the elective modules WP 60 - WP 82, five elective modules must be taken.
Entry requirements	None
Semester	Scheduled semester: -3
Duration	The completion of the module takes 1 semester.
Content	Please refer to the elective course catalogue for the Master´s Programme.
Learning outcomes	Please refer to the elective course catalogue for the Master´s Programme.
Type of examination	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	Please refer to the elective course catalogue for the Master´s Programme.

Language(s)	English
Additional information	None

Module: WP 65 Spezielle Konzepte der Evolutionsbiologie, Ökologie und Systematik/Special concepts in Evolutionary Biology, Ecology and Systematics

Programme	Master's Programme: Evolution, Ecology and Systematics (Master of Science, M.Sc.)

Related module parts

Course type	Course (mandatory)	Rotation	Contact hours	Self-study hours	ECTS
Lecture	WP 65.1 Spezielle Konzepte der Evolutionsbiologie, Ökologie und Systematik – Vorlesung/ Special concepts in Evolutionary Biology, Ecology and Systematics - lecture	WiSe	30 h (2 SWS)	60 h	(3)

For successful completion of the module 3 ECTS credits have to be acquired. Class attendance averages about 2 contact hours. Including time for self-study, 90 hours have to be invested.

Module type	Compulsory elective module with mandatory course
Usability of the module in other Programmes	Master´s Programms: Molecular and Cellular Biology, Human Biology, Plant Sciences
Elective guidelines	With regard to the elective modules WP 60 - WP 82, five elective modules must be taken.
Entry requirements	None
Semester	Scheduled semester: -3
Duration	The completion of the module takes 1 semester.
Content	Please refer to the elective course catalogue for the Master´s Programme.
Learning outcomes	Please refer to the elective course catalogue for the Master´s Programme.
Type of examination	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	Please refer to the elective course catalogue for the Master´s Programme.

Language(s)	English
Additional information	None

Module: WP 66 Spezielle Theorien der Evolutionsbiologie, Ökologie und Systematik/Special theories in Evolutionary Biology, Ecology and Systematics

Programme	Master's Programme: Evolution, Ecology and Systematics (Master of Science, M.Sc.)

Related module parts

Course type	Course (mandatory)	Rotation	Contact hours	Self-study hours	ECTS
Lecture	WP 66.1 Spezielle Theorien der Evolutionsbiologie, Ökologie und Systematik – Vorlesung/ Special theories in Evolutionary Biology, Ecology and Systematics - lecture	WiSe	30 h (2 SWS)	60 h	(3)

For successful completion of the module 3 ECTS credits have to be acquired. Class attendance averages about 2 contact hours. Including time for self-study, 90 hours have to be invested.

Module type	Compulsory elective module with mandatory course
Usability of the module in other Programmes	Master´s Programms: Molecular and Cellular Biology, Human Biology, Plant Sciences
Elective guidelines	With regard to the elective modules WP 60 - WP 82, five elective modules must be taken.
Entry requirements	None
Semester	Scheduled semester: -3
Duration	The completion of the module takes 1 semester.
Content	Please refer to the elective course catalogue for the Master´s Programme.
Learning outcomes	Please refer to the elective course catalogue for the Master´s Programme.
Type of examination	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	Please refer to the elective course catalogue for the Master´s Programme..

Language(s)	English
Additional information	None

Module: WP 67 Spezielle Methoden der Evolutionsbiologie, Ökologie und Systematik/Special methods in Evolutionary Biology, Ecology and Systematics

Programme	Master's Programme: Evolution, Ecology and Systematics (Master of Science, M.Sc.)

Related module parts

Course type	Course (mandatory)	Rotation	Contact hours	Self-study hours	ECTS
Seminar	WP 67.1 Spezielle Methoden der Evolutionsbiologie, Ökologie und Systematik – Seminar/Special methods in Evolutionary Biology, Ecology and Systematics - seminar	WiSe	30 h (2 SWS)	60 h	(3)

For successful completion of the module 3 ECTS credits have to be acquired. Class attendance averages about 2 contact hours. Including time for self-study, 90 hours have to be invested.

Module type	Compulsory elective module with mandatory course
Usability of the module in other Programmes	Master´s Programms: Molecular and Cellular Biology, Human Biology, Plant Sciences
Elective guidelines	With regard to the elective modules WP 60 - WP 82, five elective modules must be taken.
Entry requirements	None
Semester	Scheduled semester: -3
Duration	The completion of the module takes 1 semester.
Content	Please refer to the elective course catalogue for the Master´s Programme.
Learning outcomes	Please refer to the elective course catalogue for the Master´s Programme.
Type of examination	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	Please refer to the elective course catalogue for the Master´s Programme.

Language(s)	English
Additional information	None

Module: WP 68 Aktuelle Publikationen zu speziellen Methoden der Evolutionsbiologie, Ökologie und Systematik/Current publications on special methods in Evolutionary Biology, Ecology and Systematics

Programme	Master's Programme: Evolution, Ecology and Systematics (Master of Science, M.Sc.)

