Chemical Engineering

Research activities in the department include: computational nanoscience and biology; biomolecular engineering and biotechnology; catalysis, combustion, kinetics and electrochemical engineering; biofuels and renewable energy technology; green chemistry and engineering; innovative textiles, polymers and colloids; nanoscience and nanoengineering; and thermodynamics and molecular simulation.

Admissions Requirements

Students admitted to the graduate program normally have a Bachelor’s degree in chemical engineering or its equivalent. Students with undergraduate degrees in chemistry, physics or other engineering disciplines may be admitted but will be required to make up undergraduate course work deficiencies in chemical engineering without graduate credit. The most promising candidates will be accepted up to the number of spaces available.

Master of Science Degree Requirements

The M.S. degree requires a minimum of 30 credit hours. A set of four core courses is required. Two options are provided. In the thesis option, the thesis must be defended in a final public oral examination. In the non-thesis option, the student must satisfactorily complete a total of 10 graduate courses. A unique feature of the non-thesis option is the availability of a Distance Education Masters in which the students can complete all 30 credit hours remotely through online courses offered via streaming videos without being on campus.

Master of Chemical Engineering Degree Requirements

The M.Ch.E. degree requires a minimum of 30 credit hours. A set of four core courses is required. A three-credit project is also required.

Doctor of Philosophy Degree Requirements

Students normally take a set of five core courses, two advanced courses and at least 6 credits of dissertation research. A thesis is required; this must be defended in a final public oral examination. In addition, the candidate must: (1) submit and defend an original written proposition in any area of chemical engineering, and (2) submit and defend a proposal to perform his/her thesis research.

Degrees

- Chemical Engineering (MR) (http://catalog.ncsu.edu/graduate/engineering/chemical-engineering/chemical-engineering-mr/)
- Chemical Engineering (MS) (http://catalog.ncsu.edu/graduate/engineering/chemical-engineering/chemical-engineering-ms/)
- Chemical Engineering (PhD) (http://catalog.ncsu.edu/graduate/engineering/chemical-engineering/chemical-engineering-phd/)
- Chemical Engineering (Minor) (http://catalog.ncsu.edu/graduate/engineering/chemical-engineering/chemical-engineering-minor/)

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
Behnam Pourdeyhimi
Balaji M. Rao
Richard J. Spontak
Orlin Dimitrov Velev
Phillip R. Westmoreland

Associate Professors

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Steven W. Peretti
Erik Emilio Santiso

Assistant Professors

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Nathan Crook
Chien Ching Lilian Hsiao
Albert Jun Qi Keung
Stefano Menegatti
Adriana San Miguel Delgadillo
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