Module Catalogue

Master of Science Cognitive Systems: Language, Learning and Reasoning valid as of Winter Semester 2014/2015

AM11: Current Topics in Compu	tational Linguistic	es 1	Total Cre 6 CP (Cr	edits: edit Points)
Module type (compulsory/ elective module)	Elective module		× *	,
Module content and learning	Intended learning outcomes: - Students can independently review the current relevant scholarly literation a given topic. - Building on the knowledge acquired in BM1, students develop a deeper understanding of specific current topics in computational linguistics: Whis solutions are being pursued, what are their strengths and weaknesses? - Students are able to critically examine research work, i.e. question arguments, check the suitability of selected solutions and consider alternatives. Syllabus: Topics are selected from the current international computational linguistic literature (conferences, journals), which are discussed in depth based on knowledge gained in the BM modules. The courses in this module are usually seminars; depending on the topic, some may also be offered as a lecture. At the end of the module, the stud completes either a seminar or a lecture. Enrollment in the AM12 module enables the student to further specialize computational linguistics.			
outcomes:				
(Sub) module exam(s) (number,	For course-related	(sub) module exam(s	s) see below	
type, scope): Self-study time (hours):	150			
	-			
	Contact hours (hours per week)	Exam prerequisites (number, type, scope)		Course-related
Courses (teaching format)		For completing the module	For admission to module exam	(sub) modul exam(s) (numbe type, scope)
Lecture or seminar (lecture or seminar)	2	-	-	If seminar: portfolio examination consisting of a presentation (60 min) and a related seminar paper (approx. 20 pages); if lecture: written exam (90 min) or oral exam (20 min).
Frequency:		Each semester		
Prerequisites for participating in the	module:	Each semester None		

Department offering the module:

Linguistics

Total Credits: **AM12: Current Topics in Computational Linguistics 2** 6 CP (Credit Points) Module type (compulsory/ elective Elective module module) *Intended learning outcomes:* - Students can independently review the current relevant scholarly literature on a given topic. - Building on the knowledge acquired in BM1, students develop a deeper understanding of specific current topics in computational linguistics: Which solutions are being pursued, what are their strengths and weaknesses? - Students are able to critically examine research work, i.e. question arguments, check the suitability of selected solutions and consider alternatives. Module content and learning outcomes: Syllabus: Topics are selected from the current international computational linguistics literature (conferences, journals), which are discussed in depth based on the knowledge gained in the BM modules. The courses in this module are usually seminars; depending on the topic, some may also be offered as a lecture. At the end of the module, the student completes either a seminar or a lecture. Enrollment in the AM12 module enables the student to further specialize in computational linguistics. (Sub) module exam(s) (number, For course-related (sub) module exam(s) see below type, scope): Self-study time 150 (hours): Exam prerequisites Course-related (number, type, scope) Contact hours (sub) module Courses (teaching format) For admission (hours per week) exam(s) (number, For completing the to module type, scope) module exam 2 If seminar: portfolio examination, consisting of a presentation (60 min) and a related seminar paper (approx. 20 Lecture or seminar (lecture or pages); seminar) registration for the module exam takes place when registering for the seminar. If lecture: written exam (90 min) or oral exam (20 min)

Frequency:	Each semester
Prerequisites for participating in the module:	None
Department offering the module:	Linguistics

AM21: Current Topics in Machin	ne Learning 1		Total Cre 6 CP (Cr	edits: redit Points)
Module type (compulsory/ elective module)	Elective module			
Module content and learning outcomes:	Intended learning outcomesStudents have extensive, detailed, and specialized knowledge that is with the state of the art in selected special areas of machine learning have advanced knowledge in the adjacent field of Bayesian statistic Students are able to analyze modelling problems, map them onto malearning paradigms and Bayesian statistics, develop and implement solutions, and determine the quality of the solutions using suitable of protocols. They are able to develop new ideas and procedures, weig alternatives if the information is incomplete, and evaluate them usind 			
(Sub) module exam(s) (number, type, scope):	For course-related (sub) module exam(s) see below			
Self-study time (hours):	150			
		Exam prerequisites (number, type, scope) Course-r		Course-related
Courses (teaching format)	Contact hours (hours per week)	For completing the module	For admission to module exam	(sub) module exam(s) (number type, scope)
Lecture or seminar (lecture or seminar)	2	-	-	If seminar: portfolio examination consisting of a presentation (60 min) and a related seminar paper (approx. 20 pages); if lecture: written exam (90 min) or oral exam (20 min).
Frequency:		Each semester		
Prerequisites for participating in the	module:	None		