Related module parts

Course type	Course (mandatory)	Rotation	Contact hours	Self-study hours	ECTS
Seminar	WP 68.1 Aktuelle Publikationen zu speziellen Methoden der Evolutionsbiologie, Ökologie und Systematik – Seminar/ Current publications on special methods in Evolutionary Biology, Ecology and Systematics - seminars	WiSe	30 h (2 SWS)	60 h	(3)

For successful completion of the module 3 ECTS credits have to be acquired. Class attendance averages about 2 contact hours. Including time for self-study, 90 hours have to be invested.

Module type	Compulsory elective module with mandatory course
Usability of the module in other Programmes	Master´s Programms: Molecular and Cellular Biology, Human Biology, Plant Sciences
Elective guidelines	With regard to the elective modules WP 60 - WP 82, five elective modules must be taken.
Entry requirements	None
Semester	Scheduled semester: -3
Duration	The completion of the module takes 1 semester.
Content	Please refer to the elective course catalogue for the Master´s Programme.
Learning outcomes	Please refer to the elective course catalogue for the Master´s Programme.
Type of examination	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	Please refer to the elective course catalogue for the Master´s Programme.
Language(s)	English
Additional information	None

Module: WP 69 Aktuelle Publikationen zu speziellen Auswertungsverfahren der Evolutionsbiologie, Ökologie und Systematik/Current publications on special analysis methods in Evolutionary Biology, Ecology and Systematics

Programme	Master's Programme: Evolution, Ecology and Systematics (Master of Science, M.Sc.)

Related module parts

Course type	Course (mandatory)	Rotation	Contact hours	Self-study hours	ECTS
Seminar	WP 69.1 Aktuelle Publikationen zu speziellen Auswertungsverfahren der Evolutionsbiologie, Ökologie und Systematik – Seminar/ Current publications on special analysis methods in Evolutionary Biology, Ecology and Systematics - seminar	WiSe	30 h (2 SWS)	60 h	(3)

For successful completion of the module 3 ECTS credits have to be acquired. Class attendance averages about 2 contact hours. Including time for self-study, 90 hours have to be invested.

Module type	Compulsory elective module with mandatory course
Usability of the module in other Programmes	Master´s Programms: Molecular and Cellular Biology, Human Biology, Plant Sciences
Elective guidelines	With regard to the elective modules WP 60 - WP 82, five elective modules must be taken.
Entry requirements	None
Semester	Scheduled semester: 3
Duration	The completion of the module takes 1 semester.
Content	Please refer to the elective course catalogue for the Master´s Programme.
Learning outcomes	Please refer to the elective course catalogue for the Master´s Programme.
Type of examination	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	Please refer to the elective course catalogue for the Master´s Programme.
Language(s)	English
Additional information	None

Module: WP 70 Spezielle Labormethoden der Evolutionsbiologie, Ökologie und Systematik/Special lab methods in Evolutionary Biology, Ecology and Systematics

Programme	Master's Programme: Evolution, Ecology and Systematics (Master of Science, M.Sc.)

Related module parts

Course type	Course (mandatory)	Rotation	Contact hours	Self-study hours	ECTS
Practical course	WP 70.1 Spezielle Labormethoden der Evolutionsbiologie, Ökologie und Systematik – Übung/ Special lab methods in Evolutionary Biology, Ecology and Systematics – practical course	WiSe	45 h (3 SWS)	45 h	(3)

For successful completion of the module 3 ECTS credits have to be acquired. Class attendance averages about 3 contact hours. Including time for self-study, 90 hours have to be invested.

Module type	Compulsory elective module with mandatory course
Usability of the module in other Programmes	Master´s Programms: Molecular and Cellular Biology, Human Biology, Plant Sciences
Elective guidelines	With regard to the elective modules WP 60 - WP 82, five elective modules must be taken.
Entry requirements	None
Semester	Scheduled semester: 3
Duration	The completion of the module takes 1 Semester.
Content	Please refer to the elective course catalogue for the Master´s Programme.
Learning outcomes	Please refer to the elective course catalogue for the Master´s Programme.
Type of examination	Report
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	Please refer to the elective course catalogue for the Master´s Programme.
Language(s)	English
Additional information	None

Module: WP 71 Spezielle Techniken der Evolutionsbiologie, Ökologie und Systematik/Special techniques in Evolutionary Biology, Ecology and Systematics

Programme	Master's Programme: Evolution, Ecology and Systematics (Master of Science, M.Sc.)

Related module parts

Course type	Course (mandatory)	Rotation	Contact hours	Self-study hours	ECTS
Practical course	WP 71.1 Spezielle Techniken der Evolutionsbiologie, Ökologie und Systematik – Übung/Special techniques in Evolutionary Biology, Ecology and Systematics – practical course	WiSe	45 h (3 SWS)	45 h	(3)

For successful completion of the module 3 ECTS credits have to be acquired. Class attendance averages about 3 contact hours. Including time for self-study, 90 hours have to be invested.

Module type	Compulsory elective module with mandatory course
Usability of the module in other Programmes	Master´s Programms: Molecular and Cellular Biology, Human Biology, Plant Sciences
Elective guidelines	With regard to the elective modules WP 60 - WP 82, five elective modules must be taken.
Entry requirements	None
Semester	Scheduled semester: 3
Duration	The completion of the module takes 1 semester.
Content	Please refer to the elective course catalogue for the Master´s Programme.
Learning outcomes	Please refer to the elective course catalogue for the Master´s Programme.
Type of examination	Report
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	Please refer to the elective course catalogue for the Master´s Programme.
Language(s)	English
Additional information	None

Module: WP 72 Spezielle Verfahren der Evolutionsbiologie, Ökologie und Systematik/Special procedures in Evolutionary Biology, Ecology and Systematics

Programme	Master's Programme: Evolution, Ecology and Systematics (Master of Science, M.Sc.)

