

Please note that this document is a non-binding convenience translation. Only the German version of the document entitled "Prüfungsordnung der Universität Heidelberg für den Masterstudiengang – Besonderer Teil – Computerlinguistik" of 9 February 2015 [published in the President's bulletin dated 23 February 2015, p. 61] has legal validity.

**Heidelberg University Examination Rules and Regulations for the Master's  
Degree Programme  
– Specific Section –  
in Computational Linguistics**

of 9 February 2015

Any employment and occupational titles mentioned in these regulations refer to both women and men and may be used in the corresponding feminine form. This also applies to university degrees and academic titles.

### **§ 1 Applicability of the General Section**

The Heidelberg University examination rules and regulations for the Master's programmes in modern languages and literature studies at the Faculty of Modern Languages - General Section -, as amended, form an integral part of these examination rules and regulations.

### **§ 2 Subject of the academic programme**

The consecutive Master's degree programme in computational linguistics with computational linguistics as a special field builds on a previously earned B.A. in computational linguistics or a comparable degree from a national or international higher education institution; it provides a focus on research or application. It reflects the complete spectrum of modern approaches in computational linguistics, while, at the same time, offering the opportunity for in-depth study of individual fields chosen by the student.

Computational linguistics as a minor subject also builds on a previously earned B.A. in computational linguistics or a comparable degree from a national or international higher education institution. It deals with examples of advanced-level issues and methods of modern computational linguistics and thus offers the opportunity to expand knowledge of the major subject by way of interdisciplinary comparison and contrast.

### **§ 3 Programme structure and possible combinations**

- (1) The academic programme is structured in accordance with § 3 para. 3 of the General Section of the Master's examination rules and regulations. There are two programme versions (A and B) to choose from: Version A, which, pursuant

to § 3 para. 2 item 1 of the General Section of the Master's examination rules and regulations, comprises a major subject accounting for 90 CP (subject-specific modules and oral final examination). Version B, which, pursuant to § 3 para. 3 item 2 of the General Section of the Master's examination rules and regulations, comprises a major subject accounting for 70 CP (specialised modules and oral final examination), and is combined with a minor subject accounting for 20 CP. Version A and B furthermore include a Master's thesis accounting for 30 CP. The modules and affiliated courses to be completed for version A of the major subject are set forth under Annex 2, under Annex 3 for version B of the major subject and under Annex 4 for the minor subject.

- (2) Generally, any subject may be chosen as the minor subject (for version B), provided that the respective Master's-level programme is offered.

#### **§ 4 Requirements for admission to Master's examination**

In accordance with § 13 para. 2 of the General Section, students seeking admission to the Master's thesis must additionally furnish certificates confirming the award of 68 credits (for version A) or 48 credits (for version B) for the successful completion of the modules and courses set forth under Annex 2 (for version A) or Annex 3 (for version B), respectively.

#### **§ 5 Master's examination**

The Master's examination is made up of the Master's thesis, the oral final examination and the examination components to be completed during the course of study pursuant to the annexes to the examination rules and regulations,

#### **§ 6 Master's thesis**

The Master's thesis may be written in English or German. The thesis must contain a summary in the other language, respectively.

#### **§ 7 Oral final examination**

The oral final examination is a colloquium on the Master's thesis where the examinee presents and defends his or her thesis. The total duration of the examination is approximately 60 minutes. Questions on related topics may also be discussed during the examination.

#### **§ 8 Calculation of the overall grade**

To calculate the overall grade of the Master's examination pursuant to § 12 para. 3 of

the General Section, the numerical values before rounding of the module grades indicated under Annex 2 (for version A) or Annex 3 (for version B) pursuant to § 12 para. 3 of the General Section are combined and weighted in proportion to the number of their credits. The grade of the Master's thesis is weighted by a factor of 2.