Departments offering the module:	Computer Science (50%)
	Linguistics (50%)

AM22: Current Topics in Machin		Total Cre 6 CP (Cr	edits: edit Points)	
Module type (compulsory/ elective module)	Elective module			
Module content and learning outcomes:	Intended learning outcomesStudents have extensive, detailed, and specialized knowledge that is in line with the state of the art in selected special areas of machine learning. They have advanced knowledge in the adjacent field of Bayesian statistics. Students are able to analyze modelling problems, map them onto machine learning paradigms and Bayesian statistics, develop and implement solutions, and determine the quality of the solutions using suitable evaluation protocols. They are able to develop new ideas and procedures, weigh 			
	<i>Syllabus</i> Selection of advanced topics from the field of machine learning, e.g. graphic models, Gaussian processes, inference, reinforcement learning, online learning, transfer learning, kernel procedures, recommendation algorithms. The courses in this module are usually seminars; depending on the topic, some may also be offered as a lecture. At the end of the module, the student completes either a seminar or a lecture. Enrollment in the AM22 module enables the student to further specialize in machine learning.			
(Sub) module exam(s) (number, type, scope):	For course-related (sub) module exam(s) see below			
Self-study time (hours):	150			
	Contact hours	Exam prerequisites (number, type, scop	e)	Course-related (sub) module
Courses (teaching format)	(hours per week)	For completing the module	For admission to module exam	exam(s) (number, type, scope)
Lecture or seminar (lecture or seminar)	2	-	-	If seminar: portfolio examination consisting of a presentation (60 min) and a related seminar paper (approx. 20 pages); if lecture: written exam (90 min) or oral exam (20 min).
Frequency:		Each semester		
Prerequisites for participating in the	module:	None		
Departments offering the module: Computer Science (50%) Linguistics (50%)				

AM31: Current Topics in Compu	itational Intelligen	ce 1	Total Cre 6 CP (Cr	edits: edit Points)
Module type (compulsory/ elective module)	Elective module			
Module content and learning outcomes:	Intended learning outcomes - Students are able to define and interpret special aspects, limits, terminologies, and doctrines in the field of computational intelligence. - Their knowledge and comprehension forms the basis for developing and applying independent and research-oriented ideas in computati intelligence. - Students have a broad, detailed, and critical understanding of state-of-art knowledge in selected areas of computational intelligence. - Students are able to apply their knowledge and comprehension as we their problem-solving skills in new and unfamiliar situations that ha wider or multidisciplinary connection to knowledge representation processing. Syllabus Selection of advanced topics from the field of computational intellige e.g. logical basics, exact reasoning, error-tolerant reasoning, temporal spatial reasoning, taxonomic systems, argumentative systems, autonom systems, action planning, configuration, diagnosis, multidimensi constraint satisfaction problems, etc. The courses in this module are usually seminars; depending on the ta some may also be offered as a lecture. At the end of the module, the stu completes either a seminar or a lecture. Enrollment in the AM32 mo enables the student to further specialize in computational intelligence.			l intelligence. or developing and/ or in computational ding of state-of-the- ence. rehension as well as tuations that have a
				oning, temporal and ystems, autonomous , multidimensional ending on the topic, module, the student n the AM32 module
(Sub) module exam(s) (number,	For course-related (sub) module exam(s) see below.			
type, scope): Self-study time	150			
(hours):				
	Contact hours	exam prerequisites (number, type, scop	e)	Course-related (sub) module
Courses (teaching format)	(hours per week)	For completing the module	For admission to module exam	exam(s) (number, type, scope)
Lecture or seminar (lecture or seminar)	2		-	If seminar: portfolio examination consisting of a presentation (60 min) and a related seminar paper (approx. 20 pages); if lecture: written exam (90 min) or oral exam (20 min).
Frequency:		Each semester		
Prerequisites for participating in the	module:	None		
Department offering the module:		Computer Science		

