Aerospace engineering undergraduates are employed by the aerospace industries and other industries with similar technical problems. Many of our students enter graduate school after which they are employed by these same industries and by government laboratories such as NASA, NAVAIR, and the Air Force.

**Mechanical**

Mechanical engineering applies mechanical, thermal, and fluid principles to research, design, development, testing, manufacture, and operation of products and systems. Mechanical engineering is the broadest of the engineering programs, providing a technological foundation that serves societal needs in energy, health, safety, and all walks of life. Mechanical engineers solve problems dealing with energy and environmental systems (alternative fuels and renewable technologies), advanced materials and manufacturing (precision metrology, smart materials, and auto-adaptive materials), robotics and sensor technologies (opto-mechanical systems, MEMS, energy harvesting, human-centric and bio-inspired intelligent systems), and transportation (automotive and high speed rail).

In addition to taking strong foundational courses, mechanical engineering students gain experience in experimental laboratories for measurement and data analysis, performance evaluation of thermal systems, and testing and analysis of mechanical components. The senior design experience is a distinctive joint departmental-industry effort in which students solve industry-sponsored problems by designing, building, and testing prototype machines with the support of facilities for machining and electronics. Many of the students are involved in the department’s student clubs, such as its Eco car and SAE car clubs that compete internationally and regularly place in the top 10.

Because of the discipline’s wide breadth, mechanical engineering students have a wide variety of employment opportunities. Undergraduate students enter engineering fields that deal with, to varying levels, design, development, manufacturing, plant operation, testing and experimentation, consulting, sales and service. The employers come from industry, government and service organizations. Many of the undergraduate students go on to graduate school to pursue advanced degrees in engineering, science or business, as well as professional degree programs such as medicine, accounting and law.

Visit the Mechanical and Aerospace Engineering website (http://www.mae.ncsu.edu) for more information about the department, including contact information.

**Faculty**

**Department Head**

S. V. Ekkad

**Associate Department Heads**

K. Peters
T. Echekki

**Directors**

T. Echekki, Director of Undergraduate Programs
B. Fortney, Eastern Regional Director for Engineering
K. Peters, Director of Graduate Programs
C.H. Tran, Director of Undergraduate Advising

Distinguished Professors
J. R. Edwards, Angel Family Professor
S. V. Ekkad, R. J. Reynolds Professor
X. Jiang, Duncan Distinguished University Professor
F.-G. Yuan, Samuel P. Langley Distinguished Professor
Y. Zhu, Andrew A. Adams Distinguished Professor
M. A. Zikry, Zan Prevost Smith Professor

Emeritus Faculty
J. Bailey, Professor Emeritus
M. A. Boles, Professor Emeritus
T. A. Dow, Professor Emeritus
H. M. Eckerlin, Professor Emeritus
J. W. Eischen, Professor Emeritus
T. Hodgson, Professor Emeritus
R. R. Johnson, Professor Emeritus
R. F. Keltie, Professor Emeritus
C. Kleinstreuer, Professor Emeritus
R. Leuba, Professor Emeritus
C. Maday, Professor Emeritus
D. S. McRae, Professor Emeritus
J. Mulligan, Professor Emeritus
R. T. Nagel, Professor Emeritus
F. Y. Sorrell, Professor Emeritus
J. S. Strenkowski, Professor Emeritus
S. D. Terry, Professor Emeritus

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K. Granlund
H.-Y. Huang
A. K. Kota
J. Liu
M. Muller
V. Narayanaswamy
M. Pankow

Professors
G. D. Buckner
T. Echekki
J. Edwards

S. V. Ekkad
T. Fang
A. Gopalarathnam
R. Gould
X. Jiang
A. V. Kuznetsov
H. Luo
K. M. Lyons
A. Mazzoleni
G. Ngaile
B. T. O’Connor
K. Peters
A. Rabiei
K. Saul
A. Saveliev
L. M. Silverberg
J. Tu
F. Wu
C. Xu
F. G. Yuan
Y. Zhu
M. Zikry
Honors Program in Mechanical and Aerospace Engineering

Students enter the mechanical and aerospace honors program by invitation. Students in these programs participate in special educational experiences involving deeper investigations into subjects and research projects.

Plans

• Aerospace Engineering (BS) (http://catalog.ncsu.edu/undergraduate/engineering/mechanical-aerospace/aerospace-engineering-bs/)