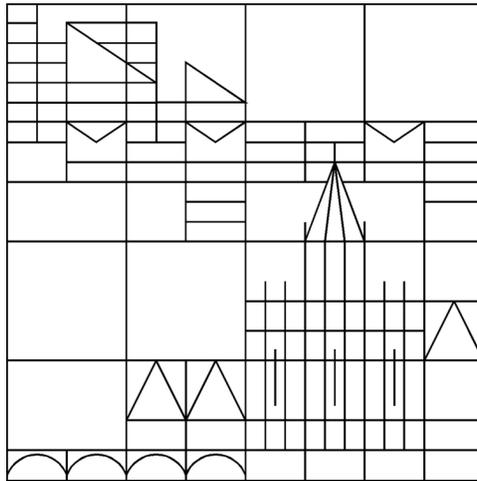


University of Konstanz

Faculty of Humanities

Department of Linguistics



Module Handbook

for the

Master's Programme in *Speech and Language Processing*

October 2018

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I. General Information

Participants in the Master's Programme *Speech and Language Processing (SLP)* acquire knowledge and skills to deal with theoretical and practical/applied aspects of human and machine language processing. Human and machine language processing are related in terms of understanding fundamental properties of language and how these can be represented, modelled and manipulated. Insights from human language processing (HLP) inform machine language processing (MLP) and vice versa. However, HLP has a greater relevance for psycholinguistic and neurolinguistic models of language and applications in cognitive research and treatments, whereas MLP is more relevant for computational models and applications in the area of digital technology. In view of our increasingly global and digital society, understanding models of language processing from both a theoretical and applied perspective has become more crucial than ever. The skills and abilities acquired as part of this Master programme can be used to build either an academic career or as the foundation for practical, application oriented work outside of academia.

II. Targeted Qualifications

Specialized goals of the Programme

Participants become acquainted with current and foundational research in HLP and MLP. In HLP this includes work within psycholinguistics (including language acquisition) and neurolinguistics. In MLP this includes symbolic and statistical models for language processing. After having acquired foundational knowledge in both areas, students are expected to deepen their studies in either HLP or MLP. The intention is to make students aware of underlying commonalities in HLP and MLP and of issues of language processing in general, but then to let students diverge in their interests. Students more interested in experimental work will follow the HLP track and learn practical experimental methodology as part of this track. Students more interested in computational applications will follow the MLP track and learn practical programming and software engineering as part of this track.

General goals of the Programme

Working in the specialized field of language processing, participants furthermore develop the following, non-specialized skills:

- They can follow presentations of complex material.
- They can critically analyse various forms of texts and presentations.
- They can present specialized subject matter to non-specialists in an understandable way.
- They can construct logically coherent arguments.

- They can analyse, manage and visualize complex data.
- They can extract the essential points from a complex assemblage of information.
- They can work independently and can articulate an original research question.
- They can apply knowledge about language processing to actual problems outside of academic settings.

III. Outline of the Master's Programme in Speech and Language Processing

For the Master's Programme *Speech and Language Processing*, 120 ECTS¹ credits (cr) must be earned, of which 102 cr shall be obtained in the core areas and 18 cr in a supplementary area (Module 7). There are two tracks within the Master's Programme: Human Language Processing (HLP) and Machine Language Processing (MLP). Core foundational and methodological courses are shared across the tracks, but students are expected to emphasize either the HLP or the MLP track by choosing a majority of courses within that track. Recommendations for each track are set out clearly below. In both tracks, the courses focus on both theory and practice.

Acquiring competence in statistical methods and programming is required. Statistical methods are offered in Module 2. A programming language can be learned as part of Modules 2, 4 or 7.

Module 1: Core Areas of Linguistics, 18 cr

| Lehrveranstaltung | P/WP | Art | PL | cr | ENR | Sem |
|-------------------------------|------|-----|--------------|----|-----|-----|
| Core Components of Language A | P | S | HA/KI/Ref/So | 9 | yes | 1-2 |
| Core Components of Language B | P | S | HA/KI/Ref/So | 9 | yes | 1-2 |

This module contains theoretical linguistic courses that focus on the core areas of phonetics, phonology, morphology, syntax, semantics and pragmatics. Students are advised to take courses which reflect their interests. Students focusing on MLP are further advised to take a course that focuses on a computationally realistic theory of syntax. Currently a course meeting this requirement is one focusing on Lexical Functional Grammar (LFG).