AM32: Current Topics in Compu	itational Intelligen	ce 2	Total Cre 6 CP (Cr	dits: edit Points)
Module type (compulsory/ elective module)	Elective module			
Module content and learning outcomes:	Intended learning outcomes Students are able to define and interpret special aspects, limits, terminologies, and doctrines in the field of computational intelligence. Their knowledge and comprehension forms the basis for developing and/ or applying independent and research-oriented ideas in computational intelligence. Students have a broad, detailed, and critical understanding of state-of-the-art knowledge in selected areas of computational intelligence. Students are able to apply their knowledge and comprehension as well as their problem-solving skills in new and unfamiliar situations that have a wider or multidisciplinary connection to knowledge representation and processing.			
	SyllabusSelection of advanced topics from the field of computational intereste.g. logical basics, exact reasoning, error-tolerant reasoning, tempspatial reasoning, taxonomic systems, argumentative systems, autosystems, action planning, configuration, diagnosis, multidimconstraint satisfaction problems, etc.The courses in this module are usually seminars; depending on thesome may also be offered as a lecture. At the end of the module, thecompletes either a seminar or a lecture. Enrollment in the AM32enables the student to further specialize in computational intelligence			
(Sub) module exam(s) (number,	For course-related (sub) module exam(s) see below.			
type, scope): Self-study time				
(hours):	150			
	· ·	1		T
		Exam prerequisites (number, type, scope	e)	Course-related (sub) module exam(s) (number type, scope)
Courses (teaching format)	Contact hours (hours per week)	For completing the module	For admission to module exam	
Lecture or seminar (lecture or seminar)	2	-	-	If seminar: portfolio examination consisting of a presentation (60 min) and a related seminar paper (approx. 20 pages); if lecture: written exam (90 min) or oral exam (20 min).

Prerequisites for participating in the module:	None
Department offering the module:	Computer Science

BM1: Advanced Natural Langua	ge Processing		Total Credi 9 CP (Cred	
Module type (compulsory/ elective module)	Compulsory modu	ıle		
Module content and learning outcomes:	 <i>Intended learning outcomes:</i> Students have broad and well-founded knowledge of the methods a applications of computational linguistics. On this basis, they are able understand and critically contextualize current computational linguist literature. They are trained to independently review literature. Students are able to select and use suitable methods for specific, give computational linguistic problems. Students are able to implement computational linguistic algorithms in suitable programming language. They know the commonly availa grammars and data sets and are able to use and, if necessary, to process the for the respective problems. 			they are able to ational linguistics ire. For specific, given ic algorithms in a nmonly available
	 <i>Syllabus:</i> The course covers the most important applications of computational linguistics as well as the modeling approaches and associated algorithms used in these applications. It focuses on symbolic and statistical methods for parsing, generation, part-of-speech tagging, semantic processing, discourse processing and machine translation. The lecture is accompanied by exercises and intensive self-study (textbook, research literature). 			
(Sub) module exam(s) (number,	written exam, 120	minutes		
type, scope):	final project, proje	ect report of approx. 1	0 pages	
Self-study time (hours):	210			
	•			
	Contact hours	Exam prerequisites (number, type, scope)		Course-related (sub) module
Courses (teaching format)	(hours per week)	For completing the module	For admission to module exam	exam(s) (number, type, scope)
Lecture (lecture)	2	-	-	-
Exercise (exercise)	2	-	Successful completion of the weekly exercises	-
		1		
Frequency:		Once a year (winter semester)		
Prerequisites for participating in the module:		None		
Department offering the module:		Linguistics		

BM2: Machine Learning and Data Analysis		Total Credits: 9 CP (Credit Points)
Module type (compulsory/ elective module)	Compulsory	

