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		
"Elective Courses" will be dextermined in conjunction with the academic committee to meet the 30 total hour requirement			
Non-Thesis			
"Elective Courses" will be dextermined in conjunction with the academic committee to meet the 30 total hour requirement			
Total Hours		**30**	

* 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 Nanomanufacturin Techniques and Their Applications in Nanosystems	3	
CHE 577	Advanced Biomanufacturing 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

Ruben G. Carbonell

Joseph M. DeSimone

Michael David Dickey

Peter S. Fedkiw

Jan Genzer

Christine S. Grant

Keith E. Gubbins

Carol K. Hall

Jason M. Haugh

Hasan Jameel

Robert M. Kelly

Saad A. Khan

Harold Henry Lamb

Fanxing Li

Phooi K. Lim

Gregory N Parsons

Walter James Pfaendtner

Behnam Pourdeyhimi

Balaji M. Rao

Richard J. Spontak

Orlin Dimitrov Velev

Phillip R. Westmoreland

Associate Professors

Chase Beisel

Steven W. Peretti

Erik Emilio Santiso

Assistant Professors

Milad Abolhasani

Nathan Crook

Chien Ching Lilian Hsiao

Albert Jun Qi Keung

Stefano Menegatti

Adriana San Miguel Delgadillo

Artem Rumyantsev

Wentao Tang

Qingshan Wei

Practice/Research/Teaching Professors

Lisa G. Bullard

Matthew Ellis Cooper

Kirill Efimenko

Gary Louis Gilleskie

Luke Neal

John H. van Zanten

Emeritus Faculty

Richard M. Felder

Michael Carl Flickinger

Harold B. Hopfenberg

David Frederick Ollis

Hubert Winston

Adjunct Faculty

Anthony L. Andrady

Christina Boi

Eric Muller Gomez

Raghubir P. Gupta

Patrick V. Gurgel

Michael R. Ladisch

Gregory B. McKenna

Orlando J. Rojas

Martin Schoen

Sindee Lou Simon

Malgorzata Sliwinska-Bartowiak

Simeon D. Stoyanov