

NC STATE Engineering

**Department of Materials
Science and Engineering**

UNDERGRADUATE PROGRAMS



“Welcome to our family,
where we think, do and
design the materials
that drive our future.”

DR. DONALD BRENNER

What is Materials Science and Engineering?

Most of the technological innovations that we enjoy today are **driven by the discovery of new materials**. The future of our world depends on the discovery of new materials that are environmentally friendly, lightweight, sustainable and responsive. The design of novel materials will enable vehicles that are lighter and more fuel-efficient due to redesigned frames and tires; cell phones and laptops with ultra-thin damage-resistant glass for displays; biomaterials that repair and replace parts of the human body; soft robots that can safely interact with humans; new bionics; and materials for water purification.



Why study MSE?

Here's what our students are saying...

"My desire to impact the world in a positive manner drove me to choose **MSE**. What better way to change the world for the better than to influence technology at its core: the materials that drive the physics and the chemistry."

AARON LANDO

"I chose to do **MSE** because of the abundant research opportunities and low student-to-faculty ratio. Also, my dentist told me to."

MADISON HORGAN

"**MSE** means family to me. Being part of a small department, you are able to form strong (covalent) bonds with your classmates."

CARMEN PROCIDA

"The **MSE** department stands out for giving students hands-on, relevant experience. I have had undergraduate research positions that dealt with energy storage materials, polymers and metals. Our lab courses teach useful skills. These resources have made me confident in what I want to do in the future."

EMILY SCOTT

Career Prospects

An MSE degree is interdisciplinary and, upon graduation, will qualify you for a variety of jobs with an average starting salary of \$60-70k / year.

Example job titles:

Materials Engineer, Product Engineer, Metallurgist Engineer, Quality Control Engineer, Failure Analysis Engineer, Renewable Energy Materials Engineer, Biomaterial Engineer, Polymer Materials Engineer, Project Manager

Selected Companies:

Cree, Nucor Steel, Corning, Honda, DuPont, ExxonMobil, Intel, Eastman Chemical, Cisco, General Electric, DOW

Example job description:

- Identify and produce a diverse range of materials for applications of interest
- Develop and improve methods for the analysis of complex materials
- Assist in the selection of materials for product application, the calculation of design parameters, the performance of material properties testing
- Apply scientific methods to resolve technical challenges related to materials and their use in products and processes

Advanced degree opportunity:

More than 25 percent of all MSE B.S. degree recipients are enrolled in a graduate degree program at places such as MIT, UC Berkeley, Penn State, Georgia Tech, Purdue and NC State.



MSE at NC State

The Department of Materials Science and Engineering at NC State is well-known as a small and friendly department that provides unique and high-impact opportunities for undergraduate students, including small class sizes, a hands-on laboratory, close interactions with world-renowned faculty, undergraduate research opportunities and high-quality laboratory and senior design experiences.

So, join us in the discovery of new materials that will make our world a better place!



Who We Are

Admissions

Application for admission to NC State is handled at the university level. Once admitted and enrolled, students can apply to join the MSE department by meeting the College of Engineering's Change of Degree Application (CODA) requirements.



CONTACT US

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