Related module parts

Course type	Course (mandatory)	Rotation	Contact hours	Self-study hours	ECTS
Practical course	WP 72.1 Spezielle Verfahren der Evolutionsbiologie, Ökologie und Systematik – Übung/Special procedures in Evolutionary Biology, Ecology and Systematics – practical course	WiSe	45 h (3 SWS)	45 h	(3)

For successful completion of the module 3 ECTS credits have to be acquired. Class attendance averages about 3 contact hours. Including time for self-study, 90 hours have to be invested.

Module type	Compulsory elective module with mandatory course
Usability of the module in other Programmes	Master´s Programms: Molecular and Cellular Biology, Human Biology, Plant Sciences
Elective guidelines	With regard to the elective modules WP 60 - WP 82, five elective modules must be taken.
Entry requirements	None
Semester	Scheduled semester: 3
Duration	The completion of the module takes 1 semester.
Content	Please refer to the elective course catalogue for the Master´s Programme.
Learning outcomes	Please refer to the elective course catalogue for the Master´s Programme.
Type of examination	Report
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	Please refer to the elective course catalogue for the Master´s Programme.
Language(s)	English
Additional information	None

Module: WP 73 Spezielle Analysen der Evolutionsbiologie, Ökologie und Systematik/Special analyses in Evolutionary Biology, Ecology and Systematics

Programme	Master's Programme: Evolution, Ecology and Systematics (Master of Science, M.Sc.)

Related module parts

Course type	Course (mandatory)	Rotation	Contact hours	Self-study hours	ECTS
Practical course	WP 73.1 Spezielle Analysen der Evolutionsbiologie, Ökologie und Systematik – Übung/ Special analyses in Evolutionary Biology, Ecology and Systematics – practical course	WiSe	45 h (3 SWS)	45 h	(3)

For successful completion of the module 3 ECTS credits have to be acquired. Class attendance averages about 3 contact hours. Including time for self-study, 90 hours have to be invested.

Module type	Compulsory elective module with mandatory course
Usability of the module in other Programmes	Master´s Programms: Molecular and Cellular Biology, Human Biology, Plant Sciences
Elective guidelines	With regard to the elective modules WP 60 - WP 82, five elective modules must be taken.
Entry requirements	None
Semester	Scheduled semester: -3
Duration	The completion of the module takes 1 semester.
Content	Please refer to the elective course catalogue for the Master´s Programme.
Learning outcomes	Please refer to the elective course catalogue for the Master´s Programme.
Type of examination	Report
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	Please refer to the elective course catalogue for the Master´s Programme.

Language(s)	English
Additional information	None

Module: WP 74 Spezielle Themen in den Biowissenschaften/Special topics in Life Sciences

Programme	Master's Programme: Evolution, Ecology and Systematics (Master of Science, M.Sc.)

Related module parts

Course type	Course (mandatory)	Rotation	Contact hours	Self-study hours	ECTS
Lecture	WP 74.1 Spezielle Themen in den Biowissenschaften – Vorlesung/ Special topics in Life Sciences - lecture	WiSe	30 h (2 SWS)	60 h	(3)

For successful completion of the module 3 ECTS credits have to be acquired. Class attendance averages about 2 contact hours. Including time for self-study, 90 hours have to be invested.

Module type	Compulsory elective module with mandatory course
Usability of the module in other Programmes	Master´s Programms: Molecular and Cellular Biology, Human Biology, Plant Sciences
Elective guidelines	With regard to the elective modules WP 60 - WP 82, five elective modules must be taken.
Entry requirements	None
Semester	Recommended semester: 3
Duration	The completion of the module takes 1 semester.
Content	Please refer to the elective course catalogue for the Master´s Programme.
Learning outcomes	Please refer to the elective course catalogue for the Master´s Programme.
Type of examination	Written exam
Type of assessment	The successful completion of the module will not 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	Please refer to the elective course catalogue for the Master´s Programme.
Language(s)	English

Additional information	None

Module: WP 75 Spezielle Konzepte in den Biowissenschaften/ Special concepts in Life Sciences

Programme	Master's Programme: Evolution, Ecology and Systematics (Master of Science, M.Sc.)

Related module parts

Course type	Course (mandatory)	Rotation	Contact hours	Self-study hours	ECTS
Lecture	WP 75.1 Spezielle Konzepte in den Biowissenschaften – Vorlesung/Special concepts in Life Sciences - lecture	WiSe	30 h (2 SWS)	60 h	(3)

For successful completion of the module 3 ECTS credits have to be acquired. Class attendance averages about 2 contact hours. Including time for self-study, 90 hours have to be invested.

