

Chemical Engineering (MS)

Master of Science Degree Requirements

Code	Title	Hours	Counts towards
Required Courses *			12

CHE 711	Chemical Engineering Process Modeling		
CHE 713	Thermodynamics I		
CHE 715	Transport Phenomena		
CHE 717	Chemical Reaction Engineering		

Thesis Options

Thesis

CHE 695	Master's Thesis Research		
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"Elective Courses" will be determined in conjunction with the academic committee to meet the 30 total hour requirement

Non-Thesis

"Elective Courses" will be determined in conjunction with the academic committee to meet the 30 total hour requirement

Total Hours		30	
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* Non-CHE undergraduate majors are required to take CHE 596 Core Concepts I and CHE 596 Core Concepts II before they can take any 700-level courses.

CHE Courses

Code	Title	Hours	Counts towards
CHE 543	Polymer Science and Technology	3	
CHE 551	Biochemical Engineering	3	
CHE 560	Chemical Processing of Electronic Materials	3	
CHE 562	Fundamentals of Bio-Nanotechnology	3	
CHE 563	Fermentation of Recombinant Microorganisms	2	

CHE 568	Conventional and Emerging Nanomanufacturing Techniques and Their Applications in Nanosystems	3	
CHE 577	Advanced Biomufacturing and Biocatalysis	3	
CHE 596	Special Topics in Chemical Engineering (Core Chemical Engineering Concepts I (required of all non ChE majors; not available for others))	1-3	
CHE 596	Special Topics in Chemical Engineering (Core Chemical Engineering Concepts II (required of all non ChE majors; not available for others))	1-3	
CHE 596	Special Topics in Chemical Engineering (Colloid Science & Nanoscale Engineering)	1-3	
CHE 596	Special Topics in Chemical Engineering (Green Chemical Engineering)	1-3	
CHE 596	Special Topics in Chemical Engineering (Molecular Cell Engineering)	1-3	
CHE 596	Special Topics in Chemical Engineering (Chemical Process Engineering)	1-3	
CHE 596	Special Topics in Chemical Engineering (Polymer Rheology and Processing)	1-3	

CHE 596	Special Topics in Chemical Engineering (Drug Delivery Concepts)	1-3
CHE 597	Chemical Engineering Projects	1-3
CHE 711	Chemical Engineering Process Modeling	3
CHE 713	Thermodynamics I	3
CHE 715	Transport Phenomena	3
CHE 717	Chemical Reaction Engineering	3
CHE 761	Polymer Blends and Alloys	3
CHE 775	Multi-Scale Modeling of Matter	3
MA 501	Advanced Mathematics for Engineers and Scientists I	3

Accelerated Bachelor's/Master's Degree Requirements

The Accelerated Bachelors/Master's (ABM) degree program allows exceptional undergraduate students at NC State an opportunity to complete the requirements for both the Bachelor's and Master's degrees at an accelerated pace. These undergraduate students may double count up to 12 credits and obtain a non-thesis Master's degree in the same field within 12 months of completing the Bachelor's degree, or obtain a thesis-based Master's degree in the same field within 18 months of completing the Bachelor's degree.

This degree program also provides an opportunity for the Directors of Graduate Programs (DGPs) at NC State to recruit rising juniors in their major to their graduate programs. However, permission to pursue an ABM degree program does not guarantee admission to the Graduate School. Admission is contingent on meeting eligibility requirements at the time of entering the graduate program.

Faculty

Full Professors

Milad Abolhasani
 Ruben G. Carbonell
 Michael David Dickey
 Peter S. Fedkiw
 Jan Genzer

Harvinder Gill
 Christine S. Grant
 Carol K. Hall
 Jason M. Haugh
 Hasan Jameel
 Robert M. Kelly
 Saad A. Khan
 Fanxing Li
 Gregory N Parsons
 Walter James Pfaendtner
 Behnam Pourdeyhimi
 Balaji M. Rao
 Sindee Lou Simon
 Richard J. Spontak
 Orlin Dimitrov Velev
 Phillip R. Westmoreland

Associate Professors

Adriana San Miguel Delgadillo
 Chien Ching Lilian Hsiao
 Albert Jun Qi Keung
 Stefano Menegatti
 Erik Emilio Santiso
 Qingshan Wei

Assistant Professors

Nathan Crook
 Artem Rumyantsev
 Wentao Tang

Practice/Research/Teaching Professors

Cristina Boi
 Lisa G. Bullard
 Matthew Ellis Cooper
 Kirill Efimenko

Gary Louis Gilleskie

Hassan Golpour

Gregory McKenna

Luke Neal

John H. van Zanten

Adjunct Faculty

Anthony L. Andrady

Orlando J. Rojas

Emeritus Faculty

Joseph M. DeSimone

Richard M. Felder

Michael Carl Flickinger

Keith Gubbins

Harold B. Hopfenberg

Harold Henry Lamb

Phooi K. Lim

Steven W. Peretti

Hubert Winston