Module content and learning outcomes:	Intended learning outcomesStudents are able to analyze data analysis and modeling problems, map them onto machine learning paradigms and Bayesian statistics, implement solutions, for example in Python, and define the quality of the inferred models using suitable evaluation protocols.SyllabusTypes of modeling problems and learning methods, basics of Bayesian statistics and empirical inference, linear classification and regression models, linear mixed models, generalized (mixed) linear models, kernel methods, model evaluation, implementation of data analysis methods, e.g. in Python.			
(Sub) module exam(s) (number, type, scope):	Oral exam, 30 minutes			
Self-study time (hours):	150			
Courses (teaching format)	Contact hours	Exam prerequisites (number, type, scope)		Course-related (sub) module
Courses (teaching format)	(hours per week)	For completing the module	For admission to module exam	exam(s) (number, type, scope)
Intelligent Data Analysis (lecture)	2	-	-	-
Intelligent Data Analysis (exercise)	2	-	Completing 70% of the exercises and completing a project task	-
Frequency:		Once a year (summer semester)		
Prerequisites for participating in the module:		None		
Department offering the module: Computer Science				

BM3: Advanced Problem Solving Techniques		Total Credits: 9 CP (Credit Points)
Module type (compulsory/ elective module)	Compulsory	

	Intended learning outcomes Students are able to define and interpret special aspects, limits, terminologies, and doctrines in the field of declarative problem solving. Their knowledge and comprehension forms the basis for developing and/ or applying independent and research-oriented ideas in declarative problem solving. Students have a broad, detailed, and critical understanding of state- of-the-art knowledge in selected special areas of declarative problem solving. Students are able to apply their knowledge and comprehension as well as their problem-solving skills in new and unfamiliar situations that have a wider or multidisciplinary connection to declarative problem-solving.				
Module content and learning outcomes:		eiteren oder multidis ativen Problemlösens		nenhang auf dem	
	<i>Syllabus</i> The course deals with the basics, algorithms, systems, and applicat declarative problem-solving methods. Declarative problem-solving muse general problem-solving methods for automatically solving (combinatorial) problems. This includes design, diagnosis, action and planning, configuration, and much more. In contrast to trace programming, no programs are created for solving the problems, but of the (formal) modeling of initial problems. Current problem solving sare able to solve problems with several million variables. The resystems are now used in the industrial sector but also in the natural sector.				
(Sub) module exam(s) (number,	Written exam, 90	minutes			
type, scope): Self-study time					
(hours):	180				
		1			
		Exam prerequisites (number, type, scope)			
Courses (teaching format)	Contact hours	1 1	e)	Course-related (sub) module	
Courses (teaching format)	Contact hours (hours per week)	1 1	e) For admission to module exam		
Lecture (lecture)	(hours per week)	(number, type, scope For completing the	For admission to	(sub) module exam(s) (number,	
	(hours per week)	(number, type, scope For completing the module	For admission to module exam	(sub) module exam(s) (number, type, scope)	
Lecture (lecture)	(hours per week)	(number, type, scope For completing the module	For admission to module exam	(sub) module exam(s) (number, type, scope) -	
Lecture (lecture) Exercise (exercise)	(hours per week) 2 2	(number, type, scope For completing the module - - oral consultation on attendance certificate (15	For admission to module exam	(sub) module exam(s) (number, type, scope) -	
Lecture (lecture) Exercise (exercise) Internship (internship)	(hours per week) 2 2 1	(number, type, scope For completing the module - - oral consultation on attendance certificate (15 min.) Documentation (5	For admission to module exam	(sub) module exam(s) (number, type, scope) -	
Lecture (lecture) Exercise (exercise) Internship (internship)	(hours per week) 2 2 1	(number, type, scope For completing the module - - oral consultation on attendance certificate (15 min.) Documentation (5	For admission to module exam - - -	(sub) module exam(s) (number, type, scope) -	
Lecture (lecture) Exercise (exercise) Internship (internship) Project (project)	(hours per week) 2 2 1 2 2 2 2	(number, type, scope For completing the module - - oral consultation on attendance certificate (15 min.) Documentation (5 pages)	For admission to module exam - - -	(sub) module exam(s) (number, type, scope) -	