Module type	Compulsory elective module with mandatory course
Usability of the module in other Programmes	Master´s Programms: Molecular and Cellular Biology, Human Biology, Plant Sciences
Elective guidelines	With regard to the elective modules WP 60 - WP 82, five elective modules must be taken.
Entry requirements	None
Semester	Recommended semester: 3
Duration	The completion of the module takes 1 semester.
Content	Please refer to the elective course catalogue for the Master´s Programme.
Learning outcomes	Please refer to the elective course catalogue for the Master´s Programme.
Type of examination	Written exam
Type of assessment	The successful completion of the module will not 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	Please refer to the elective course catalogue for the Master´s Programme.
Language(s)	English

Additional information	None

Module: WP 76 Spezielle Theorien in den Biowissenschaften/ Special theories in Life Sciences

Programme	Master's Programme: Evolution, Ecology and Systematics (Master of Science, M.Sc.)

Related module parts

Course type	Course (mandatory)	Rotation	Contact hours	Self-study hours	ECTS
Lecture	WP 76.1 Spezielle Theorien in den Biowissenschaften – Vorlesung/Special theories in Life Sciences - lecture	WiSe	30 h (2 SWS)	60 h	(3)

For successful completion of the module 3 ECTS credits have to be acquired. Class attendance averages about 2 contact hours. Including time for self-study, 90 hours have to be invested.

Module type	Compulsory elective module with mandatory course
Usability of the module in other Programmes	Master´s Programms: Molecular and Cellular Biology, Human Biology, Plant Sciences
Elective guidelines	With regard to the elective modules WP 60 - WP 82, five elective modules must be taken.
Entry requirements	None
Semester	Recommended semester: 3
Duration	The completion of the module takes 1 semester.
Content	Please refer to the elective course catalogue for the Master´s Programme.
Learning outcomes	Please refer to the elective course catalogue for the Master´s Programme.
Type of examination	Written exam
Type of assessment	The successful completion of the module will not 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	Please refer to the elective course catalogue for the Master´s Programme..
Language(s)	English

Additional information	None

Module: WP 77 Spezielle Forschungsthemen in den Biowissenschaften/Special research topics in Life Sciences

Programme	Master's Programme: Evolution, Ecology and Systematics (Master of Science, M.Sc.)

Related module parts

Course type	Course (mandatory)	Rotation	Contact hours	Self-study hours	ECTS
Seminar	WP 77.1 Spezielle Forschungsthemen in den Biowissenschaften – Seminar/ Special research topics in Life Sciences - seminar	WiSe	30 h (2 SWS)	60 h	(3)

For successful completion of the module 3 ECTS credits have to be acquired. Class attendance averages about 2 contact hours. Including time for self-study, 90 hours have to be invested.

Module type	Compulsory elective module with mandatory course
Usability of the module in other Programmes	Master´s Programms: Molecular and Cellular Biology, Human Biology, Plant Sciences
Elective guidelines	With regard to the elective modules WP 60 - WP 82, five elective modules must be taken.
Entry requirements	None
Semester	Recommended semester: 3
Duration	The completion of the module takes 1 semester.
Content	Please refer to the elective course catalogue for the Master´s Programme.
Learning outcomes	Please refer to the elective course catalogue for the Master´s Programme.
Type of examination	Presentation
Type of assessment	The successful completion of the module will not 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	Please refer to the elective course catalogue for the Master´s Programme.
Language(s)	English

Additional information None

Module: WP 78 Spezielle Methoden in den Biowissenschaften/ Special methods in Life Sciences

Programme	Master's Programme: Evolution, Ecology and Systematics (Master of Science, M.Sc.)

Related module parts

Course type	Course (mandatory)	Rotation	Contact hours	Self-study hours	ECTS
Seminar	WP 78.1 Spezielle Methoden in den Biowissenschaften – Seminar/ Special methods in Life Sciences - seminar	WiSe	30 h (2 SWS)	60 h	(3)

For successful completion of the module 3 ECTS credits have to be acquired. Class attendance averages about 2 contact hours. Including time for self-study, 90 hours have to be invested.

Module type	Compulsory elective module with mandatory course
Usability of the module in other Programmes	Master´s Programms: Molecular and Cellular Biology, Human Biology, Plant Sciences
Elective guidelines	With regard to the elective modules WP 60 - WP 82, five elective modules must be taken.
Entry requirements	None
Semester	Recommended semester: 3
Duration	The completion of the module takes 1 semester.
Content	Please refer to the elective course catalogue for the Master´s Programme.
Learning outcomes	Please refer to the elective course catalogue for the Master´s Programme.
Type of examination	Presentation
Type of assessment	The successful completion of the module will not 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	Please refer to the elective course catalogue for the Master´s Programme.
Language(s)	English

Additional information	None

Module: WP 79 Spezielle Auswertungsverfahren in den Biowissenschaften/Special analysis methods in Life Sciences

Programme	Master's Programme: Evolution, Ecology and Systematics (Master of Science, M.Sc.)

Related module parts

Course type	Course (mandatory)	Rotation	Contact hours	Self-study hours	ECTS
Seminar	WP 79.1 Spezielle Auswertungsverfahren in den Biowissenschaften – Seminar/ Special analysis methods in Life Sciences – seminar	WiSe	30 h (2 SWS)	60 h	(3)

For successful completion of the module 3 ECTS credits have to be acquired. Class attendance averages about 2 contact hours. Including time for self-study, 90 hours have to be invested.