The courses can be taken in any order. The module is completed when 18 cr from different module units have been earned.

Module 2: Methods, 12 cr

| Lehrveranstaltung | P/WP | Art | PL | cr | ENR | Sem |
|----------------------|------|-----|-----|----|-----|-----|
| Statistics | P | S | KI | 6 | yes | 1-2 |
| Experimental Methods | WP | S | var | 6 | yes | 1-2 |

¹ Explanations of the abbreviations:

ECTS = European Credit Transfer System; P/WP = required/elective; Art = type of course (with VL = lecture, Sem = seminar; Ü = practice tutorial); PL = performance assessment (with HA = term paper; KI = written exam; Ref = oral presentation; So = other form of written/oral performance assessment; var = variable: the performance assessment will be announced by the instructor at the beginning of the course); SL = coursework; cr = ECTS credits; ENR = relevant for final grade; Sem = semester in which the course is offered.

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|--|----|-----|-----|---|-----|-----|
| Text Processing/Corpus linguistics (e.g., with Perl/Python) | WP | Sem | var | 6 | yes | 1-2 |
| Further current linguistic methodology (e.g., logic, language documentation) | WP | Sem | var | 6 | yes | 1-2 |

Module 2 provides students with the necessary methodological competence for research into language processing. All students must take statistics. Students pursuing the HLP track are advised to additionally take experimental methods in order to learn how to set up an experiment. Students pursuing the MLP track are advised to additionally take the text processing course in order to learn a programming language. The module is completed when 12 cr from different module units have been earned.

Module 3: Foundations, 18 cr

| Lehrveranstaltung | P/WP | Art | PL | cr | ENR | Sem |
|-----------------------------|------|-----|--------------|----|-----|-----|
| Machine Language Processing | P | S | HA/KI/Ref/So | 9 | yes | 1-2 |
| Human Language Processing | P | S | HA/KI/Ref/So | 9 | yes | 1-2 |

This module teaches students foundational results in the areas of MLP and HLP and provides them with an overview of the current state of the art. The module is completed when 18 cr have been earned, i.e. 9 cr per unit.

Module 4: Machine Language Processing, 18/9 cr

| Lehrveranstaltung | P/WP | Art | PL | cr | ENR | Sem |
|----------------------------|------|-----|--------------|----|-----|-----|
| Grammar Development | WP | S | HA/KI/Ref/So | 9 | yes | 2-3 |
| Computational Semantics | WP | S | HA/KI/Ref/So | 9 | yes | 2-3 |
| Topics in Current Research | WP | S | HA/KI/Ref/So | 9 | yes | 2-3 |

This module dives deeper into issues within MLP. Students pursuing the MLP track have completed this module when 18 cr have been earned from different module units. Students pursuing the HLP track have completed this module when 9 cr have been earned.

Module 5: Human Language Processing, 18/9 cr

| Lehrveranstaltung | P/WP | Art | PL | cr | ENR | Sem |
|----------------------|------|-----|--------------|----|-----|-----|
| Language Acquisition | WP | S | HA/KI/Ref/So | 9 | yes | 2-3 |
| Psycholinguistics | WP | S | HA/KI/Ref/So | 9 | yes | 2-3 |
| Neurolinguistics | WP | S | HA/KI/Ref/So | 9 | yes | 2-3 |

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|----------------------------|----|-----|--------------|---|-----|-----|
| Topics in Current Research | WP | Sem | HA/KI/Ref/So | 9 | yes | 2-3 |
|----------------------------|----|-----|--------------|---|-----|-----|

This module dives deeper into issues within HLP. Students pursuing the MLP track have completed this module when 9 cr have been earned. Students pursuing the HLP track have completed this module when 18 cr have been earned from different module units.

