

# About us

**Rowan University** is a national Carnegie-classified doctoral research institution located in Glassboro, NJ, 30 minutes from Philadelphia and one hour from the Jersey Shore. Local communities include urban, suburban, and rural living. The Glassboro area offers much to explore, including shopping, restaurants, outdoor recreation areas, farmers' markets, and the South Jersey Wine Trail. See [www.visitsouthjersey.com](http://www.visitsouthjersey.com) for more information.



Rowan University invites you to apply to the Ph.D. in Materials Science & Engineering Program, an interdisciplinary collaboration between the [College of Science & Mathematics \(CSM\)](#) and the [Henry M. Rowan College of Engineering \(HMRCOE\)](#).

## Learn More about [Research @Rowan](#)

A growing leader in research initiatives, Rowan University focuses on tackling projects and solving problems with a strong focus in applied research. Our Carnegie-classified national doctoral research institution has a long history of partnering with business and industry, government, and non-profit organizations.

**Advanced Materials & Manufacturing Institute (AMMI)** is a materials science research and education institute for Rowan University and its affiliated research partners. Engaging faculty and staff expertise from multiple colleges across the University, the AMMI, develops next-generation materials and advances manufacturing technologies. For more information, visit: [engineering/rowan.edu/research-centers/ammi/index](http://engineering/rowan.edu/research-centers/ammi/index).

**Center for Research & Education in Advance Transportation Engineering Systems (CREATES)** finds innovation solutions to current and future challenges related to pavement materials and transportation engineering. These solutions benefit, among others, the pavement and construction materials industry, local and state agencies across the nation, the Federal Highway Administration (FHWA), and the Department of Defense (DoD). For more information, visit [rowancreates.org](http://rowancreates.org).



College of Science & Mathematics  
Henry M. Rowan College of Engineering  
201 Mullica Hill Road  
Glassboro, NJ 08028-1701

# Ph.D. Materials Science & Engineering

COLLEGE OF SCIENCE & MATHEMATICS  
HENRY M. ROWAN COLLEGE OF ENGINEERING





## Materials Science & Engineering (MSE)

is critical for developing new technologies. Little progress can be made without design, synthesis and utilization of new and advanced materials. MSE lies at the intersection of chemistry, physics, and engineering. The objectives of an MSE researcher are to understand how various parameters (processing, composition, thin film/bulk, atomic arrangements, etc.) dictate structure (micro, atomic, macro) and contribute to determining the properties and overall performance of a material or device. Most research projects are externally sponsored (by federal and state agencies as well as industry) and therefore are at the cutting edge of technology development.

Faculty from both [CSM](#) and [HMRCOE](#) participate in the interdisciplinary Ph.D. program. HMRCOE is renowned for its multidisciplinary, hands on approach to engineering education. CSM is recognized as one of the best among its peers for student-centered approaches to learning in a research-rich environment.

## Application Materials

For application requirements, please visit the Rowan Global Learning & Partnership website at: [global.rowan.edu/programs/phd-in-materials-science-and-engineering](http://global.rowan.edu/programs/phd-in-materials-science-and-engineering).

## Funding Opportunities

A limited number of teaching assistantships are available. To inquire about research assistantships, contact program coordinators, Timothy Vaden and Wei Xue, at [mse@rowan.edu](mailto:mse@rowan.edu).

## Research Areas

Specific research areas in MSE at Rowan include materials used in catalysis, batteries, photovoltaics, nanotechnology, construction, biomaterials, biomedical devices, electronic materials and devices, additive manufacturing, polymeric materials, composites, sensors, and many more applications.

## Career Opportunities

There is substantial growth potential in MSE-related jobs. While currently, many of these jobs are filled with bachelor's degree recipients, there is a growing demand for science and engineering related professionals with advanced degrees, such as a Ph.D. In our region of New Jersey specifically, there is a significant presence of employers, such as major defense contractors, chemical companies, materials industries, and pharmaceutical companies, that employ large numbers of professionals with Ph.D. degrees.

## Affiliated Faculty with primary appointments from the following Departments

Physics & Astronomy  
Chemistry & Biochemistry  
Mechanical Engineering  
Civil & Environmental Engineering  
Biomedical Engineering  
Chemical Engineering  
Electrical & Computer Engineering

## Program Requirements

Completion of a minimum of 72 credits of graduate-level work beyond the bachelor's degree OR a minimum of 42 credits of graduate-level work beyond the master's degree. A minimum of 24 of the 72 credits must come from coursework, the remaining from research/dissertation credits.

Courses include:

- Structure, Symmetry, & Properties of Materials
- Thermodynamics of Materials
- Experimental Techniques in Materials
- Kinetics of Materials
- Foundations in Processing, Manufacturing, & Properties of Materials

For more information on program curriculum and coursework visit the Rowan Global Learning & Partnerships website at:

[global.rowan.edu/programs/phd-in-materials-science-and-engineering](http://global.rowan.edu/programs/phd-in-materials-science-and-engineering).

## For questions or information

Please contact program coordinators, Timothy Vaden and Wei Xue, at [mse@rowan.edu](mailto:mse@rowan.edu) and visit [go.rowan.edu/mse](http://go.rowan.edu/mse).