Module type	Compulsory elective module with mandatory course
Usability of the module in other Programmes	Master´s Programms: Molecular and Cellular Biology, Human Biology, Plant Sciences
Elective guidelines	With regard to the elective modules WP 60 - WP 82, five elective modules must be taken.
Entry requirements	None
Semester	Recommended semester: 3
Duration	The completion of the module takes 1 semester.
Content	Please refer to the elective course catalogue for the Master´s Programme.
Learning outcomes	Please refer to the elective course catalogue for the Master´s Programme.
Type of examination	Presentation
Type of assessment	The successful completion of the module will not 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	Please refer to the elective course catalogue for the Master´s Programme.
Language(s)	English

Additional information	None

Module: WP 80 Spezielle Labormethoden in den Biowissenschaften/Special lab methods in Life Sciences

Programme	Master's Programme: Evolution, Ecology and Systematics (Master of Science, M.Sc.)

Related module parts

Course type	Course (mandatory)	Rotation	Contact hours	Self-study hours	ECTS
Practical course	WP 80.1 Spezielle Labormethoden in den Biowissenschaften – Übung/ Special lab methods in Life Sciences – practical course	WiSe	45 h (3 SWS)	45 h	(3)

For successful completion of the module 3 ECTS credits have to be acquired. Class attendance averages about 3 contact hours. Including time for self-study, 90 hours have to be invested.

Module type	Compulsory elective module with mandatory course
Usability of the module in other Programmes	Master´s Programms: Molecular and Cellular Biology, Human Biology, Plant Sciences
Elective guidelines	With regard to the elective modules WP 60 - WP 82, five elective modules must be taken.
Entry requirements	None
Semester	Recommended semester: 3
Duration	The completion of the module takes 1 semester.
Content	Please refer to the elective course catalogue for the Master´s Programme.
Learning outcomes	Please refer to the elective course catalogue for the Master´s Programme.
Type of examination	Report
Type of assessment	The successful completion of the module will not 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	Please refer to the elective course catalogue for the Master´s Programme.
Language(s)	English

Additional information	None

Module: WP 81 Spezielle molekularbiologische Techniken in den Biowissenschaften/Special molecular biological techniques in Life Sciences

Programme	Master's Programme: Evolution, Ecology and Systematics (Master of Science, M.Sc.)

Related module parts

Course type	Course (mandatory)	Rotation	Contact hours	Self-study hours	ECTS
Practical course	WP 81.1 Spezielle molekular-biologische Techniken in den Biowissenschaften – Übung/ Special molecular biological techniques in Life Sciences – practical course	WiSe	45 h (3 SWS)	45 h	(3)

For successful completion of the module 3 ECTS credits have to be acquired. Class attendance averages about 3 contact hours. Including time for self-study, 90 hours have to be invested.

Module type	Compulsory elective module with mandatory course
Usability of the module in other Programmes	Master´s Programms: Molecular and Cellular Biology, Human Biology, Plant Sciences
Elective guidelines	With regard to the elective modules WP 60 - WP 82, five elective modules must be taken.
Entry requirements	None
Semester	Recommended semester: 3
Duration	The completion of the module takes 1 semester.
Content	Please refer to the elective course catalogue for the Master´s Programme.
Learning outcomes	Please refer to the elective course catalogue for the Master´s Programme.
Type of examination	Report
Type of assessment	The successful completion of the module will not 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	Please refer to the elective course catalogue for the Master´s Programme.
Language(s)	English
Additional information	None

Module: WP 82 Spezielle computergestützte Methoden in den Biowissenschaften/Special computational methods in Life Sciences

Programme	Master's Programme: Evolution, Ecology and Systematics (Master of Science, M.Sc.)

Related module parts

Course type	Course (mandatory)	Rotation	Contact hours	Self-study hours	ECTS
Practical course	WP 82.1 Spezielle computer-gestützte Methoden in den Biowissenschaften – Übung/ Special computational methods in Life Sciences – practical course	WiSe	45 h (3 SWS)	45 h	(3)

For successful completion of the module 3 ECTS credits have to be acquired. Class attendance averages about 3 contact hours. Including time for self-study, 90 hours have to be invested.

Module type	Compulsory elective module with mandatory course
Usability of the module in other Programmes	Master´s Programms: Molecular and Cellular Biology, Human Biology, Plant Sciences
Elective guidelines	With regard to the elective modules WP 60 - WP 82, five elective modules must be taken.
Entry requirements	None
Semester	Recommended semester: 3
Duration	The completion of the module takes 1 semester.
Content	Please refer to the elective course catalogue for the Master´s Programme.
Learning outcomes	Please refer to the elective course catalogue for the Master´s Programme.
Type of examination	Report
Type of assessment	The successful completion of the module will not 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	Please refer to the elective course catalogue for the Master´s Programme.
Language(s)	English
Additional information	None

Module: WP 83 Spezielles Forschungsmodul in Evolutionsbiologie, Ökologie und Systematik/Special research module in Evolutionary Biology, Ecology and Systematics

Programme	Master's Programme: Evolution, Ecology and Systematics (Master of Science, M.Sc.)