Module 6: Practical/Experimental Applications and Research, 6 cr

| Lehrveranstaltung | P/WP | Art | StL | cr | ENR | Sem |
|---|------|-----|--------|----|-----|-----|
| Research Seminar | P | S | Ref/So | 3 | no | 3-4 |
| Practical/Experimental Research or Internship | P | S | PB | 3 | no | 3-4 |

Students are given the chance to pursue independent research in this module and to conduct practical or application oriented work. The module is completed when 6 cr have been earned.

Module 7: Neighboring Areas, 18 cr

| Lehrveranstaltung | P/WP | Art | StL | cr | ENR | Sem |
|--|------|------|-----|-----|-----|-----|
| Linguistics | WP | S | var | 3-9 | no | 1-4 |
| Language Courses or Key Qualifications | WP | Ü | var | 3-9 | no | 1-4 |
| Related disciplines (e.g., Computer Science, Psychology, Philosophy) | WP | S/VL | var | 3-9 | no | 1-4 |

This module extends the interdisciplinary dimension of the programme. Students are given the opportunity to take relevant courses in other master's programmes in linguistics or in other areas, or to learn a foreign language or acquire further key skills. Courses from Computer Science, Mathematics, Philosophy and Psychology would be particularly relevant. The module is completed when 18 cr have been earned.

Module 8: Master's Thesis and Oral Examination, 21 cr

| Leistung | P/WP | Art | PL/SL | cr | ENR | Sem |
|------------------|------|-----|------------------|----|-----|-----|
| Thesis | P | | Master's thesis | 18 | yes | 4 |
| Oral Examination | P | | Oral examination | 3 | yes | 4 |

Successful completion of the master thesis and the oral examination are the final module of the programme. The module is completed when 21 cr have been earned.

IV. Module Descriptions

Module 1: Core Areas of Linguistics

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|-----------------------------------|---|-----------------|-------------------------------------|---|---------|
| Applicability | | | Module Title | | |
| MA Speech and Language Processing | | | Module 1: Core Areas of Linguistics | | |
| Credits | 18 | Duration | 2 semesters | Module Contribution to the Final Grade | 18,75 % |
| Module Grade | The grade for the module from the arithmetic mean of the two module grades, weighted according to ECTS credits from each of the two module sections. | | | | |
| Module Sections | Core Components of Language A (Phonetics, Phonology or Morphology) Core Components of Language B (Syntax, Semantics or Pragmatics) | | | | |
| Learning Outcomes | Students work on topics within the core components of grammar (phonetics, phonology, morphology, syntax, semantics, and pragmatics). They become familiar with foundational and current theoretical linguistic analyses and are able to independently pursue research in the core area. | | | | |

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|--|---|
| Module Section: Core Components of Language A | |
| Lecturer | academic staff |
| Content of Teaching | This module section deals primarily with phonetics, phonology, morphology, and their interfaces. Students become familiar with foundational and current theoretical linguistic analyses and core empirical phenomena and are able to independently pursue research in the chosen core area. |
| Teaching Methods/ Hours per Week | seminar / 2 hours |
| Workload | 270 hours |
| Credits | 9 |
| Type of Assessment | variable: presentations, examinations and papers required for successful completion of the course are announced at the beginning |
| Recommended Background | --- |
| Language | English or German |
| Frequency Offered | winter semester and summer semester |
| Recommended Semester | 1 or 2 |

| | |
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| Compulsory / Optional | compulsory |
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| Module Section: Core Components of Language B | |
|--|--|
| Lecturer | academic staff |
| Content of Teaching | This module section deals primarily with syntax, semantics, pragmatics, and their interfaces. Students become familiar with foundational and current theoretical linguistic analyses and core empirical phenomena and are able to independently pursue research in the chosen core area. |
| Teaching Methods / Hours per Week | seminar / 2 hours |
| Workload | 270 hours |
| Credits | 9 |
| Type of Assessment | variable: presentations, examinations and papers required for successful completion of the course are announced at the beginning |
| Recommended Background | --- |
| Language | English or German |
| Frequency Offered | winter semester and summer semester |
| Recommended Semester | 1 or 2 |
| Compulsory / Optional | compulsory |

