

Materials Science & Engineering

Materials enable all of the engineering and high-technology fields that are an integral part of our society. Graduate programs in this department focus on understanding the structure, structure modification and properties of materials and the development of new or improved materials and advanced processing methods that are critical links between the design and the realization of new systems for manufacturing, nanotechnology, energy, and biomaterials.

The M.S. and Ph.D. programs are research-based degree programs focusing on faculty-mentored, state-of-the-art materials research that leads to a thesis or dissertation.

The Master of Materials Science and Engineering is a non-thesis degree program designed for students from a variety of technical backgrounds interested in furthering their understanding of materials processing, characterization and properties. This program is appropriate for distance-education Masters students.

The Master of Nanoengineering is a multidisciplinary non-thesis degree program designed so students can declare a concentration in one of the following three areas:

1. Materials Science in Nanoengineering;
2. Nanoelectronics and Nanophotonics; or
3. Biomedical Sciences in Nanoengineering.

This program is appropriate for distance-education Masters students.

Admission Requirements

In addition to the general admission requirements as set by the Graduate School, the department requires submission of GRE scores. Non-native English speakers also require a minimum TOEFL score as established by the Graduate School.

Master's Degrees Requirements

The Master of Science degree (M.S.) requires 30 credit hours of coursework/research and a research thesis. The Master of Materials Science and Engineering degree (M.M.S.E.) requires 30 credit hours of coursework only. The Master of Nanoengineering (M.NAE.) requires 30 credit hours of coursework only.

Doctoral Degree Requirements

The doctoral degree (Ph.D.) requires 72 credit hours of coursework/research, a qualifying exam, and a research dissertation.

Student Financial Support

Students in the M.S. and Ph.D. graduate programs normally receive financial support in the form of research or teaching assistantships or fellowships.

Other Relevant Information

The department reflects the interdisciplinary nature of the field of Materials Science and Engineering. A substantial number of current graduate students majored in fields other than but related to materials,

and the department has associated graduate faculty from other departments supervising thesis and dissertation research.

Degrees

- Materials Science and Engineering (MR) (<http://catalog.ncsu.edu/graduate/engineering/materials-science-engineering/materials-science-engineering-mr/>)
- Materials Science and Engineering (MS) (<http://catalog.ncsu.edu/graduate/engineering/materials-science-engineering/materials-science-engineering-ms/>)
- Materials Science and Engineering (PhD) (<http://catalog.ncsu.edu/graduate/engineering/materials-science-engineering/materials-science-engineering-phd/>)
- Materials Science and Engineering (Minor) (<http://catalog.ncsu.edu/graduate/engineering/materials-science-engineering/materials-science-engineering-minor/>)
- Materials Informatics (Certificate) (<http://catalog.ncsu.edu/graduate/engineering/materials-science-engineering/materials-informatics-cert/>)
- Materials Science and Engineering (Certificate) ([http://catalog.ncsu.edu/graduate/engineering/materials-science-engineering-certificate/](http://catalog.ncsu.edu/graduate/engineering/materials-science-engineering/materials-science-engineering-certificate/))

Faculty

Adjunct Professors

Harald Ade

David E. Aspnes

Charles M. Balik

Salah M. A. Bedair

Donald Wayne Brenner

Jerome J. Cuomo

Michael David Dickey

Jan Genzer

Russell E. Gorga

Carol K. Hall

Ola Lars Anders Harrysson

Ayman I. Hawari

Douglas Lee Irving

Albena Ivanisevic

Jacob L. Jones

Jesse Jur

Carl C. Koch

Thomas H. LaBean

Harold Henry Lamb

Frances Smith Ligler
James D. Martin
Veena Misra
Korukonda Linga Murty
Jagdish Narayan
Roger Jagdish Narayan
Gregory N. Parsons
Melissa Anne Pasquinelli
Zlatko Sitar
Franky So
Richard J. Spontak
Joseph B. Tracy
Daryoosh Vashaee
Orlin Dimitrov Velev
Yaroslava G Yingling
Xiangwu Zhang
Yong Zhu
Aram Amassian
Ashley Carson Brown
Ramon R. Collazo
Rajeev Kumar Gupta
Djamel Kaoumi
Jagannadham Kasichainula
Divine Philip Kumah
Nina Wisinger
Ruijuan Xu
Timothy Joseph Horn
Kaveh Ahadi
Veronica Augustyn
Wenpei Gao
Srikanth Patala
Ge Yang
Reza A Ghiladi
John F Muth
Claude Lewis Reynolds Jr.
Hans Conrad

Robert F. Davis
Elizabeth Carol Dickey
Nadia El-Masry
John Joseph Hren
Jacqueline Krim
Gerald Lucovsky
Jon-Paul Maria
Khosrow L. Moazed
Ronald O. Scattergood
John S. Strenkowski
Yuntian T. Zhu
Cheryl Cass
Barry Farmer
Charles Richard Guarnieri
James Michael LeBeau
Tania Milkova Paskova
John T. Prater
Justin Schwartz
Victor Zhirnov

Full Professors

Martin Thuo

Bharat Gwalani
Yin Liu