## § 9 Entry into force

The above examination rules and regulations become effective on the first day of the month following their publication in the President's bulletin (Mitteilungsblatt des Rektors). Upon request, the examination rules and regulations in the version of 21 April 2010 may be applied for three more years to students already enrolled in the Master's degree programme in computational linguistics at Heidelberg University on this date.

Heidelberg, 9 February 2015

Professor Dr. rer.nat. Bernhard Eitel  
President

### **Annex 1: Key of abbreviations and list of mentioned sub-disciplines**

### **Annex 2: Module structure of the Master's degree programme in *computational linguistics* (major subject – version A)**

### **Annex 3: Module structure of the Master's degree programme in *computational linguistics* (major subject - version B)**

### **Annex 4: Module structure of *computational linguistics* as a minor subject**

### **Annex 1: Key of abbreviations and list of mentioned sub-disciplines Key:**

**CM = Compulsory module; CEM = Compulsory elective module, EM = Elective module**

**L = Lecture course; PS = Preparatory seminar; MS = Main seminar; PC = Practice class;  
Tut = Tutorial, Koll= Colloquium; IS = Independent study**

**P/R = Preparation / review**

**CP = Credit points**

*CL: Computational Linguistics*

*FL: Formal Linguistics*

*AC: Applied Computational Linguistics*

**List of mentioned sub-disciplines:****Sub-disciplines of theoretical computational linguistics**

- Automata theory
- Graph theory
- Inference methods
- Linguistic representations
- Machine learning
- Formal languages and grammars
- Statistical language processing methods
- Algorithmic language-processing methods
- Further related areas

**Sub-disciplines of applied computational linguistics**

- Information extraction
- Information retrieval
- Machine translation
- Question-answering systems
- Dialogue systems
- Learning systems
- Natural language understanding
- Artificial intelligence and knowledge representation
- Phonetics
- Language recognition and speech synthesis
- Special topics in algorithmic processing
- Further related areas

**Sub-disciplines of formal linguistics**

- Linguistic theories of grammar
- Special topics in formal syntax, semantics, discourse and dialogue semantics, pragmatics, morphology and phonology
- Further related areas

**Sub-disciplines of applied linguistics**

- Language-learning systems
- Induction, acquisition and formal representation of linguistic resources
- Cognitive linguistics
- Contrastive linguistics
- Corpus linguistics
- Further related areas

A 07-01-3

Coding reference

09/02/15

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04-5

Edition - Page number

## Annex 2

### Module structure of the Master's degree programme in *computational linguistics* (major subject – version A)

Module structure major subject with integrated research module or application module (90 CP) plus 30 CP Master's examination (version A).

<i>Semester</i>	Major subject: Computational linguistics				
4	MA thesis (30 CP, CM)		Oral examination (4 CP, CM)		
3	<i>Specialised Studies CL (II)</i> (CM, 24 CP) (3 L/MS or project seminar at 8 CP each)	<i>Specialised Studies Theoretical and Applied CL</i> or <i>Specialised Studies Formal &amp; Applied Linguistics</i> (CEM, 16 CP) (= 2 L/MS, 8 CP each)		<i>Computational linguistics colloquium</i> (CM, 2 CP)	<i>Research module or application module</i> (CEM, 20 CP)
2					
1	<i>Specialised Studies CL (I)</i> (CM, 24 CP) (= 3 L/MS, 8 CP each)				

**A 07-01-3**

Coding reference

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Last amended

**04-6**

Edition - Page number

**Module descriptions*****Specialised Studies in Computational Linguistics (I) → Relevant for overall grade: yes***

Module and affiliated course	Module type and use	Recommended semesters	Type	Semester hours	Breakdown of CP	Total CP	Reference
<b>Specialised studies: Computational linguistics (I)</b>	Major: CM	Major: 1st sem.		3 x 2		<b>3 x 8 = 24</b>	SS-CL1
Choice of 2 lectures/seminars on the disciplines of theoretical and applied computational linguistics			L/MS	2 (per L/MS)	Contact (per L/MS) P/R (per L/MS) Written examination/ Presentation/Written assignment (per L/MS)	1 3 4	2 x 8
Choice of 1 lecture course/seminar on the disciplines of theoretical and applied computational linguistics or formal and applied linguistics			L/MS	2	Contact P/R Written examination/ Presentation/Written assignment	1 3 4	8