Module 2: Methods

| Applicability | | Module Title | | | |
|-----------------------------------|---|---------------------|-------------|---|--------|
| MA Speech and Language Processing | | Module 2: Methods | | | |
| Credits | 12 | Duration | 2 semesters | Module Contribution to the Final Grade | 12,5 % |
| Module Grade | The grade for the module is the arithmetic mean of the two module grades, weighted according to ECTS credits, from each of the two module sections. | | | | |
| Module Sections | Statistics Experimental Methods Text Processing/Corpus Linguistics | | | | |

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| | Further Current Linguistic Methodology |
| Learning Outcomes | Students become competent in state-of-the art methodology in language processing. This includes quantitative methods and statistics to analyse linguistic data and the learning of a programming language for automatic text processing. |

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| Module Section: Statistics | |
| Lecturer | Bettina Braun, Carsten Eulitz or N.N. |
| Content of Teaching | Students are introduced to statistical methodology relevant in particular for understanding language processing research. This includes the analysis of dependent and independent variables, classic parametric and non-parametric tests, single and multifactorial analyses and hierarchical regression models. The course content provides information and methodological competence. Given the current state of the art, it is near to impossible to do meaningful work within language processing without this methodological competence and this course provides the necessary knowledge including the usage of common software packages. |
| Teaching Methods / Hours per Week | seminar / 3 hours |
| Workload | 180 hours of which 45 hours are the actual course, 115 hours are concerned with course work and 20 hours constitute the preparation time for the exam |
| Credits | 6 |
| Type of Assessment | exam; oral presentations, written exercises |
| Recommended Background | --- |
| Language | English or German |
| Frequency Offered | winter semester |
| Recommended Semester | 1 or 2 |
| Compulsory / Optional | compulsory |

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| Module Section: Experimental Methods | |
| Lecturer | Bettina Braun, Carsten Eulitz or Tanja Kupisch |
| Content of Teaching | This course covers quantitative, qualitative, and experimental methods in research on human language processing. Students will be introduced to and |

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| | familiarized with data elicitation and collection methods and psycholinguistic and neurolinguistic methodology with respect to language production and processing. Students will learn how to design and conduct their own experiment as a result of this course. This course is highly recommended for students pursuing the HLP track as it teaches a core skill relevant for HLP research. |
| Teaching Methods / Hours per Week | seminar / 3 hours |
| Workload | 180 hours of which 45 hours are the actual course, 115 hours are concerned with course work and 20 hours constitute the preparation time for the exam |
| Credits | 6 |
| Type of Assessment | variable: presentations, examinations and papers required for successful completion of the course are announced at the beginning |
| Recommended Background | --- |
| Language | English |
| Frequency Offered | winter semester |
| Recommended Semester | 1 or 2 |
| Compulsory / Optional | optional |

| Module Section: Text Processing/Corpus Linguistics | |
|---|--|
| Lecturer | Miriam Butt or N.N. |
| Content of Teaching | In this course students learn how to extract linguistic information from a text/corpus via a programming language that is particularly suited for this task (e.g., Perl or Python). Students learn programming skills and apply these towards working with text language corpora. At the end of the course, students are able to write programs independently and extract relevant information from a text/corpus in order to solve a research question. This course is highly recommended for students pursuing the MLP track as it teaches a core skill relevant for MLP research. |
| Teaching Methods / Hours per Week | seminar / 3 hours |
| Workload | 180 hours of which 45 hours are the actual course, 135 hours are concerned with course work and the programming of an independent project |

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| Credits | 6 |
| Type of Assessment | written exercises and a final project |
| Recommended Background | --- |
| Language | English or German |
| Frequency Offered | summer semester |
| Recommended Semester | 1 or 2 |
| Compulsory / Optional | optional |

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| Module Section: Further Current Linguistics Methodology | |
| Lecturer | academic staff |
| Content of Teaching | This module unit introduces further linguistic methodology. Topics may vary and include areas such as logic, language documentation or Praat scripting. |
| Teaching Methods / Hours per Week | seminar / 3 hours |
| Workload | 180 hours of which 45 hours are the actual course, 115 hours are concerned with course work and 20 hours constitute the preparation time for the exam |
| Credits | 6 |
| Type of Assessment | variable: presentations, examinations and papers required for successful completion of the course are announced at the beginning |
| Recommended Background | --- |
| Language | English or German |
| Frequency Offered | winter semester |
| Recommended Semester | 1 or 2 |
| Compulsory / Optional | optional |

