



Master of Materials Science and Engineering

Program Overview

The Master of Materials Science and Engineering (MMSE) distance education program is designed for students with an undergraduate degree in an engineering discipline who wish to pursue a graduate degree in materials science and engineering. It is a 30 credit hour degree program that does not require a thesis, final oral exam or on-campus residency. GRE scores are recommended but not required. Online courses cover topics in metallic, ceramic, polymeric, semiconducting and composite materials. More information about the MMSE program can be found at <http://www.mse.ncsu.edu/grads/mmse/>.

Admission Requirements

The minimum requirements for admission to the graduate degree program in Materials Science and Engineering are as follows:

- A bachelor's degree from an accredited college or university in an engineering discipline with a minimum overall grade point average of 3.0.
- The Graduate School requires that all international applicants take the TOEFL or IELTS examination unless they have completed one year of study at a university in the United States. The exam must have been taken within two years of receipt of application.
- GRE scores are recommended but not required.
- Three letters of recommendation from persons able to comment on the applicant's qualifications for graduate study.
- More information about the admission requirements can be found at <http://www.mse.ncsu.edu/grads/apply>.

Degree Requirements

- Completion of 30 graduate hours with an overall GPA of 3.0.
- Coursework must include a minimum of 18 credit hours of 500- or 700-level materials science and engineering (MSE) courses.
- The remaining 12 credit hours can be taken from MSE or non-MSE engineering courses in the Engineering Online program.
- After a student has been admitted and enrolls for the first time, he/she is required to maintain continuous enrollment in each fall and spring semester until completion of the degree program. A student in good academic standing may request a leave of absence for good reasons from the Director of Graduate Programs in MSE. The leave absolutely may not exceed two semesters.
- No thesis or on-campus residency required.
- More information about the MMSE degree requirements can be found at <http://www.mse.ncsu.edu/grads/mmse/degree-requirements>.

Course Registration

It is preferable to seek admission to the MMSE 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 online MSE courses for credit. Prior to applying to the 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 begin graduate graduate academic work but are not currently admitted to a degree program. A maximum of 12 credit hours (typically four courses) may be taken in the NDS classification. After successful completion of four MSE courses as an NDS student, the student can be reconsidered for admission to the MMSE program. A maximum of twelve credit hours taken as a NDS student or from another institution may be applied toward the 30 credit hour MMSE degree requirement.

Students register for online courses through Engineering Online. Those who wish to take only a few courses and are not pursuing a degree do not need to apply for formal program admission to NC State University (they can enroll as NDS students). However, students who wish to earn the MMSE degree must formally apply for admission to the Graduate School at <http://www.ncsu.edu/grad>. When completing the online application, please be sure to select the "Distance Track" version of the degree.

To register for an Engineering Online course, complete the registration form on the Engineering Online website at <http://engineeringonline.ncsu.edu> by clicking on "Registration". Students cannot use the NCSU MyPackPortal system to register for Engineering Online courses.

Course Offerings

A list of all distance education courses available for the fall, spring and semester semesters can be found on the Engineering Online website at <http://engineeringonline.ncsu.edu>. Full-time employed individuals may only enroll in two online courses per semester. It is highly recommended that new students enroll in only one course during their first semester.

MSE 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.

The projected schedule of MSE online courses is listed below. This schedule may change; visit <http://www.mse.ncsu.edu/grads/mmse/course-schedule> for updates to the schedule.

PROJECTED FALL SEMESTER MSE COURSES

- MSE 500: Modern Concepts in Materials Science
- MSE 509: Nuclear Materials (crosslisted with NE)
- MSE 539: Advanced Materials (crosslisted with MAE)
- MSE 540: Processing of Metallic Materials
- MSE 545: Ceramic Processing
- MSE 706: Phase Transformations and Kinetics
- MSE 708: Thermodynamics of Materials
- MSE 760: Materials Science in Processing of Semiconductor Devices
- MSE 771: Materials Science of Nanoelectronics
- MSE 791: (Section 6xx Advanced Topics) Nanoscale Simulation and Modeling
- MSE 791: (Section 6xx Advanced Topics) Nonferrous Alloys

PROJECTED SPRING SEMESTER MSE COURSES

- MSE 500: Modern Concepts in Materials Science
- MSE 555: Polymer Technology and Engineering
- MSE 556: Composite Materials
- MSE 565: Introduction to Nanomaterials
- MSE 580: Materials Forensics and Degradation
- MSE 591: High Temperature Creep of Materials (crosslisted with NE)
- MSE 702: Defects in Solids
- MSE 705: Mechanical Behavior of Engineering Materials
- MSE 757: Radiation Effects on Materials (crosslisted with NE)
- MSE 791: (Section 6xx Advanced Topics) Mechanical Properties of Nanostructured Materials

PROJECTED SUMMER SESSION MSE COURSES

MSE 500: Modern Concepts in Materials Science
MSE 555: Polymer Technology and Engineering
MSE 556: Composite Materials
MSE 705: Mechanical Behavior of Engineering Materials

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.

Contact Information

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

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

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