***Specialised Studies in Computational Linguistics (II) → Relevant for overall grade: yes***

Module and affiliated course	Module type and use	Recommended semesters	Type	Sem. hrs.	Breakdown of CP	Total CP	Reference
<b>Specialised studies: Computational linguistics (II)</b>	Major: CM	Major: 2nd and 3rd sem.		3 x 2		<b>3 x 8 = 24</b>	SS-CL2

A 07-01-3

09/02/15

04-7

Coding reference

Last amended

Edition - Page number

Choice of 1 lecture course/seminar on the disciplines of theoretical computational linguistics			L/MS	2	Contact P/R Written examination/Presentation/ Written assignment	1 3 4	8	
Choice of 1 lecture course/seminar or 1 project seminar on the disciplines of theoretical and applied computational linguistics			L/MS	2	Contact P/R Written examination/Presentation/ Written assignment	1 3 4	8	
			Project seminar	2	Contact Independent and group work Documentation	1 5 2		
Choice of 1 lecture course/seminar on the disciplines of theoretical and applied computational linguistics or formal and applied linguistics			L/MS	2	Contact P/R Written examination/Presentation/ Written assignment	1 3 4	8	

**Specialisation Studies in Theoretical and Applied Computational Linguistics → Relevant for overall grade: yes**

Module and affiliated course	Module type and use	Recommended semesters	Type	Sem. hrs.	Breakdown of CP	Total CP	Reference
<b>Specialised Studies in Theoretical and Applied CL</b>	Major: CEM	Major: 2nd-3rd sem.		2 x 2		<b>2 x 8 = 16</b>	SS-TAC
Choice of 2 lectures/seminars on the field of theoretical and applied computational linguistics			L/MS	2 (per L/MS)	Contact (per L/MS) P/R (per L/MS) Written examination/Presentation/ Written assignment (per L/MS)	1 3 4	8

A 07-01-3

Coding reference

09/02/15

Last amended

04-8

Edition - Page number

**Specialisation Studies in Formal and Applied Linguistics → Relevant for overall grade: yes**

Module and affiliated course	Module type and use	Recommended semesters	Type	Sem. hrs.	Breakdown of CP	Total CP	Reference
<b>Specialised Studies in Formal &amp; Applied Linguistics</b>	Major: CEM	Major: 2nd-3rd sem.		2 x 2		<b>2 x 8 = 16</b>	SS-FAL
Choice of 2 lectures/seminars on formal and applied computational linguistics			L/MS	2 (per L/MS)	Contact (per L/MS) P/R (per L/MS) Written examination/ Presentation/ Written assignment (per L/MS)	1 3 4 8	

**Computational Linguistics Colloquium → Relevant for overall grade: no**

Module and affiliated course	Module type and use	Recommended semesters	Type	Sem. hrs.	Breakdown of CP	Total CP	Reference
<b>Computational Linguistics Colloquium</b>	Major: CM	Major: 1st-4th sem.		2		<b>2</b>	
Computational linguistics colloquium			Coll	2	Contact Presentation	1 1 2	Coll

**Research module → Relevant for overall grade: yes**

Module and affiliated course	Module type and use	Recommended semesters	Type	Sem. hrs.	Breakdown of CP	Total CP	Reference
<b>Research module /</b>	Major (version A only): CEM	Major: 1st-3rd sem.		---		<b>4 + 8 + 6 + 2 = 20</b>	FM
Research and project planning	Compulsory		I	---	Independent and group work Documentation	2 2 4	