Module 3: Foundations

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|-----------------------------------|--|-----------------|-------------|---|---------|
| Applicability | | | | Module Title | |
| MA Speech and Language Processing | | | | Module 3: Foundations | |
| Credits | 18 | Duration | 2 semesters | Module Contribution to the Final Grade | 18,75 % |
| Module Grade | The grade for the module is the arithmetic mean of the grade for each of the two module sections, weighted according to ECTS credits. | | | | |
| Module Sections | Machine Language Processing Human Language Processing | | | | |
| Learning Outcomes | Students are provided with an overview of the most important foundational and current topics within human and machine language processing. | | | | |

| Module Section: Machine Language Processing | |
|--|---|
| Lecturer | Miriam Butt or N. N. |
| Content of Teaching | Current and classic topics within natural language processing are discussed. This includes speech and text processing and an overview of symbolic and statistical approaches that have been used to build applications such as speech recognition systems, morphological analyzers, part-of-speech taggers, parsers and generators, semantic analysis systems and dialog systems. |
| Teaching Methods / Hours per Week | seminar / 2 hours |
| Workload | 270 hours of which 30 are the actual course, 180 are needed for the course work and 60 hours are needed for exam preparation |
| Credits | 9 |
| Type of Assessment | variable: presentations, examinations and papers required for successful completion of the course are announced at the beginning |
| Recommended Background | --- |
| Language | English or German |
| Frequency Offered | winter semester |
| Recommended Semester | 1 or 2 |
| Compulsory / Optional | compulsory |

| Module Section: Human Language Processing | |
|--|--|
| Lecturer | Carsten Eulitz or N. N. |
| Content of Teaching | Current and classic topics within human language processing are discussed. This includes speech perception, speech production and language acquisition. Results and insights from both psycholinguistics and neurolinguistics are considered. At the end of the course, students should be knowledgeable about foundational research and current debates within human language processing. |
| Teaching Methods / Hours per Week | seminar / 2 hours |
| Workload | 270 hours of which 30 are the actual course, 180 are needed for the course work and 60 hours are needed for exam preparation |
| Credits | 9 |
| Type of Assessment | variable: presentations, examinations and papers required for successful completion of the course are announced at the beginning |
| Recommended Background | --- |
| Language | English or German |
| Frequency Offered | summer semester |
| Recommended Semester | 1 or 2 |
| Compulsory / Optional | compulsory |

Module 4: Machine Language Processing

| Applicability | | Module Title | | | |
|-----------------------------------|---|---------------------------------------|-------------|---|-------------------|
| MA Speech and Language Processing | | Module 4: Machine Language Processing | | | |
| Credits | 18/9 | Duration | 2 semesters | Module Contribution to the Final Grade | 18,75 %/ 9,4 % |
| Module Grade | The grade for the module is the arithmetic mean of the grade for each of the two module sections, weighted according to ECTS credits. | | | | |
| Module Section | Grammar Development Computational Semantics Topics in Current Research | | | | |

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| Learning Outcomes | Students gain a deeper understanding of research in machine language processing and learn how to write software that can parse and generate language with respect to morphology, syntax and semantics. |
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| Module Section: Grammar Development | |
|--|---|
| Lecturer | Miriam Butt or N. N. |
| Content of Teaching | The course introduces students to grammar development and teaches students to build a linguistically sophisticated parser and generator for a language of their choice. |
| Teaching Methods / Hours per Week | seminar / 2 hours |
| Workload | 270 hours of which 30 are the actual course, 180 are needed for the course work and 60 hours for the preparation of the final project |
| Credits | 9 |
| Type of Assessment | exercises and final project |
| Recommended Background | A course on Lexical Functional Grammar within Module 1 |
| Language | English or German |
| Frequency Offered | summer semester |
| Recommended Semester | 2 or 3 |
| Compulsory / Optional | optional |

| Module Section: Computational Semantics | |
|--|--|
| Lecturer | Miriam Butt, Maribel Romero or N. N. |
| Content of Teaching | Students are introduced to first order logic as required by semantic processing. They learn how to express first order logic in the programming language Prolog and learn how to build semantic representations compositionally from parsed sentences. They also learn how to build a dialog system and the pitfalls involved in pragmatic and logic processing. |
| Teaching Methods / Hours per Week | seminar / 2 hours |

