

SYLLABUS

STUDY YEAR 2017/2018

Master programme in Sustainable Constructions under Natural Hazards and Catastrophic Events

**Enrollment semester Autumn
2016**

DATE

2016-10-13

DECISION MAKER

Chef Utbildnings- och forskningsenheten

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Syllabus Study year 2017/2018	Master programme in Sustainable Constructions under Natural Hazards and Catastrophic Events	Autumn 2016	2016-10-13		2 (4)

Programme content and structure

The master programme is provided in co-operation with the Universities of Prague (Czech Republic), Comibra (Portugal), Naples (Italy), Timisoara (Romania) and Liège (Belgium). The programme stipulates students spending at least one semester at one of these universities.

The duration of the master programme is three semesters (1.5 years) representing a total of 90 ECTS. The first year of the programme begins with an introductory course in basic steel structure. An eligible course in Swedish for beginners, are also provided. The remainder of the first year is then attended to advanced courses in the area of Sustainable Constructions under Natural Hazards and Catastrophic Events. Given courses are within the main study field of civil engineering. The second year of the programme is attended to further specialisation, i.e. completion of a master thesis equivalent to 30 ECTS. The master thesis is written at one of the six universities involved in the collaboration. Teaching language is in English.

For being awarded a Master of Science Degree in Civil Engineering, with specialisation in Sustainable Designs of Exceptional Loads (120 ECTS) from Luleå University of Technology (LTU), it is required that at least 90 ECTS of the given courses are at advanced level within the main study field of Civil Engineering. It is also required that the student spends at least one semester at one of five co-educational universities in Prague (Czech Republic), Comibra (Portugal), Naples (Italy), Timisoara (Romania) and Liège (Belgium). It is finally required that the student completes his/her master thesis at LTU.

The introductory course Swedish for Beginners of 3 ECTS for foreign students is not included in the master of science degree and lectured in addition to required courses in the programme.

Credits

90 credits

Degree

- Degree of Master of Science (120 credits) - Major; Civil Engineering with specialisation Sustainable Constructions

Entry requirements

Bachelors degree of minimum 180 ECTS with at least 60 ECTS in the area of civil engineering or architecture and 22,5 ECTS in Mathematics at university level is required. Besides the degree, students must have additional documented courses in the area of Structural Mechanics, Building materials, Concrete Structures, Structural design, Steel Structures, Timber Structures with a minimum 30 ECTS.

Documented skills in English language.

Selection

The selection procedure is based on academic qualifications, quality and quantity aspects

Selection group

Academic: 100%

Compulsory courses

Compulsory courses 70 credits

Course code	Course	Cr	Level	Comment
X7011B	Degree project in Sustainable Constructions under Natural Hazards and Catastrophic Events, master	30	Master's level	
	Advanced design of steel end composite structures	6		
	Design for Fire and Robusstness	6		
	Business economics and entrepreneurship	2		
	Advanced design of concrete structures	6		
	Design of sustainable constructions	6		
	Local culture and language	2		
	Conceptual design of bridges,	6		
	Design for seismic and climate changes	6		

Compulsory courses 50 credits

Selective space is 20 credits. It is mandatory to select elective courses up to the given number of credits. The given number of credits of elective courses listed must be met for degree.

Course code	Course	Cr	Level	Comment
	Design of Aluminium and Stainless Steel Structures	5		
	Advanced design of concrete structures	5		
	Rehabilitation and maintenance of structures	5		
	Advanced design of glass structures	5		
	Design for Renuawable Energy Systems	5		
	Advanced design of timber structures	5		

Course offered outside the obligatory courses - not compulsory - For non Scandinavian students

Course code	Course	Cr	Level	Comment
S0046P	Swedish for International Students 1	3	Bachelor's level	Selectable

Study schedule

Year of study 1 Enrollment semester Autumn 2016, Is offered in 2016/2017

Study-period	Course code	Course	Cr	Comment
1		Conceptual design of bridges,	6	
1		Local culture and language	2	
1	S0046P	Swedish for International Students 1	3	Selectable
2		Advanced design of timber structures	5	
2		Advanced design of glass structures	5	
3		Design for seismic and climate changes	6	
3		Advanced design of steel end composite structures	6	
3		Design for Fire and Robusstness	6	
4		Rehabilitation and maintenance of structures	5	
4		Advanced design of concrete structures	6	
4		Business economics and entrepreneurship	2	
4		Design of sustainable constructions	6	
4		Design for Renuawable Energy Systems	5	
4		Advanced design of concrete structures	5	
4		Design of Aluminium and Stainless Steel Structures	5	

Year of study 2 Enrollment semester Autumn 2016, Is offered in 2017/2018

Study-period	Course code	Course	Cr	Comment
1-2	X7011B	Degree project in Sustainable Constructions under Natural Hazards and Catastrophic Events, master	30	