FM1: Foundations of Mathematics		Total Credits: 6 CP (Credit Points)
Module type (compulsory/ elective module)	Elective module	

	<i>Intended learning outcomes:</i> Students have the necessary background knowledge in mathematics to successfully complete the basic modules of the program. They are able to organize themselves to acquire this knowledge independently and orally present subject matters and connections.				
Module content and learning outcomes:	Syllabus:Analysis: limits, functions, differential calculus, calculating maxima and minima, integral calculus, integration of rational functions, indefinite integrals, functions of multiple variables, partial differentiation, multidimensional integrals.Linear algebra: systems of linear equations, Gaussian algorithm, 				
(Sub) module exam(s) (number, type, scope):	Oral examination				
Self-study time (hours):	150				
		1			
	Contact hours	Exam prerequisites (number, type, scope)		Course-related (sub) module	
Courses (teaching format)	(hours per week)	For completing the module	For admission to module exam	exam(s) (number, type, scope)	
Video lecture (lecture)	-	-	-	-	
Exercise (exercise)	2	-	Successful completion of the exercises	-	
		·			
Frequency:		Once a year (winter semester)			
Prerequisites for participating in the	module:	Decision of the Exa		ant to § 5(1)	
Department offering the module:		Linguistics			

FM2: Foundations of Computer Science		Total Credits: 6 CP (Credit Points)
Module type (compulsory/ elective module)	Elective module	

	Students have the successfully comp organize themselv	<i>Intended learning outcomes:</i> Students have the necessary background knowledge in computer science to successfully complete the basic modules of the program. They are able to organize themselves to acquire this knowledge independently and orally present subject matters and connections.			
Module content and learning outcome:	Syllabus:Algorithms and data structures: growth of functions and O-notation, divide- and-conquer, sorting and searching, elementary data structures, dynamic programming, greedy algorithms, elementary graph algorithmsFormal languages: Chomsky hierarchy; regular languages and finite-state automata, context-free languages and push-down automata. finite-state transducer; Turing machinesTheoretical foundations: computability, halting problem, nondeterminism, recursion, inductive definitions (lists, trees).The content is conveyed through relevant online video lectures, e.g. from Coursera or MIT OpenCourseWare.				
(Sub) module exam(s) (number, type, scope):	Oral examination	(20 min.)			
Self-study time (hours):	150				
		-			
	Contact hours	Exam prerequisites (number, type, scope)		Course-related (sub) module	
Courses (teaching format)	(hours per week)	For completing the module	For admission to module exam	exam(s) (number, type, scope)	
Video lecture (lecture)	-	-	-	-	
Exercise (exercise)	2	-	Successful completion of the exercises	-	
Frequency:		Once a year (winter			
Prerequisites for participating in the	he module:	Decision of the Examining Board pursuant to § 5(1)			
Department offering the module:	Computer Science				

FM3: Foundations of Linguistics	Total Credits:6 CP (Credit Points)
Module type (compulsory/ elective module)	Elective module

Module content and learning outcomes:	successfully comp organize themselv present subject ma <i>Syllabus:</i> Theoretical four psycholinguistics: dependencies, wo semantics, comp implicature, Grice and constraints, t discourse processi	ne necessary backgr plete the basic modul wes to acquire this l atters and connections ndations of: synt structure of wo rd order and syntacti- positionality, scope, ean maxims, speech theories of word and ing, language acquisit proveyed through relev	les of the program, knowledge indepen a. ax, semantics, ords, phrase str c relations; foundat conventional an sounds, phonologic l sentence process ion.	They are able to adently and orally phonology, and ucture, syntactic tions of Montague ad conversational cal representations ing, dialogue and
(Sub) module exam(s) (number, type, scope):	Oral examination	(20 min.)		
Self-study time (hours):	150			
		1		
	Contact hours	Exam prerequisites (number, type, scope)		Course-related (sub) module
Courses (teaching format)	(hours per week)	For completing the module	For admission to module exam	exam(s) (number, type, scope)
Video-Lecture (lecture)	-	-	-	-
Exercise (exercise)	2	-	Successful completion of the exercises	-
Frequency:		Once a year (winter	semester)	
Prerequisites for participating in the module:		Decision of the Examining Board pursuant to § 5(1)		
Department offering the module:		Linguistics		

