

# MASTER OF COMPUTATIONAL ENGINEERING, COMPUTATIONAL CHEMICAL ENGINEERING TRACK

## Curriculum

Code	Title	Credit Hours
<b>Core Courses</b>		<b>(9)</b>
Select nine credit hours from the following courses:		9
BME 522	Math Methods in BME	3
BME 553	Quantitative Physiology	3
CHE 506	Entrepreneurship & IP Mgmt	3
CHE 536	Computational Techniques Engg	3
ECE 505	Applied Optimization Engrgs	3
ECE 511	Analysis Random Signals	3
MATH 577	Computational Mathematics I	3
MATH 581	Finite Element Method	3
MMAE 451	Finite Elmnt Methods in Engrg	3
MMAE 501	Engineering Analysis I	3
MMAE 502	Engineering Analysis II	3
<b>Computational Chemical Engineering Courses</b>		<b>(12)</b>
Select 12 credit hours from the following courses:		12
CHE 439	Numerical Data Analysis	3
CHE 535	Applctn Math Cheml Engrg	3
CHE 536	Computational Techniques Engg	3
CHE 597	Special Problems	1-12
<b>Elective Courses</b>		<b>(9)</b>
Select nine credit hours from the following courses: <sup>1</sup>		9
BME 445	Quantitative Neural Function	3
BME 522	Math Methods in BME	3
BME 523	Cell Biomechanics	3
BME 524	Quant Aspects Cell/Tissue Engg	3
BME 525	Introduction to Medical Device	3
BME 538	Neuroimaging	3
BME 553	Quantitative Physiology	3
BME 597	Special Problems	1-6
CAE 530	Finite Element Method of Anlys	3
CAE 534	Computational Techniques	3
CAE 535	Nonlinear Finite Element Anlys	3
CAE 597	Special Problems	1-9
CHE 439	Numerical Data Analysis	3
CHE 506	Entrepreneurship & IP Mgmt	3
CHE 516/BME 517	Tech for Treatment of Diabetes	3
CHE 535	Applctn Math Cheml Engrg	3
CHE 536	Computational Techniques Engg	3
CHE 560	Ststcl Qlty Process Control	3
CHE 585	Drug Delivery	3
CHE 597	Special Problems	1-9
ECE 505	Applied Optimization Engrgs	3
ECE 511	Analysis Random Signals	3
ECE 533	Robust Control	3
ECE 535	Discrete Time Systems	3

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ECE 563	Comptl Intlgnnc Engineering	3
ECE 565	Compt Vision Image Processing	3
ECE 566	Statistical Pattern Rcgntn	3
ECE 567	Statistical Signal Processing	3
ECE 597	Special Problems	1-9
MATH 577	Computational Mathematics I	3
MATH 581	Finite Element Method	3
MMAE 450	Computational Mechanics II	3
MMAE 451	Finite Elmnt Methods in Engrg	3
MMAE 501	Engineering Analysis I	3
MMAE 502	Engineering Analysis II	3
MMAE 517	Computational Fluid Dynamics	3
MMAE 518	Spec Methods Comp Fluid Dynmcs	3
MMAE 532	Finite Element Methods II	3
MMAE 570	Computational Methods in MSE	3
MMAE 597	Special Topics	1-9

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**Total Credit Hours** **30**

<sup>1</sup> Course must not have been used towards the core course or specialization course requirements.