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 research and course work culminating in the preparation and oral defense of a written thesis. Topics for thesis research are arranged between the student and the interested faculty.

- 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.

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

Thesis-Based Program

36 credits of formal coursework
12 credits of thesis work

Course-Based Program

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

Recent Thesis Titles

- Design and Implementation of a Controller for a BeagleBone Quadcopter
- Implementation of Spce-time Finite Element Formulation in Elastodynamics
- Analysis of Shock-plugs in Quasi-one-dimensional Compressible Flow
- Euler-Lagrange Optimal Control of Indirect Fire Symmetric Projectiles
- The Development of Advanced Control Laboratories

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 |

“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 |

“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 |
Faculty

- Richard M. Onyancha, PhD, department head
- Thom Adams, PhD
- Rebecca Bercich, PhD
- Ashley Bernal Moore, PhD
- Patsy Brackin, PhD
- Brad Burchett, PhD
- Pat Cantwell, PhD
- Zac Chambers, PhD
- Aimee Cloutier, PhD
- Eric Constans, PhD
- Patrick Cunningham, PhD
- Amir Danesh-Yazdi, PhD
- Dave Fisher, PhD
- Simon Jones, PhD
- Daniel Kawano, PhD
- Richard Layton, PhD
- Calvin Lui, PhD
- Jim Mayhew, PhD
- Jay McCormack, PhD
- Ben Mertz, PhD
- Mike Moorhead, PhD
- Sean Moseley, PhD
- Lori Olson, PhD
- Dave Purdy, PhD
- Matt Riley, PhD
- Shraddha Sangelkar, PhD
- Rick Stamper, PhD
- Allen White, PhD
- Ryder Winck, PhD

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