IM1: Individual Research Modul	e Total Credits: 15 CP (Credit Points)
Module type (compulsory/ elective module)	Compulsory
	Syllabus:
	Intended learning outcomes:
	Students prepare their own research project which they define together with a
	lecturer and select on the basis of current research topics. They present their
	results at the institute and document them in writing.
Module content and learning	
outcomes:	Intended learning outcomes:
	- Students have in-depth and detailed knowledge of their research topic. They
	are able to formulate their own research questions, master the methods of
	their subject and work independently on their research questions.
	- Students are able to present their research results to experts at a public
	meeting and account for their research questions.

(Sub) module exam(s) (number, type, scope):	For course-related (sub)module exam(s) see below			
Self-study time (hours):	420			
		1		1
	Contact hours	Exam prerequisites (number, type, scop	e)	Course-related (sub) module
Courses (teaching format)	(hours per week)	For completing the module	For admission to module exam	exam(s) (number, type, scope)
Internship (internship)	2	-	-	Portfolio exam consisting of a term paper (approx. 30 pages) and a presentation (approx. 20 minutes) or poster presentation on the project topic
Frequency:		Each semester		
Prerequisites for participating in th	e module:	None		
Departments offering the module: Linguistics (50%) Computer Science (50%)				

PM1: Project in Computational Linguistics		Total Credits: 12 CP (Credit Points)
Module type (compulsory/ elective module)	Elective module	

Module content and learning	linguistics. They a seminar. On this experimental, or of work on these proj When selecting th in current literatur <i>Intended learning</i> - Students have be the current state of state of research a questions. This en work.	<i>outcomes:</i> ecome acquainted wi of research. They are and, by critically ass ables them to apply th	fic topic and discu ents then define th with a clearly defi resent their results. ecturers will focus th a specific area i able to correlate essing it, develop to hese skills to other to	ss question in the heir own research, ned content. They on research topics n detail and know the content of the heir own research topics in their later	
outcomes:	 Students are able to independently define a realistic topic for their projects. They are able to select suitable subject-specific methods and apply them effectively to the project. To do so, they are able to obtain the necessary resources (programs, data sets, grammars, etc.) and adapt them for their purposes or develop them themselves. Students are able to plan and organize a defined research project and assess its feasibility and the required resources. They are proficient in taking responsibility for the success of the project, working in a team, and managing sub-projects. They are able to organize their own and their team's working time and work towards a deadline. Students are able to present and account for their research question. They are able to present the project results verbally and in writing according to the guidelines of good scientific communication. They are trained to communicate effectively within their team about approaches, distribution of work, and possible conflicts and to effectively communicate these aspects 				
(Sub) module exam(s) (number, type, scope):	For course-related	(sub)module exam(s) see below		
Self-study time (hours):	330				
		1			
Courses (teaching format)	Contact hours	Exam prerequisites (number, type, scope)		Course-related (sub) module	
Courses (teaching format)	(hours per week)	For completing the module	For admission to module exam	exam(s) (number, type, scope)	
Seminar (seminar)	2	-	-	Portfolio exam consisting of project report (approx. 20 pages) and project presentation (20 minutes)	
Frequency:		Once a year (usually	in the summer sen	nester)	
Prerequisites for participating in the module: Department offering the module:		None Linguistics			