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| Workload | 270 hours of which 30 are the actual course, 180 are needed for the course work and 60 hours are needed for exam preparation |
| Credits | 9 |
| Type of Assessment | variable: presentations, examinations and papers required for successful completion of the course are announced at the beginning |
| Recommended Background | --- |
| Language | English or German |
| Frequency Offered | summer semester |
| Recommended Semester | 2 or 3 |
| Compulsory / Optional | optional |

| Module Section: Topics in Current Research | |
|---|---|
| Lecturer | Miriam Butt or N. N. |
| Content of Teaching | The course is concerned with specialized topics of current interest. |
| Teaching Methods / Hours per Week | seminar / 2 hours |
| Workload | 270 hours of which 30 are the actual course, 180 are needed for the course work and 60 hours are needed for preparation of exams/papers |
| Credits | 9 |
| Type of Assessment | variable: presentations, examinations and papers required for successful completion of the course are announced at the beginning |
| Recommended Background | --- |
| Language | English or German |
| Frequency Offered | winter semester |
| Recommended Semester | 2 or 3 |
| Compulsory / Optional | optional |

Module 5: Human Language Processing

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|-----------------------------------|--|-----------------|-------------------------------------|---|-------------------|
| Applicability | | | Module Title | | |
| MA Speech and Language Processing | | | Module 5: Human Language Processing | | |
| Credits | 18/9 | Duration | 2 semesters | Module Contribution to the Final grade | 18,75 %/ 9,4 % |
| Module Grade | The grade for the module is the arithmetic mean of the grade for each of the two module sections, weighted according to ECTS credits. | | | | |
| Module Sections | Language Acquisition Psycholinguistics Neurolinguistics Topics in Current Research | | | | |
| Learning Outcomes | Students gain a deeper understanding of research in human language processing, including at different stages of development (child vs. adult) and as investigated from different methodological perspectives (psycholinguistic vs. neurolinguistic). | | | | |

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| Module Section: Language Acquisition | |
| Lecturer | Tanja Kupisch or N. N. |
| Content of Teaching | The course examines foundational and current language acquisition research, including results from multilingual acquisition. Students will read and discuss seminal papers. They will be familiarized with theoretical frameworks as well as empirical approaches. |
| Teaching Methods / Hours per Week | seminar / 2 hours |
| Workload | 270 hours of which 30 are the actual course, 180 are needed for the course work and 60 hours for the preparation of the exam |
| Credits | 9 |
| Type of Assessment | variable: presentations, examinations and papers required for successful completion of the course are announced at the beginning |
| Recommended Background | --- |
| Language | English or German |
| Frequency Offered | summer semester |
| Recommended Semester | 2 or 3 |

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|----------------------------------|----------|
| Compulsory / Optional | optional |
|----------------------------------|----------|

| Module Section: Psycholinguistics | |
|--|---|
| Lecturer | Carsten Eulitz or N. N. |
| Content of Teaching | Current results and methods of psycholinguistic research are discussed and presented in this course. Students become familiar with the intricacies of the research questions and the methodology by conducting similar experiments. A particular focus is placed on reaction time experiments that have been used to investigate child language acquisition and human processing of both text and speech. |
| Teaching Methods / Hours per Week | seminar / 2 hours |
| Workload | 270 hours of which 30 are the actual course, 180 are needed for the course work including the experimental work and 60 hours for the preparation of the exam |
| Credits | 9 |
| Type of Assessment | variable: presentations, experiments, examinations and papers required for successful completion of the course are announced at the beginning |
| Recommended Background | --- |
| Language | English or German |
| Frequency Offered | winter semester |
| Recommended Semester | 2 or 3 |
| Compulsory / Optional | optional |

| Module Section: Neurolinguistics | |
|---|---|
| Lecturer | Carsten Eulitz or N. N. |
| Content of Teaching | Current results and methods of neurolinguistic research are discussed and presented in this course. Students read advanced papers and study theoretical frameworks and empirical studies. A particular focus is placed on models of language perception and language production. Hypotheses are developed for |