Related module parts

Course type	Course (mandatory)	Rotation	Contact hours	Self-study hours	ECTS
Practical course	WP 83.1 Spezielle Themen der Evolutionsbiologie, Ökologie und Systematik – Forschungsprojekt/Special topics in Evolutionary Biology, Ecology and Systematics – research course	WiSe	180 h (12 SWS)	120 h	(10)
Seminar	WP 83.2 Schlüsselqualifikationen 4: Seminar Planung von Forschungsprojekten/Soft Skills 4: Seminar Design of research projects	WiSe	30 h (2 SWS)	30 h	(2)

For successful completion of the module 12 ECTS credits have to be acquired. Class attendance averages about 14 contact hours. Including time for self-study, 360 hours have to be invested.

Module type	Compulsory elective module with mandatory courses
Usability of the module in other Programmes	Master´s Programms: Molecular and Cellular Biology, Human Biology, Plant Sciences
Elective guidelines	With regard to the elective modules WP 83 - WP 86, one elective module must be taken.
Entry requirements	None
Semester	Recommended semester: 3
Duration	The completion of the module takes 1 semester.
Content	Students carry out a pilot study as preparation for their master s thesis. The topic of the project should be in the field of Evolution, Ecology or Systematics. They find and read relevant literature. They write a research plan and discuss this plan with researchers and fellow students. They collect preliminary data and / or conduct preliminary analyses. They give a presentation in the group where they did the research. During Skills 4, third semester (or higher) Master students will learn how to write a scientific grant application.

	Following a successful grant application example, the structure of each part of a proposal will be intensively discussed and compiled together with the students. Students analyse the current literature in their own research field and embed their own research question into the state of the art and finalize this with their hypotheses for their own project. To evaluate the strength of the hypotheses, students need to present them in short talks. In the proposals work plan, students design their own experiments/anaysis and need to show the feasability of the project. This builds on the knowledge they gained via earlier resarch courses and the methods they already learn and intensify during their special research couse. Students and lectureres comment on earlier versions of their proposals during the seminar. They write a grant proposal following the standard format of a major funding agency, such as the DFG. They learn how to design a time plan and a budget. They get an overview of the most important funding agencies in Germany and Europe. They also learn how to compile a job application, including CV and statement of interest.
Learning outcomes	Students find and read relevant literature; write a research plan and discuss this plan with various people; preliminary data or preliminary analysis needed for the proposal can be collected by special research couse or other reserach internships/courses. Students are able to design a research project and write a scientific grant proposal based on preliminary data or analyses from their own pilot study. Students are able to write a job application, a CV, and a grant proposal. They know the most important funding agencies of Germany and Europe. They know the state of their reasearch field at a level that allows them to assess the scientific relevance of the research questions that will be addressed in their master's thesis project. They are experienced with the research methods that they will apply in their master's thesis project. Finally, students present their proposals with a talk at the special research couse Conference.
Type of examination	Presentation and report
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	Chair of Evolutionary Ecology
Language(s)	English

Additional information	None

Module: WP 84 Spezielles Forschungsmodul in der molekularen und zellulären Biologie/Special research module in molecular and cellular Biology

Programme	Master's Programme: Evolution, Ecology and Systematics (Master of Science, M.Sc.)

Related module parts

Course type	Course (mandatory)	Rotation	Contact hours	Self-study hours	ECTS
Practical course	WP 84.1 Spezielle Themen der molekularen und zellulären Biologie – Forschungsprojekt/ Special topics in molecular and cellular Biology – research course	WiSe	180 h (12 SWS)	120 h	(10)
Seminar	WP 84.2 Schlüsselqualifikationen 4: Seminar Planung von Forschungsprojekten/Soft Skills 4: Seminar Design of research projects	WiSe	30 h (2 SWS)	30 h	(2)

For successful completion of the module 12 ECTS credits have to be acquired. Class attendance averages about 14 contact hours. Including time for self-study, 360 hours have to be invested.

Module type	Compulsory elective module with mandatory courses
Usability of the module in other Programmes	Master´s Programms: Molecular and Cellular Biology, Human Biology, Plant Sciences
Elective guidelines	With regard to the elective modules WP 83 - WP 86, one elective module must be taken.
Entry requirements	None
Semester	Recommended semester: 3
Duration	The completion of the module takes 1 Semester.
Content	Students carry out a pilot study as preparation for their master s thesis. The topic of the project should be in the field of molecular and cellular biology. They find and read relevant literature. They write a research plan and discuss this plan with researchers and fellow students. They collect preliminary data and / or conduct preliminary analyses. They give a presentation in the group where they did the research. During Skills 4, third semester (or higher) Master students will learn how to write a scientific grant application. Following a successful grant application example, the

	structure of each part of a proposal will be intensively discussed and compiled together with the students. Students analyse the current literature in their own research field and embed their own research question into the state of the art and finalize this with their hypotheses for their own project. To evaluate the strength of the hypotheses, students need to present them in short talks. In the proposals work plan, students design their own experiments/anaysis and need to show the feasability of the project. This builds on the knowledge they gained via earlier resarch courses and the methods they already learn and intensify during their special research couse. Students and lectureres comment on earlier versions of their proposals during the seminar. They write a grant proposal following the standard format of a major funding agency, such as the DFG. They learn how to design a time plan and a budget. They get an overview of the most important funding agencies in Germany and Europe. They also learn how to compile a job application, including CV and statement of interest.
Learning outcomes	Students find and read relevant literature; write a research plan and discuss this plan with various people; preliminary data or preliminary analysis needed for the proposal can be collected by special research couse or other reserach internships/courses. Students are able to design a research project and write a scientific grant proposal based on preliminary data or analyses from their own pilot study. Students are able to write a job application, a CV, and a grant proposal. They know the most important funding agencies of Germany and Europe. They know the state of their reasearch field at a level that allows them to assess the scientific relevance of the research questions that will be addressed in their master‘s thesis project. They are experienced with the research methods that they will apply in their master‘s thesis project. Finally, students present their proposals with a talk at the special research couse Conference.
Type of examination	Presentation and report
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	Teaching staff from the Master´s Programme Molecular and Cellular Bioogy
Language(s)	English

