

# Mechanical Engineering

The Mechanical Engineering graduate program prepares students in all aspects of mechanical and thermal systems design and manufacturing. Course offerings and research programs for mechanical engineering students are available in applied mechanics; biomechanics; combustion; design and manufacturing; dynamic systems and control; energy conversion and systems; experimental mechanics; fluid dynamics; heat transfer; mechanics of materials; micro, nano and MEMS; and vibration and acoustics. Sub-areas include adaptive and auto adaptive structures, controls and system identification, CFD, energy conversion and renewable energy, materials processing and tribology, mechatronics, precision engineering, and reactive and multiphase flows.

## Master's Degree Requirements

The thesis-option M.S. degree program in mechanical engineering requires 21 hours of course credit and nine hours of thesis research. The non-thesis M.S. degree requires 27 hours of course credit and a three credit-hour project and is offered on campus as well as off campus, through distance education.

## Ph.D. Degree Requirements

A minimum of 72 hours of credit are required to obtain the Ph.D. degree. A direct path to the Ph.D. from the B.S. is also available with which the student is granted the M.S. degree "enroute" to the Ph.D. The enroute Ph.D. (direct to Ph.D. path) requires a minimum of 3.5 undergraduate GPA.

## Student Financial Support

Financial support is typically offered to admitted Ph.D. students, according to funding availability. Funding decisions are communicated separately from admissions decisions.

## More Information

Mechanical Engineering Program Website (<https://mae.ncsu.edu/mae-graduate-programs/>)

## Admission Requirements

An applicant to the master's program must be a graduate of an accredited undergraduate program with a B.S. degree in either mechanical or aerospace engineering. Graduates of other accredited programs in engineering, physical sciences and mathematics may be considered but may be required to make up undergraduate deficiencies without graduate credit. The most qualified applicants are accepted first. Applicants to the Ph.D. program must have met the M.S. admission requirements and additionally must satisfy the Ph.D. admissions requirements. Applicants to the online, distance education M.S. program in mechanical or aerospace engineering are not required to take the GRE exam.

## Applicant Information

### Mechanical Engineering (MS)

- **Delivery Method:** On-Campus, Online, Hybrid
- **Entrance Exam:** None
- **Interview Required:** None

### Mechanical Engineering (PhD)

- **Delivery Method:** On-Campus
- **Entrance Exam:** None
- **Interview Required:** None

## Application Deadlines

- **Fall:** December 15 (PhD), March 1 (International Masters), June 1 (US Citizen Masters), June 30 (Distance Education Masters)
- **Spring:** July 15 (International Masters), November 1 (US Citizen Masters), November 15 (Distance Education Masters)
- **Summer:** April 1 (Distance Education Masters)

More Information on Application deadlines can be found on the MAE Graduate Admissions page (<https://mae.ncsu.edu/mae-graduate-admissions/>).

## Degrees

- Mechanical Engineering (MS) (<http://catalog.ncsu.edu/graduate/engineering/mechanical-engineering/mechanical-engineering-ms/>)
- Mechanical Engineering (PhD) (<http://catalog.ncsu.edu/graduate/engineering/mechanical-engineering/mechanical-engineering-phd/>)
- Mechanical Engineering (Minor) (<http://catalog.ncsu.edu/graduate/engineering/mechanical-engineering/mechanical-engineering-minor/>)

## Faculty

### Full Professors

Gregory D. Buckner

Tarek Echehki

Farhan Saifuddin Gandhi

Tasnim Hassan

He Huang

Jack Ray Edwards Jr

Srinath Ekkad

Tiegang Fang

Ashok Gopalarathnam

Richard David Gould

Xiaoning Jiang

Richard F. Keltie

Clement Kleinstreuer

Andrey Valerevich Kuznetsov

Hong Luo

Kevin M. Lyons

Gracious Ngaile

Kara Jo Peters

Afsaneh Rabiei

Lawrence M. Silverberg

Juei Feng Tu

Fen Wu

Fuh-Gwo Yuan

Yong Zhu

Mohammed A. Zikry

---

## Associate Professors

Matthew Bryant

Jeffrey W. Eischen

Scott M. Ferguson

Charles Edward Hall Jr.

Hsiao-Ying Shadow Huang

Andre P. Mazzoleni

Venkat Narayanaswamy

Brendan O'Connor

Katherine Saul

Alexei V. Saveliev

Nitin Sharma

Rohan A. Shirwalker

Hooman Vahedi Tafreshi

Christopher R. Vermillion

Cheryl Xu

---

## Assistant Professors

James Braun

Darius Carter

Mingtai Chen

Chuyi Chen

Curtis Congreve

Landon Grace

Kenneth Granlund

Veeraraghava Raju Hasti

Mohammad Heiranian

Timothy Joseph Horn

Arun Kumar Kota

Donggun Lee

Jun Liu

Seyed Mehran Mirramezani

Marie Muller

Mark R. Pankow

Jason F. Patrick

Jong Eun Ryu

Pramod K. V. Subbareddy

Jie Yin

---

## Practice/Research/Teaching Professor

Stephen D. Terry

---

## Lecturers

Steven Berg

William Gregory Eades

---

## Emeritus Faculty

John A. Bailey

Herbert Martin Eckerlin

Francis J. Hale

Franklin D. Hart

Hassan A. Hassan

Thomas H. Hodgson

Richard R. Johnson

David S. McRae

James C. Mulligan

Robert T. Nagel

Larry H. Royster

Ronald O. Scattergood

Furman Y. Sorrell Jr.

John S. Strenkowski

Carl F. Zorowski