**A 07-01-3****09/02/15****04-9**

Coding reference

Last amended

Edition - Page number

Project implementation	Compulsory		MS+I	2	Contact Independent and group work Documentation	0.5 6.5 1	8	
Academic writing	Compulsory		I	---	Contact Documentation and presentation	0.5 5.5	6	
Conference attendance	Elective		Diff.	---	Individual assessment; preparation of a report		2	
Conference organisation	Elective		Diff.	---	Individual assessment; certificate		2	
Research practicum	Elective		Pract.	---	Individual assessment; certificate		2	
Preparation of a tutorial	Elective		I	---	Materials (slides, text, exercises, answers)		2	
Software release	Elective		I	---	Individual assessment; certificate		2	

**Application module → Relevant for overall grade: yes**

Module and affiliated course	Module type and use	Recommended semesters	Type	Sem. hrs.	Breakdown of CP	Total CP	Reference
<b>Computational Application Module</b>	Major (version A only): CEM	Major: 1st-3rd sem.		---		<b>2 x 8 + 4 = 20</b> <b>or</b> <b>2 x 6 + 8 = 20</b>	AM
Lecture courses/seminars on application oriented computer science <sup>1</sup>	Compulsory		MS	Diff.		20	

1 Detailed module descriptions on lecture courses and seminars can be found in the Master's examination rules and regulations of the "Applied computer science" programme.

2 Other combinations on the basis of the "Applied computer science" Master's examination rules and regulations may be approved by the examinations board if they yield a total of 20 CP from graded courses.

**A 07-01-3**

Coding reference

**09/02/15**

Last amended

**04-10**

Edition - Page number

**Examination module *M.A. thesis***

→ Relevant for overall grade: yes

<b>Module and affiliated courses</b>	<b>Module type and use</b>	<b>Recommended semesters</b>	<b>Type</b>	<b>Sem. hrs.</b>	<b>Total CP</b>
<b>MA thesis</b>	Major: CM	Major: 4th sem.	Independent study	max. of 6 months	<b>30</b>

**Examination module *Oral final examination***

→ Relevant for overall grade: yes

<b>Module and affiliated courses</b>	<b>Module type and use</b>	<b>Recommended semesters</b>	<b>Type</b>	<b>Sem. hrs.</b>	<b>Total CP</b>
<b>Oral final examination</b>	Major: CM	Major: 4th sem.	Independent study	max. of 6 weeks	<b>4</b>

**A 07-01-3**

Coding reference

**09/02/15**

Last amended

**04-11**

Edition - Page number

**Annex 3:****Module structure of the Master's degree programme in computational linguistics (major subject – version B)****Module overview major subject (70 CP) plus 30 CP MA thesis plus minor subject (20 CP) (version B)**

<b>Semester</b>	<b>Major subject: Computational linguistics</b>			<b>Minor subject</b>
<b>4</b>	<b>MA thesis (30 CP, CM)</b>	<b>Oral examination (4 CP, CM)</b>		
<b>3</b>	<b>Specialised Studies CL (II) (CM, 24 CP) (3 L/MS or project seminar at 8 CP each)</b>	<b>Specialised Studies Theoretical and Applied CL or Specialised Studies Formal &amp; Applied Linguistics (CEM, 16 CP) (= 2 L/MS, 8 CP each)</b>		<b>20 CP earned in minor subject</b>
<b>2</b>				
<b>1</b>	<b>Specialised Studies CL (I) (CM, 24 CP) (= 3 L/MS, 8 CP each)</b>			
			<b>Computational linguistics colloquium (CM, 2 CP)</b>	

A 07-01-3

Coding reference

09/02/15

Last amended

04-12

Edition - Page number

## Module descriptions

### *Specialised Studies in Computational Linguistics (I) → Relevant for overall grade: yes*

Module and affiliated course	Module type and use	Recommended semesters	Type	Sem. hrs.	Breakdown of CP	Total CP	Reference
<b>Specialised Studies in Computational Linguistics (I)</b>	Major: CM	Major: 1st sem.		3 x 2		<b>3 x 8 = 24</b>	SS-CL1
Choice of 2 lectures/seminars on the disciplines of theoretical and applied computational linguistics			L/MS	2 (per L/MS)	Contact (per L/MS) P/R (per L/MS) Written examination/Presentation/ Written assignment (per L/MS)	1 3 4	2 x 8
Choice of 1 lecture course/seminar on the disciplines of theoretical and applied computational linguistics or formal and applied linguistics			L/MS	2	Contact P/R Written examination/ Presentation/ Written assignment	1 3 4	8

