Master of Science in Chemical Engineering

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Program Overview

The Master of Science in Chemical Engineering (MSCHE) is designed for students with an undergraduate degree in an engineering discipline who wish to pursue a graduate degree in chemical engineering. Outstanding students with degrees in biochemistry, chemistry, physics, and other branches of science and engineering may also qualify for admission with the completion of required pre-requisite courses.

Admission Requirements

Prerequisites for admission to the MSCHE degree include an undergraduate degree in chemical engineering from an accredited institution or its equivalent with an overall GPA of 3.0. Individuals who do not have an undergraduate degree in chemical engineering are encouraged to take the Core ChE Concepts I and II classes. These classes will count as two electives towards the online chemical engineering degree program.

The Graduate Record (GRE) is required for admission into the degree program. The TOEFL or IELTS scores (no more than two years old) are required for international applicants unless they have completed one year of study at a university in the United States. You can find out more about the admission requirements at https://www.cbe.ncsu.edu/graduate/distance-education/.

Degree Requirements

- Completion of 30 credit hours of graduate level courses at the 500 or 700 level with an overall grade point average of 3.0.
- Completion of the following core courses:
  CHE 711 Chemical Engineering Process Modeling
  CHE 713 Thermodynamics I
  CHE 715 Transport Phenomena
  CHE 717 Chemical Reaction Engineering
- The remaining six courses should be taken from Chemical Engineering (preferable) or other graduate level courses offered through Engineering Online. Students must receive approval for non-chemical engineering courses from the Director of Graduate Programs in Chemical Engineering.
- No thesis or on-campus residency requirement.
- All requirements for the degree must be completed within six years of enrolling in the first course appearing on the NC State graduate transcript. Students must comply with the Graduate School regulations for continuous enrollment or must request a leave of absence not to exceed one year.

It is preferable to seek admission to the MSCHE program as soon as possible to assure integration into the advising process. However, a person does not have to be admitted to a degree program to enroll in an online credit course. Prior to applying to Graduate School, a qualified individual may enroll in Engineering Online courses as a Non-Degree Studies (NDS) student. The NDS classification is designed for individuals who wish to undertake academic work but who are not currently admitted to a degree program. If the student is admitted to the MSCHE program, a maximum of twelve hours taken as a NDS student or from another institution may apply toward the 30 credit hour requirement in which the student earned the grade of B and not B- in the classes. Those who wish to take only a few courses and not pursue a degree do not need to apply for formal program admission to NC State University. However, students who wish to earn the MSCHE degree must formally apply for admission to the Graduate School at https://www.ncsu.edu/grad. When completing the online application, please be sure to select the "Distance Track".

Course Offerings

A list of distance education courses available for each semester can be found on the Engineering Online website. Full-time employed individuals can only enroll in two online courses per semester. It is highly recommended that new students enroll in one online course during their first semester.

The following courses will be available through the Engineering Online program in various semesters.

CHE 543 Polymer Science & Technology
CHE 551 Biochemical Engineering
CHE 575 Advances in Pollution Prevention
CHE 596 Colloid Science & Nanoscale Engineering
CHE 596 Green Chemical Engineering
CHE 596 Molecular Cell Engineering
CHE 596 Chemical Process Engineering
CHE 596 Polymer Rheology and Processing
CHE 711 Chemical Engineering Process Modeling
CHE 713 Thermodynamics I
CHE 715 Transport Phenomena
CHE 717 Chemical Reaction Engineering

Other recommended courses
MA 501 Advanced Mathematics for Engineers & Scientists I
MA 502 Advanced Mathematics for Engineers & Scientists II
Other courses offered through Engineering Online

Course Logistics

Online courses are the same as on campus courses in terms of content, requirements and academic rigor. On-campus class lectures are captured, digitized and placed on the Internet for distance students to access at any time and from any location. Students must, however, follow the on-campus class schedule in terms of submitting homework and taking exams. Course assignments, lecture notes, and handouts are made available to distance students on the course website. All in-class exams must be proctored.

Course Registration

To register for an Engineering Online course, you would need to create an EOL account and request registration in selected classes. You can complete the registration form on the Engineering Online website. Select the Enroll in Courses link from the menu. Follow the directions and create your Engineering Online (EOL) account. Distance students *cannot* register through the University MyPack Portal system for Engineering Online courses.

Contact Information

- For more information about the MSCHE degree program available online, contact:

    Dr. Saad Khan, Director of Graduate Programs
    Department of Chemical and Biomolecular Engineering
    Telephone: 919.515.4519
    Email: khan@ncsu.edu
    Department website: https://www.che.ncsu.edu

- For more information about the registration process, course offerings and course logistics, contact:

  Dr. Linda Krute, Director
  Distance Education Programs
  College of Engineering
  Telephone: 919.515.5440
  Email: Linda_Krute@ncsu.edu
  Engineering Online website: https://EngineeringOnline.ncsu.edu