PM2: Project in Machine Learnin	ng		Total 12 CP (C	Credits: redit Points)
Module type (compulsory/ elective module)	Elective module			
Module content and learning outcomes:	Elective module Intended learning outcomes: - Students have become acquainted with a specific area in detail and the current state of research. They are able to correlate the content state of research and, by critically assessing it, develop their own requestions. This enables them to apply these skills to other topics in the work. - Students are able to independently define a realistic topic for their properties are able to select suitable subject-specific methods and apply effectively to the project. To do so, they are able to obtain the near resources (programs, data sets, grammars, etc.) and adapt them for purposes or develop them themselves. - Students are able to plan and organize a defined research project and its feasibility and the required resources. They are proficient in responsibility for the success of the project, working in a tear managing sub-projects. They are able to organize their own and their working time and work towards a deadline. - Students are able to present and account for their research question are able to present the project results verbally and in writing according guidelines of good scientific communication. They are train communicate effectively within their team about approaches, distribu work, and possible conflicts and to effectively communicate these and to other teams as well as to give constructive feedback. Syllabus: Students first work on a specific topic of current research in m learning. They read up on the specific topic and discuss question seminar. On this basis, teams of students then define their own re experimental, or development projects with a clearly defined content work on these projects and ultimately present their results.		e the content of the o their own research r topics in their later bic for their projects. ods and apply them obtain the necessary dapt them for their ch project and assess proficient in taking ng in a team, and own and their team's arch question. They ting according to the ey are trained to ches, distribution of nicate these aspects k. esearch in machine uss question in the their own research, efined content. They s.	
(Sub) module exam(s) (number, type, scope):	For course-related (sub)module exam(s) see below			
Self-study time (hours):	330			
	Contact hours	Exam prerequisites (number, type, scope	e)	Course-related (sub) module
Courses (teaching format)	(hours per week)	For completing the module	For admission to module exam	exam(s) (number, type, scope)

	2	-	-	Portfolio exam	
				consisting of	
				project report	
Seminar (Seminar)				(approx. 20 pages)	
				and project	
				presentation (20	
				minutes)	
Frequency:		Once a year (usually in the winter semester)			
Prerequisites for participating in the module:		None			
Departments offering the module:		Computer Science (50 %)			
		Linguistics (50 %)			

PM3: Project in Computational I	ntelligence	Total 12 CP (C	Credits: redit Points)
Module type (compulsory/ elective module)	Elective module	X	,
Module content and learning outcomes:	Intended learning outcomes: - Students have become acquainted with a signature of research and, by critically assessing questions. This enables them to apply these slowork. - Students are able to independently define a They are able to select suitable subject-spee effectively to the project. To do so, they are resources (programs, data sets, grammars, purposes or develop them themselves. - Students are able to plan and organize a definits feasibility and the required resources. responsibility for the success of the proj managing sub-projects. They are able to orgat working time and work towards a deadline. - Students are able to present and account for are able to present the project results verbally guidelines of good scientific communic communicate effectively within their team all work, and possible conflicts and to effective and to other teams as well as to give construct <i>Syllabus:</i> Students first work on a specific topic of currintelligence. They read up on the specific to seminar. On this basis, teams of students to experimental, or development projects with work on these projects and ultimately present When selecting the subject areas, the lecture in current literature.	to correlate to correlate it, develop kills to other realistic top ecific metho re able to o etc.) and a ined researc They are p ect, workin unize their o or their rese and in writ cation. The bout approa ely communi- tive feedbac	e the content of the o their own research r topics in their later bic for their projects. ods and apply them obtain the necessary dapt them for their the project and assess proficient in taking ng in a team, and own and their team's arch question. They ting according to the ey are trained to ches, distribution of nicate these aspects k. ch in computational cuss question in the their own research, efined content. They s.
(Sub) module exam(s) (number, type, scope):	For course-related (sub)module exam(s) see b	below	
Self-study time (hours):	330		

Courses (teaching format)	Contact hours (hours per week)	Exam prerequisites (number, type, scope)		Course-related
		For completing the module	For admission to module exam	(sub) module exam(s) (number, type, scope)
Seminar (seminar)	2	-	-	Portfolio exam consisting of project report (approx. 20 pages) and project presentation (20 minutes)
		1		
Frequency:		Once a year (usually in the summer semester)		
Prerequisites for participating in the module:		None		
Department offering the module:		Computer Science		