Additional information	None

Module: WP 85 Spezielles Forschungsmodul in der Neurobiologie/Special research module in Neurobiology

Programme	Master's Programme: Evolution, Ecology and Systematics (Master of Science, M.Sc.)

Related module parts

Course type	Course (mandatory)	Rotation	Contact hours	Self-study hours	ECTS
Practical course	WP 85.1 Spezielle Themen der Neurobiologie – Forschungsprojekt/Special topics in Neurobiology – research course	WiSe	180 h (12 SWS)	120 h	(10)
Seminar	WP 85.2 Schlüsselqualifikationen 4: Seminar Planung von Forschungsprojekten/Soft Skills 4: Seminar Design of research projects	WiSe	30 h (2 SWS)	30 h	(2)

For successful completion of the module 12 ECTS credits have to be acquired. Class attendance averages about 14 contact hours. Including time for self-study, 360 hours have to be invested.

Module type	Compulsory elective module with mandatory courses
Usability of the module in other Programmes	Master´s Programms: Molecular and Cellular Biology, Human Biology, Plant Sciences
Elective guidelines	With regard to the elective modules WP 83 - WP 86, one elective module must be taken.
Entry requirements	None
Semester	Recommended semester: 3
Duration	The completion of the module takes 1 semester.
Content	Students carry out a pilot study as preparation for their master s thesis. The topic of the project should be in the field of neurosciences. They find and read relevant literature. They write a research plan and discuss this plan with researchers and fellow students. They collect preliminary data and / or conduct preliminary analyses. They give a presentation in the group where they did the research. During Skills 4, third semester (or higher) Master students will learn how to write a scientific grant application. Following a successful grant application example, the structure of each part of a proposal will be intensively discussed and compiled together with the students. Students analyse the current literature in their own

	research field and embed their own research question into the state of the art and finalize this with their hypotheses for their own project. To evaluate the strength of the hypotheses, students need to present them in short talks. In the proposals work plan, students design their own experiments/anaysis and need to show the feasability of the project. This builds on the knowledge they gained via earlier resarch courses and the methods they already learn and intensify during their special research couse. Students and lectureres comment on earlier versions of their proposals during the seminar. They write a grant proposal following the standard format of a major funding agency, such as the DFG. They learn how to design a time plan and a budget. They get an overview of the most important funding agencies in Germany and Europe. They also learn how to compile a job application, including CV and statement of interest.
Learning outcomes	Students find and read relevant literature; write a research plan and discuss this plan with various people; preliminary data or preliminary analysis needed for the proposal can be collected by special research couse or other reserach internships/courses. Students are able to design a research project and write a scientific grant proposal based on preliminary data or analyses from their own pilot study. Students are able to write a job application, a CV, and a grant proposal. They know the most important funding agencies of Germany and Europe. They know the state of their reasearch field at a level that allows them to assess the scientific relevance of the research questions that will be addressed in their master's thesis project. They are experienced with the research methods that they will apply in their master's thesis project. Finally, students present their proposals with a talk at the special research couse Conference.
Type of examination	Presentation and report
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	Teaching staff from the Master´s Programme Neurosciences
Language(s)	English
Additional information	None

Module: WP 86 Spezielles Forschungsmodul in den Pflanzenwissenschaften/Special research module in Plant Sciences

Programme	Master's Programme: Evolution, Ecology and Systematics (Master of Science, M.Sc.)

Related module parts

Course type	Course (mandatory)	Rotation	Contact hours	Self-study hours	ECTS
Practical course	WP 86.1 Spezielle Themen der Pflanzenwissenschaften – Forschungsprojekt/Special topics in Plant Sciences – research course	WiSe	180 h (12 SWS)	120 h	(10)
Seminar	WP 86.2 Schlüsselqualifikationen 4: Seminar Planung von Forschungsprojekten/Soft Skills 4: Seminar Design of research projects	WiSe	30 h (2 SWS)	30 h	(2)

For successful completion of the module 12 ECTS credits have to be acquired. Class attendance averages about 14 contact hours. Including time for self-study, 360 hours have to be invested.

