

# MSc Construction Management and Engineering - Curriculum 2019-2020

## MSc CME Year 1 - Core Curriculum

Q1	Q2	Q3	Q4
<b>AR8003TU</b> Legal and Governance ** 5 ects	<b>SPM8002</b> Process Management 7 ects	<b>SPM8000</b> Project Management 7 ects	<b>CME2200</b> Dynamic Control of Projects 4 ects
<b>CME2300</b> Financial Engineering ** 4 ects	<b>CIE4130</b> Probabilistic Design 4 ects	<b>CME1201</b> Collaborative Design and Engineering 5 ects	<b>WM0312CT</b> Philosophy, Technology Assessment and Ethics 4 ects
<b>CIE4381</b> Engineering Asset Management ** 4 ects	<b>EPA1433</b> Intercultural relations and project management 5 ects		<b>CIE4030</b> Methodology for Scientific Research 3 ects
<b>CME1220</b> Integration of Architecture & Engineering 3 ects			
<b>WI2180LR-II</b> Probability and Statistics 4 ects			

## MSc CME Year 2 - General Electives and Graduation


Q5	Q6	Q7	Q8
<b>CIE4120</b> Information Systems for the Construction Industry ** 4 ects	<b>CME2001</b> Thesis Preparation * 4 ects	<b>CME2000</b> Thesis * 32 ects	
	<b>CME2100-11</b> Research Internship * 10 ects		
	<b>CIE4061-09</b> Multidisciplinary Project * 10 ects		
<b>WM0201-TU-eng</b> Technical writing * 2 ects	<b>CIE5050-09</b> Additional Graduation Work * 10 ects		

### Legend

Core Curriculum
General Electives

### Synchronisation Courses

BSc Civil Engineering
BSc Technology, Policy & Management
BSc Architectural Engineering

-  At maximum only 1 out of these 3 courses.
- \* May be scheduled at any time
- \*\* May be scheduled in either Q1 or Q5

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## MSc CME Year 1 - Specialised Elective Bundles

Q1	Q2	Q3	Q4
		<b>CME2210</b> Open Design & Construction Management 4 erts	<b>CIE4170</b> Construction Technology of Civil Eng. Structures 4 erts
			<b>CIE5310</b> Probabilistic Design in Hydraulic Engineering 3 erts
		<b>WI4138</b> Decision Theory/Expert Judgement 6 erts	
		<b>CME5000-19</b> Procurement of Complex Projects 4 erts	
		<b>SPM9448</b> Methods for Risk Analysis and Management 5 erts	

## MSc CME Year 2 - Specialised Elective Bundles

Q5	Q6	Q7	Q8
<b>CIE4391</b> Quantitative Asset Modelling 4 erts	<b>EPA1323</b> Introduction to TPM modelling 5 erts		
<b>EPA1333</b> Computer Engineering for Scientific Computing 5 erts			
<b>EPA1315</b> Data Analytics and Visualization 5 erts	<b>CIE4481</b> Systems Engineering Management 4 erts		
<b>CIE5981</b> Forms of Collaboration in Civil Engineering 4 erts			
<b>SPM9716</b> Cost-Benefit-Analysis: Theory and Applications 4 erts	<b>EPA1144</b> Actor and Strategy Models 5 erts	<b>Specialised Elective Bundles</b>	
<b>AR1MBE010</b> Management & Finance 6 erts	<b>AR1R025</b> Real Estate Management 7 erts	Digital Design & Asset Management	
<b>AR0880</b> Real Estate Valuation 7 erts		Integral & Multidisciplinary Design	
		Management of Projects	
		Legal & Finance	

# MSc Construction Management and Engineering - Curriculum 2019-2020

## MSc CME Year 1 - Approved Free Electives

Q1	Q2	Q3	Q4
		<b>CIE5100</b> Repair and Maintenance of Construction Materials 4 ects	
		<b>CIE3340-15</b> Building Structures I 4 ects	<b>CIE3330</b> Hydraulic Structures I 4 ects
			<b>CIE5313-18</b> Hydraulic Structures II 4 ects
		<b>AR0191</b> Urban Sustainability (TISD) 3 ects *	
		<b>OE44115</b> Arctic Engineering 4 ects	<b>OE44120</b> Offshore Wind Farms Design 4 ects
		<b>MOT1531</b> Digital Business Process Management 5 ects	<b>EPA1361</b> Model-based Decision-making 5 ects
		<b>WI4050</b> Uncertainty and Sensitivity Analysis 6 ects	

## MSc CME Year 2 - Approved Free Electives

Q5	Q6	Q7	Q8
	<b>CIE4100</b> Materials and Ecological Engineering 4 ects		
<b>CIE4330</b> Ports and Waterways I 4 ects	<b>CIE4281</b> Building Structures II 4 ects		
	<b>CIE4210</b> Parametric Design and Engineering 3 ects		
<b>TPM001A</b> Sociotechnology of Future Energy Systems 4 ects	<b>CIE4510</b> Climate Change: Science & Ethics 4 ects		
<b>OE44005</b> Introduction to Offshore Engineering 3 ects			
<b>OE44010</b> Introduction to Dredging Engineering 3 ects	<b>OE44096</b> Bottom Founded Offshore Structures 6 ects		
<b>CIE5875</b> Railway Asset Management 4 ects	<b>SPM9446</b> System Reliability in Quantative Risk Assessment 5 ects		

### Approved Free Electives

Hydraulic, Building & Materials Engineering
Sustainability & Future Energy
Offshore & Dredging Engineering
Risk & Asset Management

\* May be scheduled at any time