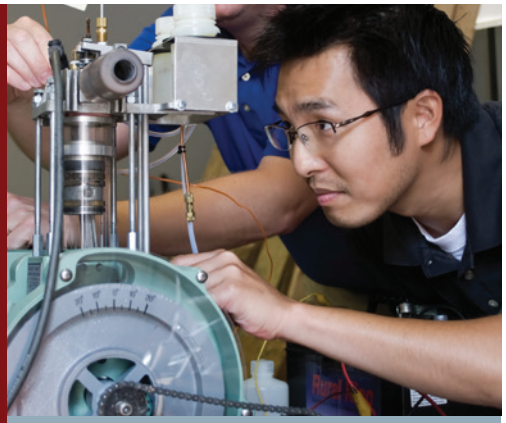
ROSE-HULMAN
INSTITUTE OF TECHNOLOGY

Master's Degrees
Mechanical Engineering



GRADUATE STUDIES

GEAR UP FOR NUMEROUS INDUSTRIES WITH A GRADUATE DEGREE IN MECHANICAL ENGINEERING

The Department of Mechanical Engineering at Rose-Hulman offers two graduate degree opportunities. These options are designed to build upon a student's undergraduate background—providing additional depth and breadth in the profession of mechanical engineering.

The Master of Science in Mechanical Engineering (MSME) is a traditional thesis-based approach, with laboratory and course work culminating in the preparation and oral defense of a written thesis. Topics for thesis research could be in:

- Solar and wind energy
- Heat transfer
- Corrosion
- Thermodynamics
- C engines
- Robotics
- Experimental stress analysis
- Finite element analysis
- Noise and vibration control
- Aerodynamics
- Design optimization
- Analytical mechanics

The Master of Mechanical Engineering (MME) degree is a course-based master's program requiring additional coursework in lieu of a traditional thesis.

ROSE-HULMAN
INSTITUTE OF TECHNOLOGY

Program Requirements

Students must prepare a program of study, including a statement of purpose and the courses to be taken, approved by the mechanical engineering graduate study committee before registration for classes.

Thesis-Based Program

36 credits of formal coursework
12 credits of thesis work

The following three options are recommended by the Department of Mechanical Engineering for qualified students pursuing the MS in mechanical engineering:

- Power/energy
- Applied mechanics
- Design

Each option is selected to build upon a basic undergraduate background and to provide additional depth in that general area. Other plans of study may be selected, subject to approval by the student's advisory committee and the department chair.

Recent Thesis Titles

Torque Steer Response of Wheeled Single-Track Vehicles

Exergy Analysis of Flue Gas Cooling for a Chilled Ammonia CO_2 Separation Process

Parameter Identification of Unmanned Aerial Vehicles

Dynamic Fuzzy Models of the Fastrac Startup Sequence for Fault Detection

Detecting Subsurface Layers Using Thermal Wave Techniques

Investigation of the Near Surface Wind Velocity of Simulated Tornado-Like Vortices

The Design of a Minimally Invasive Reusable Neurosurgical Instrument

Fuel Cell Transfer Function Modeling

At a Glance

Rose-Hulman's graduate programs have a strong focus on applied research involving excellent faculty, facilities, and flexibility in a student's plan of study to meet individual goals. The graduate studies programs at Rose-Hulman offer a supportive atmosphere focused on the growth and development of each student.

ROSE-HULMAN
INSTITUTE OF TECHNOLOGY

Course-Based Program

20 credits of core coursework
8 credits of core math coursework
20 credits of elective coursework

The course-based master's degree is more structured and focused on the knowledge and applications of a given field and is therefore considered as a professional degree. This degree may be of interest to new graduates looking to enhance entry-level industry opportunities, as well as professionals who are already involved in a particular career.

Satisfied Alumni

"There is a unique culture of putting theory into practice in almost everything you do at Rose-Hulman, and this is emphasized even at the graduate level. This basic ethos of always relying on engineering fundamentals and intuition to solve practical problems has served me well in my professional life."

Adip Rai, 2009,
Tesla Motors, Fremont, California

"My master's degree at Rose-Hulman opened several doors for me even before I completed the program. I was able to start working full-time before the completion of my thesis. The teachers were very accommodating and willing to work with my scheduling needs."

Ryan Bormann, 2011,
Fisher & Paykel, New Zealand

"After working in industry for a few years, returning to campus for my master's degree gave me the opportunity to develop a research project of my interest. In addition, the academic advising at Rose-Hulman helped focus the direction of my academic career."

Ryan Gergely, 2006,
Research assistant and PhD candidate
University of Illinois Urbana-Champaign

"As an international student, coming to the United States was very hard, but Rose-Hulman made me feel at home almost instantly. The one-on-one interaction with professors, along with the hands-on approach, was like nothing I had ever experienced in my time as a student. This is what sets Rose-Hulman apart from the rest."

Naveen Abraham, 2006,
Recurrent Energy, San Francisco, California

Faculty

- Lorraine G. Olson, PhD, department head
- Thomas M. Adams, PhD
- Ashley Bernal, PhD
- Patricia D. Brackin, PhD
- Christine A. Buckley, PhD
- Bradley T. Burchett, PhD
- Patrick R. Cantwell, PhD
- Zachariah Chambers, PhD
- Phillip J. Cornwell, PhD
- Patrick J. Cunningham, PhD
- Jerry M. Fine, PhD
- David S. Fisher, PhD
- Fred Haan, PhD
- Simon W. Jones, PhD
- Daniel Kawano, PhD
- Richard Layton, PhD
- Calvin Lui, PhD
- James E. Mayhew, PhD
- Jay P. McCormack, PhD
- Andrew R. Mech, PhD
- John A. Mirth, PhD
- Michael S. Moorhead, PhD
- Sean N. Moseley, PhD
- Richard M. Onyancha, PhD
- David J. Purdy, PhD
- Donald E. Richards, PhD
- Wayne Sanders, PhD
- Richard E. Stamper, PhD
- Lee R. Waite, PhD
- Allen R. White, PhD
- Ryder C. Winck, PhD

ROSE-HULMAN
INSTITUTE OF TECHNOLOGY

For more information:

Graduate Studies
5500 Wabash Avenue
Terre Haute, IN 47803
812-877-8589
GraduateStudies@rose-hulman.edu

www.rose-hulman.edu/gradstudies