Module type	Compulsory elective module with mandatory courses
Usability of the module in other Programmes	Master´s Programms: Molecular and Cellular Biology, Human Biology, Plant Sciences
Elective guidelines	With regard to the elective modules WP 83 - WP 86, one elective module must be taken.
Entry requirements	None
Semester	Recommended semester: 3
Duration	The completion of the module takes 1 semester.
Content	Students carry out a pilot study as preparation for their master s thesis. The topic of the project should be in the field of plant sciences. They find and read relevant literature. They write a research plan and discuss this plan with researchers and fellow students. They collect preliminary data and / or conduct preliminary analyses. They give a presentation in the group where they did the research. During Skills 4, third semester (or higher) Master students will learn how to write a scientific grant application. Following a successful grant application example, the structure of each part of a proposal will be intensively

	discussed and compiled together with the students. Students analyse the current literature in their own research field and embed their own research question into the state of the art and finalize this with their hypotheses for their own project. To evaluate the strength of the hypotheses, students need to present them in short talks. In the proposals work plan, students design their own experiments/anaysis and need to show the feasability of the project. This builds on the knowledge they gained via earlier resarch courses and the methods they already learn and intensify during their special research couse. Students and lectureres comment on earlier versions of their proposals during the seminar. They write a grant proposal following the standard format of a major funding agency, such as the DFG. They learn how to design a time plan and a budget. They get an overview of the most important funding agencies in Germany and Europe. They also learn how to compile a job application, including CV and statement of interest.
Learning outcomes	Students find and read relevant literature; write a research plan and discuss this plan with various people; preliminary data or preliminary analysis needed for the proposal can be collected by special research couse or other reserach internships/courses. Students are able to design a research project and write a scientific grant proposal based on preliminary data or analyses from their own pilot study. Students are able to write a job application, a CV, and a grant proposal. They know the most important funding agencies of Germany and Europe. They know the state of their reasearch field at a level that allows them to assess the scientific relevance of the research questions that will be addressed in their master's thesis project. They are experienced with the research methods that they will apply in their master's thesis project. Finally, students present their proposals with a talk at the special research couse Conference.
Type of examination	Presentation and report
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	Teaching staff from the Master´s Programme Plant Sciences
Language(s)	English
Additional information	None

Module: P 4 Vernetzung in der evolutionsbiologischen, ökologischen und systematischen Forschung/Interconnection in evolutionary, ecological and systematic research

Programme	Master's Programme: Evolution, Ecology and Systematics (Master of Science, M.Sc.)

Related module parts

Course type	Course (mandatory)	Rotation	Contact hours	Self-study hours	ECTS
Colloquium	P 4.1 Evolutionsbiologie, Ökologie und Systematik – Kolloquium/Evolutionary Biology, Ecology and Systematics - colloquium	WiSe and SoSe	15 h (1 SWS)	30 h	(1,5)
Seminar	P 4.2 Evolutionsbiologie, Ökologie und Systematik – Forschungsseminar/ Evolutionary Biology, Ecology and Systematics – research seminar	WiSe and SoSe	15 h (1 SWS)	30 h	(1,5)

For successful completion of the module 3 ECTS credits have to be acquired. Class attendance averages about 2 contact hours. Including time for self-study, 90 hours have to be invested.

Module type	Mandatory module with mandatory courses
Usability of the module in other Programmes	Master´s Programms: Molecular and Cellular Biology, Human Biology, Plant Sciences
Elective guidelines	None
Entry requirements	None
Semester	Recommended semester: 4
Duration	The completion of the module takes 1 semester.
Content	The students attend 20 scientific talks including scientific talks of invited guest speakers from outside the LMU, and the research-workgroup seminar of their master thesis supervisors.
Learning outcomes	Students are aware of current research topics and know researchers outside of the faculty and are aware of additional current research topics. Within the research seminar of their workgroup the participants gain holistic knowledge about the topic of their master's thesis. They are able to present their current work in the group meeting and discuss current research questions related to their thesis. They understand the conception of

	experiments, trouble shooting procedures and critical analysis and presentation of data.
Type of examination	Presentation
Type of assessment	The successful completion of the module will not 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	Qualified supervisor from the Faculty of Biology.
Language(s)	English
Additional information	None

Module: P 5 Abschlussmodul/Final module

Programme	Master's Programme: Evolution, Ecology and Systematics (Master of Science, M.Sc.)

Related module parts

Course type	Course (mandatory)	Rotation	Contact hours	Self-study hours	ECTS
Thesis	P 5.1 Masterarbeit/Master' thesis	WiSe and SoSe	-	780 h	(26)
Disputation	P 5.2 Disputation	WiSe and SoSe	-	30 h	(1)

For successful completion of the module 27 ECTS credits have to be acquired. Including time for self-study, 810 hours have to be invested.

Module type	Mandatory module
Usability of the module in other Programmes	None
Elective guidelines	None
Entry requirements	Successful completion of compulsory elective modules with a total value of 27 ECTS credits from WP 1 - WP 31 and of compulsory elective modules with a total value of 30 ECTS credits from the mandatory modules P 1 and P2 and the compulsory elective modules WP 32 - WP 59
Semester	Recommended semester: 4
Duration	The completion of the module takes 1 semester.
Content	The master's final module is composed of a master's thesis and oral defense. This module represents the climax of the master's program and requires independent experimental work under supervision of an instructor/advisor.
Learning outcomes	The module requires skills in organization, strategic methodological planning and performance of experiments, documentation and interpretation of results, in addition to completion of a final thesis written according to international scientific standards. The oral defense tests communication skills, basic and applied knowledge in the given subject, and ability to explain specific processes in a broader context.
Type of examination	Master Thesis and disputation
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	Qualified supervisor from the Faculty of Biology.
Language(s)	English
Additional information	None