

The University of Minnesota's Department of Chemical Engineering and Materials Science (CEMS) unique culture blends chemical and materials engineering to focus on a broad spectrum of problems central to economic growth, quality of life, sustainability, safety and security. We enjoy the thrill of discovery, and we pursue teaching and research in a collaborative environment that produces exciting synergies and an exceptional spirit of collegiality. The success of our students and alumni is a huge part of our proud tradition.

The chemical engineering graduate curriculum builds on principles of thermodynamics, transport phenomena, and chemical rate processes, to offer a rigorous and challenging curriculum that offers a unifying perspective on analyzing and designing physical, chemical, and engineered systems.



UNIVERSITY OF MINNESOTA

The materials science and engineering graduate curriculum draws students with undergraduate degrees in the physical/chemical sciences and in engineering. Coursework establishes deep connections between processing, structure, properties and performance across materials classes and length scales.

Research Areas



& Devices Energy

Nanomaterials and Nanotechnology

Systems Engineering

Electrochemical Materials



Electronic, Magnetic, & Photonic Materials Materials Processing

Nanomechanics and

Transport & Fluid Mechanics



Catalysis, Separations, & **Reaction Engineering**

Electron Microsopy

Materials Theory

Polymer Science & Engineering

Applied & Computational Mathematics

Interdisciplinary **Collaborative Environment**

CEMS thrives on its ability to foster interdisciplinary efforts in research and education. This collaborative and inclusive environment facilitates the cultivation of new ideas while stimulating innovation. CEMS has 38 research active faculty, 200+ graduate students, and 350+ undergraduate students majoring in chemical engineering or materials science. All graduate students are supported at \$35k+ annually and receive a full tuition waiver. CEMS fosters a work environment that is respectful, hard- working, and inclusive, and one that maintains the highest standards of scholarship and integrity.

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Faculty



Graduate Guide (2023)