### *Specialised Studies in Computational Linguistics (II) → Relevant for overall grade: yes*

Module and affiliated course	Module type and use	Recommended semesters	Type	Sem. hrs.	Breakdown of CP	Total CP	Reference
<b>Specialised studies in Computational Linguistics (II)</b>	Major: CM	Major: 2nd and 3rd sem.		3 x 2		<b>3 x 8 = 24</b>	SS-CL2
Choice of 1 lecture course/seminar on the disciplines of theoretical and applied computational linguistics			L/MS	2	Contact P/R Written examination/Presentation/ Written assignment	1 3 4	8

**A 07-01-3****09/02/15****04-13**

Coding reference

Last amended

Edition - Page number

Choice of 1 lecture course/seminar or 1 project seminar on the disciplines of theoretical and applied computational linguistics			L/MS	2	Contact P/R Written examination/Presentation/ Written assignment	1 3 4	8	
			Project seminar	2	Contact Independent and group work Documentation	1 5 2		
Choice of 1 lecture course/seminar on the disciplines of theoretical and applied computational linguistics or formal and applied linguistics			L/MS	2	Contact P/R Written examination/Presentation/ Written assignment	1 3 4	8	

**Specialised Studies in Theoretical and Applied Computational Linguistics → Relevant for overall grade: yes**

Module and affiliated course	Module type and use	Recommended semesters	Type	Sem. hrs.	Breakdown of CP	Total CP	Reference
<b>Specialised Studies in Theoretical and Applied CL</b>	Major: CEM	Major: 2nd-3rd sem.		2 x 2		<b>2 x 8 = 16</b>	SS-TAC
Choice of 2 lectures/seminars on the field of theoretical and applied computational linguistics			L/MS	2 (per L/MS)	Contact (per L/MS) P/R (per L/MS) Written examination/ Presentation/ Written assignment (per L/MS)	1 3 4	8

A 07-01-3

Coding reference

09/02/15

Last amended

04-14

Edition - Page number

**Specialised Studies in Formal and Applied Linguistics → Relevant for overall grade: yes**

Module and affiliated course	Module type and use	Recommended semesters	Type	Sem. hrs.	Breakdown of CP	Total CP	Reference
<b>Specialised Studies in Formal &amp; Applied Linguistics</b>	Major: CEM	Major: 2nd-3rd sem.		2 x 2		<b>2 x 8 = 16</b>	SS-FAL
Choice of 2 lectures/seminars on formal and applied computational linguistics			L/MS	2 (per L/MS)	Contact (per L/MS) P/R (per L/MS) Written examination/Presentation/ Written assignment (per L/MS)	1 3 4	8

**Computational Linguistics Colloquium → Relevant for overall grade: no**

Module and affiliated course	Module type and use	Recommended semesters	Type	Sem. hrs.	Breakdown of CP	Total CP	Reference
<b>Computational Linguistics Colloquium</b>	Major: CM	Major: 1st-4th sem.		2		<b>2</b>	
Computational linguistics colloquium			Coll	2	Contact Presentation	1 1	2 Coll

**Examination module M.A. thesis → Relevant for overall grade: yes**

Module and affiliated courses	Module type and use	Recommended semesters	Type	Sem. hrs.	Total CP
<b>MA thesis</b>	Major: CM	Major: 4th sem.	Independent study	max. of 6 months	<b>30</b>

