Master of Applied Sciences and Engineering: Computer Science
Software Languages and Software Engineering (SOFT)

COURSE LIST

	First semester (Sep-Jan)		Second semester (Feb-Jun)	
Mandatory Master	Methods for Scientific Research	3		
	Declarative Programming	6		
	Philosophy of Science	3		
	Software Architectures	6		
	Data and Information Management	6		
	Theory of computation	3		
	Information Theory	3		
Repair	Higher-order programming	6	Advanced Programming Language Concepts	6
	Parallelism and Distribution	6		
Mandatory SOFT	Big Data Processing	3	Meta Programming and Reflection	6
			Functional Programming	6
			Performance Analysis and Evaluation	6
Electives SOFT	Fundamentals of programming languages	6	Advanced Topics in Programming Languages	6
	Programming Language Engineering	6	Security in Computing	6
	Programming Distributed and Replicated System	6	Next Generation User Interfaces	6
	Software Quality Analysis	6	Compilers	6
	Real-Time Operating Systems	5	Multicore Programming	6
	Introduction to Cryptography	5		
	Formal Verification of Computer Systems	5		
	Advanced Topics in of Software Engineering	2	Advanced Topics in of Software Engineering	4

red = currently not available

full programme details, see: https://caliweb.vub.be/?page=plan&id=00262&anchor=0000000615&target=pr&year=2526&language=en&output=html

Master of Applied Sciences and Engineering: Computer Science
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TYPICAL PROGRAMME				
Year 1				**60**
	First semester	**30**	**Second semester**	**30**
Semester courses	Methods for Scientific Research	3	Meta Programming and Reflection	6
	Declarative Programming	6	Functional Programming	6
	Philosophy of Science	3	Performance Analysis and Evaluation	6
	Software Architectures	6	Elective (*)	6
	Data and Information Management	6	Elective (*)	6
	Theory of computation	3		
	Information Theory	3		
Year long courses				

Year 2				**60**
	First semester	**30**	**Second semester**	**30**
Semester courses	Big Data Processing	3	Elective (*)	6
	Elective (*)	3	Elective (*)	6
	Elective (*)	6		
	Elective (*)	6		
Year long courses	Research Training	4	Research Training	2
	Master Thesis Computer Science	8	Master Thesis Computer Science	16

TOTAL ECTS	**120**

(*) at least 9 ECTS of electives should be SOFT electives

***Note:** the credits for year-long courses were distributed **unevenly** over first and second semester. This aims to reflect the load per semester. The load in second semester is higher, because the exam usually takes place in this semester.*

Master of Applied Sciences and Engineering: Computer Science
Software Languages and Software Engineering (SOFT)

TYPICAL PROGRAMME - with Higher-order programming

Year 1					**60**
	First semester	**30**		**Second semester**	**30**
Semester courses	Declarative Programming	6		Meta Programming and Reflection	6
	Philosophy of Science	3		Functional Programming	6
	Software Architectures	6		Performance Analysis and Evaluation	6
	Data and Information Management	6		Elective (*)	6
	Theory of computation/Information Theory	3		Elective (*)	6
	Higher-order programming	6			
Year long courses					

Year 2					**60**
	First semester	**30**		**Second semester**	**30**
Semester courses	Methods for Scientific Research (**)	3		Elective (*)	6
	Theory of computation/Information Theory	3		Elective (*)	6
	Big Data Processing	3			
	Elective (*)	3			
	Elective (*)	6			
Year long courses	Research Training	4		Research Training	2
	Master Thesis Computer Science	8		Master Thesis Computer Science	16

TOTAL ECTS	**120**

(*) at least 9 ECTS of electives should be SOFT electives

***Note**: the credits for year-long courses were distributed **unevenly** over first and second semester. This aims to reflect the load per semester. The load in second semester is higher, because the exam usually takes place in this semester.*