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| | targeted research questions and are evaluated via experimental work which includes the design and execution of experiments in group work. |
| Teaching Methods / Hours per Week | seminar / 2 hours |
| Workload | 270 hours of which 30 are the actual course, 180 are needed for the course work including the experimental work and 60 hours for the preparation of the exam |
| Credits | 9 |
| Type of Assessment | variable: presentations, experiments, examinations and papers required for successful completion of the course are announced at the beginning |
| Recommended Background | --- |
| Language | English or German |
| Frequency Offered | winter semester |
| Recommended Semester | 2 or 3 |
| Compulsory / Optional | optional |

| Module Section: Topics in Current Research | |
|---|---|
| Lecturer | Carsten Eulitz or N. N. |
| Content of Teaching | The course is concerned with specialized topics of current interest. |
| Teaching Methods / Hours per Week | seminar / 2 hours |
| Workload | 270 hours of which 30 are the actual course, 180 are needed for the course work and 60 hours are needed for preparation of exams/papers |
| Credits | 9 |
| Type of Assessment | variable: presentations, examinations and papers required for successful completion of the course are announced at the beginning |
| Recommended Background | --- |
| Language | English or German |
| Frequency Offered | summer semester |

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| Recommended Semester | 2 or 3 |
| Compulsory / Optional | optional |

Module 6: Practical/Experimental Applications and Research

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|-----------------------------------|--|--|-------------|---|-----|
| Applicability | | Module Title | | | |
| MA Speech and Language Processing | | Module 5: Practical/Experimental Applications and Research | | | |
| Credits | 6 | Duration | 2 semesters | Module Contribution to the Final Grade | --- |
| Module Grade | The module is not relevant for the final grade. | | | | |
| Module Sections | Research Colloquium Practical/Experimental Research or Internship | | | | |
| Learning Outcomes | This module offers students the opportunity to identify their own research questions and to conduct an experiment or a computational project to answer the research question. The module is intended as a preparation for the writing of the Master's thesis. It also offers them the opportunity to gain practical/applied experience in an on-going project either at an institution external to the university or within on-going projects at the university. | | | | |

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| Module Section: Research Colloquium | |
| Lecturer | academic staff |
| Content of Teaching | The research seminar is designed for advanced students within the master programme. The course focuses on the latest research language processing. Students review research papers and formulate research questions of their own, discuss methodology and plan their own experiments or projects. |
| Teaching Methods / Hours per Week | seminar / 2 hours |
| Workload | 90 hours of which 30 are the actual course and 60 are needed for the course work |
| Credits | 3 |
| Type of Assessment | variable: presentations, examinations and papers required for successful completion of the course are announced at the beginning |

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| Recommended Background | modules 1 – 5 |
| Language | English or German |
| Frequency Offered | winter semester or summer semester |
| Recommended Semester | 3 or 4 |
| Compulsory / Optional | compulsory |

| Module Section: Practical/Experimental Research or Internship | |
|--|--|
| Lecturer | academic staff or N.N. |
| | In this module unit students can elect to conduct an independent experiment or a computational project under the supervision of an academic staff member at the university. Or they can elect to pursue an internship outside of the university and gain experience with practical/applied work in a non-academic setting. In either case, it is recommended that the work pursued could be used as preparatory for the Master's thesis. |
| Content of Teaching | --- |
| Teaching Methods / Hours per Week | variable |
| Workload | 180 hours |
| Credits | 3 |
| Type of Assessment | A certified internship report must be submitted. |
| Language | variable |
| Recommended Background | --- |
| Frequency Offered | winter semester or summer semester |
| Recommended Semester | 3 or 4 |
| Compulsory / Optional | compulsory |