**Examination module Oral final examination**

→ Relevant for overall grade: yes

**A 07-01-3**

Coding reference

**09/02/15**

Last amended

**04-15**

Edition - Page number

<b>Module and affiliated courses</b>	<b>Module type and use</b>	<b>Recommended semesters</b>	<b>Type</b>	<b>Sem. hrs.</b>	<b>Total CP</b>
<b>Oral final examination</b>	Major: CM	Major: 4th sem.	Independent study	max. of 6 weeks	<b>4</b>

**A 07-01-3**

Coding reference

**09/02/15**

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**04-16**

Edition - Page number

**Annex 4:**

**Module structure of *computational linguistics* as a minor subject**

***Overview of minor subject modules (MS) → 20 LP***

<b>Semester</b>	<b>Computational linguistics: Minor subject</b>	
<b>4</b>		
<b>3</b>	<p><b><i>Specialised Studies CL Theoretical and Applied CL (Minor)</i></b></p> <p><b>(CEM, 8 CP)</b> <b>(1 L/MS or project seminar, 8 CP each)</b></p>	<p><b><i>Specialised Studies CL Formal and Applied Linguistics (Minor)</i></b></p> <p><b>(CEM, 8 CP)</b> <b>(1 L/MS, 8 CP each)</b></p>
<b>2</b>	<p><b><i>Specialised Studies CL (Minor)</i></b></p>	
<b>1</b>	<p><b>(CM, 12 CP)</b> <b>(= 2 L/MS, 6 CP each)</b></p>	



A 07-01-3

Coding reference

09/02/15

Last amended

04-17

Edition - Page number

## Module descriptions

### *Specialised Studies in Computational Linguistics*

Module and affiliated course	Module type and use	Recommended semesters	Type	Sem. hrs.	Breakdown of CP	Total CP	Reference
<b>Specialised Studies in Computational Linguistics</b>	Minor: CM	Minor: 1st+2nd sem.		2 x 2		<b>2 x 6 = 12</b>	SSM-CL
Choice of 1 lecture/seminar on theoretical and applied computational linguistics			L/MS	2 (per L/MS)	Contact (per L/MS) P/R (per L/MS) Written examination/Presentation/ Written assignment (per L/MS)	1 2 3	6
Choice of 1 lecture course/seminar on theoretical and applied computational linguistics or formal and applied linguistics			L/MS	2 (per L/MS)	Contact (per L/MS) P/R (per L/MS) Written examination/Presentation/ Written assignment (per L/MS)	1 2 3	6

### *Specialised Studies in Theoretical and Applied Computational Linguistics (Minor)*

Module and affiliated course	Module type and use	Recommended semesters	Type	Sem. hrs.	Breakdown of CP	Total CP	Reference
<b>Specialised Studies in Theoretical and Applied CL (minor subject)</b>	Minor: CEM	Minor: 2nd and 3rd sem.		1 x 2		<b>1 x 8 = 8</b>	SSM-TAC
Choice of 1 lecture course/seminar or 1 project seminar on the disciplines of theoretical and applied			L/MS	2	Contact P/R Written examination/Presentation/ Written assignment	1 3 4	8

**A 07-01-3****09/02/15****04-18**

Coding reference

Last amended

Edition - Page number

computational linguistics			Project seminar	2	Contact Independent and group work Documentation	1 5 2		
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***Specialised Studies in Formal and Applied Linguistics (Minor)***

Module and affiliated course	Module type and use	Recommended semesters	Type	Sem. hrs.	Breakdown of CP	Total CP	Reference
<b>Specialised Studies in Formal &amp; Applied Linguistics (minor subject)</b>	Minor: CEM	Minor: 2nd-3rd. sem.		1 x 2		<b>1 x 8 = 8</b>	SSM-FAL
Choice of 1 lecture course/seminar on formal or applied linguistics			L/MS	2 (per L/MS)	Contact (per L/MS) P/R (per L/MS) Written examination/ Presentation/ Written assignment (per L/MS)	1 3 4 8	

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