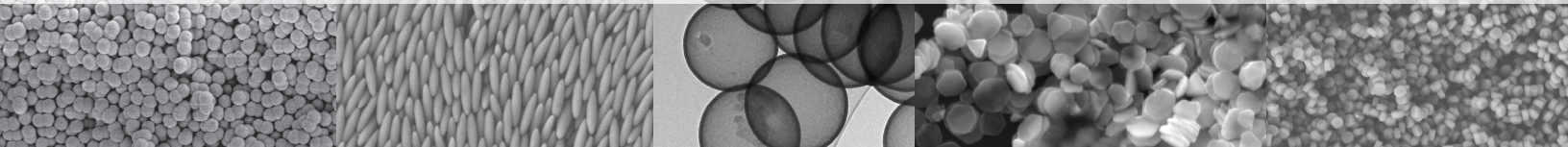


# Master of Engineering in Particle Technology (MEPT)



Department of Chemical & Biomolecular Engineering



A program built around the fundamentals of particle process engineering and particle-based product design and engineering

## Why Study Particle Technology?

### *Solving the World's Grand Challenges...*

*Rid the world of disease...*

*Make sure no one goes hungry...*

*Ensure there's enough energy...*

*Protect the environment...*

### *Through Particle Technology*

*Pharmaceuticals, biologics, and vaccines are particles, made from particles, formulated into particulate products*

*Soil, seeds, fertilizers, agricultural chemicals: all are particles*

*Biomass conversion, battery manufacture, carbon capture all involve making, manipulating, and managing particles*

*Respirable particles are a global health threat requiring global remediation*

***Particle Technology is everywhere: in food, biopharmaceuticals, consumer products, materials, energy, the environment.***

Undergraduate engineering programs rarely include particle technology, the branch of science and engineering dealing with the production, handling, modification, and use of particulate materials. The Department of Chemical and Biomolecular Engineering (CBE) at the University of Delaware is leading academia in addressing this gap by offering the Master of Engineering in Particle Technology and the Certificate in Particle Technology. Graduates of the program distinguish themselves from other engineers by developing a broad, fundamentals-based understanding of the behavior and processing of particles.

## Why UD Particle Technology?

The **CBE department is in the top ten** ChE departments world-wide and is a global leader in particle research.

Our curriculum is the **most comprehensive particle technology curriculum offered**, taught by CBE faculty and industrial experts with over a century of particle technology experience.

The university and department have **strong and enduring association with local industry**, which includes global leaders in biopharma, materials, chemicals, energy, and agricultural products.

The Master's degree program **is capped by an industrial internship** which provides practical experience highly valued by future employers. The Curriculum Practical Training (CPT) program enables international students to complete their internships at US companies.

The **program can be completed on a full-time or part-time basis**. Core courses are offered by distance learning.

R. BERTRUM DIEMER



**M**y primary object as Professor of Practice is the development, teaching and oversight of the new professional masters program leading to a Masters of Engineering in Particle Technology degree. While particle technology is practiced throughout the process industries, and is the focus of programming in professional organizations

such as AIChE through its Particle Technology Forum, it is not taught in a focused way in the chemical engineering curriculum. I am working with numerous other regular and adjunct faculty to close this gap. My partner in this endeavor is Prof. Jim Michaels. I also have primary responsibility for teaching the capstone design course to senior undergraduates.

JAMES N. MICHAELS



**P**article technology is everywhere in industries that employ chemical engineers, but it is almost absent in the chemical engineering curriculum. I am working with Bert Diemer and numerous regular and adjunct faculty to correct this educational gap by developing and teaching the Masters of

Engineering in Particle Technology (MEPT). This program provides this important skill set and knowledge base, valued by industry but generally unavailable in one place or with such singular focus. Our focus is on developing and refining a comprehensive curriculum that sets the standard for particle technology education globally.

## The Master of Engineering Program

The MEPT program is designed to be completed by full-time students in one calendar year. It exposes students to a wide range of particulate engineering topics. Six core courses were created specifically for the program:

- CHEG 670: Particle Rate Processes
- CHEG 671: Particle Transport
- CHEG 672: Mathematics of Particle Systems
- CHEG 673: Particle Properties & Characterization
- CHEG 674: Particle Unit Operations
- CHEG 675: Particle Product Design

The Master of Engineering degree requires completion of these six core particle technology courses, two technical electives, and a capstone industrial internship.

## Application Requirements

Applicants must have a bachelor's degree from an accredited four-year college or university. This degree may be in chemical engineering, mechanical engineering, civil engineering, environmental engineering, chemistry, materials science or physics. The following materials are required to be included with the application: recent GRE scores (but subject test not required), three letters of recommendation (at least one from a professor), a resume outlining academic and work experience, and a statement of purpose. In addition, international applicants must provide evidence of English proficiency (a recent TOEFL or IELTS score) if English is not their first language.

[grad-admissions.udel.edu/apply](http://grad-admissions.udel.edu/apply)

### Equal Opportunity Employer

The University of Delaware is an equal opportunity/affirmative action employer. For the University's complete non-discrimination statement, please visit <http://www.udel.edu/aboutus/legalnotices.html>