Module 7: Neighboring Areas

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|---|---|---|-------------|
| Applicability | | Module Title | |
| MA Speech and Language Processing | | Module 7: Neighboring Areas | |
| Credits | 18 | Duration | 4 semesters |
| Module Grade | | Module Contribution to the Final Grade | |
| The module is not relevant for the final grade. | | --- | |
| Module Sections | Linguistics Related Disciplines (e.g., Computer Science, Psychology, Philosophy) Language Courses and Key Qualifications | | |
| Learning Outcomes | This module extends the interdisciplinarity of the programme. Students can elect to take courses in an area of interest or can decide to increase their skill set by taking language courses or courses in key skills such as statistics, programming, academic writing, etc. | | |

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| Module Sections: Linguistics | |
| Lecturer | academic staff |
| Content of Teaching | Students attend relevant seminars from other linguistic master courses that are of interest to them. |
| Teaching Methods / Hours per Week | variable |
| Workload | variable |
| Credits | 3-18 |
| Type of Assessment | variable: presentations, examinations and papers required for successful completion of the course are announced at the beginning |
| Recommended Background | --- |
| Language | variable |
| Frequency Offered | winter semester and summer semester |
| Recommended Semester | 1 to 4 |
| Compulsory / Optional | optional |

| Module Sections: Related Disciplines | |
|---|---|
| Lecturer | academic staff |
| Content of Teaching | Students attend relevant seminars academic subjects of their interest. Particularly relevant for language processing are courses from Computer Science, Mathematics, Statistics, Philosophy and Psychology. |
| Teaching Methods / Hours per Week | variable |
| Workload | variable |
| Credits | 3-18 |
| Type of Assessment | variable |
| Recommended Background | --- |
| Language | variable |
| Frequency Offered | winter semester and summer semester |
| Recommended Semester | 1 to 4 |
| Compulsory / Optional | optional |

| Module Sections: Language Courses and Key Qualifications | |
|---|---|
| Lecturer | variable |
| Content of Teaching | Students attend courses which allow them to learn a foreign language or to add to their key qualifications/skill sets such as statistics, programming, academic writing, etc. |
| Teaching Methods / Hours per Week | as is common practice in the respective department or institute |
| Workload | variable |
| Credits | 3-6 |
| Type of Assessment | variable |
| Recommended Background | --- |
| Language | variable |

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|------------------------------|-------------------------------------|
| Frequency Offered | winter semester and summer semester |
| Recommended Semester | 1 to 4 |
| Compulsory / Optional | optional |

Module 8: Master's Thesis and Oral Examination

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|-----------------------------------|---|--|------------|---|--------|
| Applicability | | Module Title | | | |
| MA Speech and Language Processing | | Module 8: Master's Thesis and Oral Examination | | | |
| Credits | 21 | Duration | 1 semester | Module Contribution to the Final Grade | 21,8 % |
| Module Grade | The master's thesis counts three times, the oral exam once for the final grade in this module. | | | | |
| Module Sections | Master's Thesis Oral Examination | | | | |
| Learning Outcomes | In this module, students should show that they can apply the knowledge, the methodological competence and skill sets acquired in course of their studies. | | | | |

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| Module Section: Master's thesis | |
| Lecturer | academic staff |
| Content of Teaching | The master's thesis is written. |
| Teaching Methods / Hours per Week | --- |
| Workload | 4 months for the master thesis, 50-60 pages |
| Credits | 18 |
| Type of Assessment | Master's thesis |
| Recommended Background | 50 % of the examination credits |
| Language | English or German |

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|------------------------------|-------------------------------------|
| Frequency Offered | winter semester and summer semester |
| Recommended Semester | 4 |
| Compulsory / Optional | compulsory |

| Module Section: Oral examination | |
|--|-------------------------------------|
| Lecturer | academic staff |
| Content of Teaching | colloquium on the master's thesis |
| Teaching Methods / Hours per Week | colloquium / 2 hours |
| Workload | 90 hours |
| Credits | 3 |
| Type of Assessment | oral examination |
| Recommended Background | all coursework and examinations |
| Language | English or German |
| Frequency Offered | winter semester and summer semester |
| Recommended Semester | 4 |
| Compulsory / Optional | compulsory |